

## Bilingual display

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<b>en</b>	<b>es</b>
EXPLANATORY MEMORANDUM	EXPOSICIÓN DE MOTIVOS
1. CONTEXT OF THE PROPOSAL	1. CONTEXTO DE LA PROPUESTA
1.1. Background and objectives	1.1. Antecedentes y objetivos
Since the mid 80ies the Trans-European transport network (TEN-T) policy has been setting the policy framework for the development of infrastructure for the smooth functioning of the internal market and for ensuring economic, social and territorial cohesion and improved accessibility across the EU. This led in 1992 to the inclusion of a specific legal basis for trans-European networks in the Maastricht Treaty and in 1994, at the European Council in Essen, to the adoption of a list of 14 major projects.	Desde mediados de la década de los 80, la política de la red transeuropea de transporte (RTE-T) ha ido estableciendo el marco político para el desarrollo de la infraestructura con el fin de facilitar el buen funcionamiento del mercado interior y de garantizar la cohesión económica, social y territorial y una mayor accesibilidad en toda la UE. En consecuencia, en 1992 se incorporó al Tratado de Maastricht una base jurídica específica para las redes transeuropeas y, en 1994, el Consejo Europeo de Essen adoptó una lista de 14 grandes proyectos.
In 1996 the European Parliament and the Council adopted the first Guidelines defining the TEN-T policy and infrastructure planning [1]. There was a major revision of the Guidelines in 2004, taking into account EU enlargement and the expected changes in traffic flows[2]. Furthermore, the list of 14 priority projects was extended.	En 1996, el Parlamento Europeo y el Consejo adoptaron las primeras orientaciones que definen la política de RTE-T y la planificación de la infraestructura[1], revisadas posteriormente en profundidad en 2004 para acomodarlas a la ampliación de la UE y a los consiguientes cambios previstos en los flujos de tráfico[2], añadiendo al mismo tiempo nuevos proyectos a los 14 proyectos prioritarios a la lista.
Several financial and non-financial instruments have been set up to facilitate the implementation of projects. These instruments include the TEN Financial Regulation[3], the Cohesion Fund, the European Regional Development Fund (ERDF) and loans from the European Investment Bank, along with coordination initiatives by the Commission.	Para facilitar la ejecución de los proyectos se han puesto en pie varios instrumentos financieros y de otra índole entre los que se cuentan el Reglamento financiero de las RTE [3] , el Fondo de Cohesión, el Fondo Europeo de Desarrollo Regional (FEDER) y préstamos del Banco Europeo de Inversiones, junto con iniciativas de coordinación por parte de la Comisión.
In 2010, in the interest of clarity, the European Parliament and the Council adopted Decision No 661/2010/EU, a recast of the TEN-T Guidelines[4].	En 2010, en aras de la claridad, el Parlamento Europeo y el Consejo adoptaron la Decisión nº 661/2010/UE, que es una refundición de las orientaciones de las RTE-T[4].
To date, transport infrastructure as such is well-developed within the European Union. However, it is still fragmented, both geographically and between and within transport modes. The main objective of these new Guidelines, which will replace Decision 661/2010, is to establish a complete and integrated trans-European transport network,	En la actualidad, la infraestructura de transporte en sí está bien desarrollada en la Unión Europea. No obstante, está todavía fragmentada, tanto geográficamente como entre modos de transporte y dentro de los mismos. El principal objetivo de las presentes orientaciones, que sustituirán a la Decisión 661/2010/UE, es establecer una red de

covering all Member States and regions and providing the basis for the balanced development of all transport modes in order to facilitate their respective advantages, thereby maximising the value added for Europe of the network.	transporte transeuropea completa e integrada, que abarque todos los Estados miembros y regiones y que aporte la base para el desarrollo equilibrado de todos los modos de transporte a fin de facilitar sus ventajas respectivas, aumentando así al máximo el valor añadido para Europa de la red.
In the light of the challenges for the TEN-T policy, also identified by the White Paper 'Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system'[5] ("the White Paper"), these Guidelines will define a long-term strategy for the TEN-T policy up to 2030/2050.	A la luz de los retos para la política de la RTE-T, determinados asimismo en el Libro Blanco «Hoja de ruta hacia un espacio único europeo de transporte: por una política de transportes competitiva y sostenible»[5] («el Libro Blanco»), estas orientaciones definirán una estrategia a largo plazo para la política de la RTE-T hasta 2030/2050.
1.2. Issues addressed	1.2. Cuestiones abordadas
Five main problems need to be tackled at EU level:	Hay cinco problemas principales que necesitan ser abordados a nivel de la UE:
First, missing links, in particular at cross-border sections, are a major obstacle to the free movement of goods and passengers within and between the Member States and with its neighbours.	En primer lugar, los enlaces pendientes, en particular en los tramos transfronterizos, son un obstáculo esencial a la libre circulación de mercancías y pasajeros tanto dentro de los Estados miembros como entre ellos, y entre estos y los países vecinos.
Second, there is a considerable and enduring disparity in quality and availability of infrastructure between and within the Member States (bottlenecks). In particular the east-west connections require improvement, through the creation of new transport infrastructure and/or maintenance, rehabilitation or upgrading of existing infrastructure.	En segundo lugar, hay una disparidad considerable y persistente en la calidad y disponibilidad de la infraestructura entre los Estados miembros y dentro de los mismos (cuellos de botella). En particular, precisan de mejora las conexiones Este-Oeste mediante la creación de nueva infraestructura de transporte y/o el mantenimiento, la rehabilitación o el acondicionamiento de la infraestructura existente.
Third, transport infrastructure between the transport modes is fragmented. As regards making multi-modal connections, many of Europe's freight terminals, passenger stations, inland ports, maritime ports, airports and urban nodes are not up to the task. Since these nodes lack multi-modal capacity, the potential of multi-modal transport and its ability to remove infrastructure bottlenecks and to bridge missing links is insufficiently exploited.	En tercer lugar, la infraestructura de transporte está fragmentada entre modos. En lo que se refiere a las conexiones multimodales, numerosas terminales de mercancías, estaciones de pasajeros, puertos interiores, puertos marítimos, aeropuertos y nodos urbanos de Europa no están en condiciones adecuadas. Puesto que estos nodos carecen de capacidad multimodal, el potencial del transporte multimodal para eliminar los cuellos de botella de la infraestructura y para suplir los enlaces pendientes no se aprovecha suficientemente.
Fourth, investments in transport infrastructures should contribute to achieve the goals of reduction of greenhouse gas emissions in transport by 60% by 2050.	En cuarto lugar, las inversiones en infraestructuras de transporte deben contribuir a lograr el objetivo de reducir las emisiones de gases de efecto invernadero en el transporte en un 60 % de aquí a 2050.
Finally, Member States still maintain different	Por último, los Estados miembros todavía

operational rules and requirements, in particular in the field of interoperability, which add to the transport infrastructure barriers and bottlenecks.	mantienen normas y requisitos de funcionamiento diferentes, en particular en el campo de la interoperabilidad, que vienen a sumarse a los obstáculos de la infraestructura de transporte y a sus cuellos de botella.
1.3. Fields of action	1.3. Campos de acción
This proposal aims to establish and develop a complete TEN-T, consisting of infrastructure for railways, inland waterways, roads, maritime and air transport, thereby ensuring the smooth functioning of the internal market and strengthening economic and social cohesion.	La presente propuesta tiene por objeto establecer y desarrollar una RTE-T completa compuesta de infraestructuras de ferrocarril, vías de navegación interior, carreteras y transporte marítimo y aéreo, garantizando de esta forma el buen funcionamiento del mercado interior y reforzando la cohesión económica y social.
To achieve these objectives, the first field of action is "conceptual planning". Based on input from a public consultation of stakeholders, the Commission concluded that the TEN-T could be best developed through a dual-layer approach, consisting of a comprehensive network and a core network.	Para alcanzar estos objetivos, el primer campo de acción es la «planificación conceptual». A la vista de los resultados de una consulta pública de las partes interesadas, la Comisión concluyó que la mejor manera de desarrollar la RTE-T es a través de un sistema de doble capa que se compone de una red global y de una red principal.
The comprehensive network constitutes the basic layer of the TEN-T. It consists of all existing and planned infrastructure meeting the requirements of the Guidelines. The comprehensive network is to be in place by 31 December 2050 at the latest.	La red global constituye la capa básica de la RTE-T y se compone de toda la infraestructura existente y planificada que cumple los requisitos de las orientaciones. La red global deberá estar finalizada como muy tarde el 31 de diciembre de 2050.
The core network overlays the comprehensive network and consists of its strategically most important parts. It constitutes the backbone of the multi-modal mobility network. It concentrates on those components of TEN-T with the highest European added value: cross border missing links, key bottlenecks and multi-modal nodes. The core network is to be in place by 31 December 2030 at the latest.	La red principal está superpuesta a la red global y se compone de sus partes más importantes desde el punto de vista estratégico. Constituye la columna vertebral de la red multimodal de movilidad y se concentra en aquellos componentes de la RTE-T con el mayor valor añadido europeo: los enlaces transfronterizos pendientes, los principales cuellos de botella y los nodos multimodales. La red principal deberá estar finalizada como muy tarde el 31 de diciembre de 2030.
The second field of action concerns the implementation instruments. The Commission has developed the concept of core network corridors, taking due account of the rail freight corridors[6]. These corridors will provide the framework instrument for the coordinated implementation of the core network. In terms of scope, the core network corridors will in principle cover three transport modes and cross at least three Member States. If possible, they should establish a connection with a maritime port. In terms of activities, the core network corridors will provide a platform for capacity management, investments, building and	El segundo campo de acción se refiere a los instrumentos de implementación. La Comisión ha elaborado el concepto de corredores de la red principal, teniendo debidamente en cuenta los corredores de transporte ferroviario de mercancías[6]. Dichos corredores constituirán el instrumento marco para la realización coordinada de la red principal. En lo que se refiere a su alcance, los corredores de la red principal abarcarán en principio tres modos de transporte y atravesarán al menos tres Estados miembros. Si ello es posible, deberán conectar con un puerto marítimo. En lo que se refiere a actividades, los corredores de la red principal

coordinating multi-modal transshipment facilities, and deploying interoperable traffic management systems.	constituirán una plataforma para la gestión de la capacidad, las inversiones, la construcción y coordinación de las instalaciones de transbordo multimodal y la implantación de sistemas interoperables de gestión del tráfico.
1.4. Consistency with other EU policies and objectives	1.4. Coherencia con otras políticas y objetivos de la Unión
The proposal fits within the policy announced by the Commission in the White Paper. It is explicitly mentioned as part of Initiative 34 concerning the core network of strategic European infrastructure[7].	La propuesta se encuadra dentro de la política anunciada en el Libro Blanco de la Comisión y está mencionada explícitamente como parte de la iniciativa 34 relativa a una red principal de infraestructuras estratégicas europeas.[7].
In particular, these Guidelines follow the strategy set out in the White Paper: to remove major barriers and bottlenecks in key areas of transport infrastructure. The aim is to create a Single European Transport Area with better transport services and a fully integrated transport network. This will link the different modes and bring about a profound shift in transport patterns for passengers and freight. This shift is necessary to meet the aim of cutting greenhouse gas emissions from transport by 60% by 2050.	En particular, las presentes orientaciones siguen la estrategia establecida en el Libro Blanco: eliminar los principales obstáculos y cuellos de botella en zonas clave de la infraestructura de transporte. El objetivo es la creación de un espacio único europeo de transporte con mejores servicios de transporte y una red de transporte plenamente integrada que enlace los diferentes modos y permita un cambio profundo en las pautas de transporte tanto de pasajeros como de mercancías. Este cambio es necesario para cumplir el objetivo de reducir las emisiones de gases de efecto invernadero producidas por el transporte en un 60 % de aquí a 2050.
Without the support of an adequate network and a smarter approach to using it, no major change in transport will be possible. Infrastructure planning and development are considered essential in order to develop a sustainable transport system.	Sin el apoyo de una red adecuada y de una manera más inteligente de aprovecharla, no será posible llevar a cabo ningún cambio importante en el transporte. La planificación y construcción de infraestructuras se consideran esenciales para desarrollar un sistema de transporte sostenible.
The proposal will also contribute to the policy goals outlined in the Commission's communication "A Digital Agenda for Europe"[8] by supporting the implementation of intelligent transport systems. It also is one of the measures of the Single Market Act proposed by the Commission in April 2011[9] as the networks are the backbone of the internal market and play a key role in encouraging the fluid and efficient circulation of goods and services.	La propuesta también servirá para alcanzar los objetivos políticos esbozados en la Comunicación de la Comisión «Una agenda digital para Europa»[8] mediante el apoyo a la implantación de sistemas de transporte inteligentes. Es también una de las medidas del Acta del Mercado Único propuesta por la Comisión en abril de 2011[9] ya que las redes constituyen la columna vertebral del mercado interior y desempeñan una función clave en el fomento de la circulación fluida y eficiente de bienes y servicios.
Furthermore, promoting sustainable transport has been identified as one of the means for achieving one of the three key priorities of the Europe 2020 strategy for smart, sustainable and inclusive growth adopted by the Commission on 3 March 2010[10], namely sustainable growth, by addressing critical	Además, se ha determinado que el fomento del transporte sostenible es uno de los medios de lograr una de las tres prioridades clave de la estrategia Europa 2020 para un crecimiento inteligente, sostenible e integrador adoptada por la Comisión el 3 de marzo de 2010[10], en concreto un crecimiento sostenible, buscando

bottlenecks, in particular cross border sections and intermodal nodes (cities, ports, logistic platforms).	soluciones a los cuellos de botella críticos, en particular los tramos transfronterizos y los nodos intermodales (ciudades, puertos y plataformas logísticas).
Moreover, the proposal contributes to the strengthening of territorial cohesion of EU territory - which is one of EU objectives - together with economic and social cohesion.	Además, la propuesta contribuye a reforzar la cohesión territorial de la UE, que, junto con la cohesión económica y social, es uno de los objetivos de la Unión.
<b>2. RESULTS OF CONSULTATIONS WITH INTERESTED PARTIES AND IMPACT ASSESSMENTS</b>	<b>2. RESULTADOS DE LA CONSULTA DE LAS PARTES INTERESADAS Y EVALUACIÓN DE IMPACTO</b>
<b>2.1. Consultation of interested parties</b>	<b>2.1. Consulta de las partes interesadas</b>
The Commission carried out a wide and intensive public stakeholder consultation from February 2009 to June 2010.	La Comisión llevó a cabo una consulta pública amplia e intensiva de las partes interesadas entre febrero de 2009 y junio de 2010.
The Commission launched the consultation process with the adoption of a Green Paper. It opened the debate on key challenges and objectives for TEN-T policy and possible ways to meet them[11].	La Comisión inició el proceso de consulta con la adopción de un Libro Verde que abrió el debate sobre los principales retos y objetivos de la política de RTE-T y sobre las posibles maneras de hacerles frente.[11].
Building on the contributions from stakeholders, the Commission set up six Expert Groups, which between November 2009 and April 2010 analysed a number of key aspects of future TEN-T development[12]. The Expert Groups' recommendations were included in a Commission Working Document presented for public consultation on 4 May 2010[13].	Sobre la base de las contribuciones de las partes interesadas, la Comisión constituyó seis grupos de expertos que entre noviembre de 2009 y abril de 2010 analizaron una serie de aspectos clave del desarrollo futuro de la RTE-T[12]. Las recomendaciones de los grupos de expertos se incorporaron a un documento de trabajo de la Comisión presentado para consulta pública el 4 de mayo de 2010[13].
These public consultations attracted more than 530 contributions in total. A large majority of contributors supported the option of a new dual-layer approach to TEN-T planning, with a comprehensive network as the basic layer and a core network consisting of the strategically most important parts of the TEN-T.	Estas consultas públicas dieron lugar a más de 530 contribuciones en total. Una gran mayoría de los consultados apoyaron la opción de un método de planificación de la RTE-T de doble capa, con una red global como capa básica y una red principal compuesta de las partes estratégicamente más importantes de la RTE-T.
In October 2009 and in June 2010 ministerial and stakeholder conferences were held in Naples and Zaragoza respectively.	En octubre de 2009 y junio de 2010 se celebraron conferencias ministeriales y de las partes interesadas en Nápoles y Zaragoza respectivamente.
In February 2011, the Commission presented to the Council and European Parliament a Staff Working Document[14] that further developed the methodology and the planning and implementation scenarios.	En febrero de 2011, la Comisión presentó al Consejo y al Parlamento Europeo un documento de trabajo de los servicios de la Comisión[14] que desarrolló en mayor profundidad la metodología y los escenarios de planificación e implementación.
<b>2.2. Collection and use of expertise</b>	<b>2.2. Obtención y utilización de asesoramiento técnico</b>
In addition to the public stakeholders consultation, the Commission has been in continuous contact with Member States through the committee for monitoring the	Además de la consulta a las partes interesadas, la Comisión ha estado continuamente en contacto con los Estados miembros a través del Comité para el seguimiento de orientaciones y

Guidelines and exchanging information, set up by Decision No 1692/96/EC. Through this committee, which has been meeting on a monthly basis since 2010, the Member States were informed about the progress and content of the revision process.	el intercambio de información, creado mediante la Decisión nº 1692/96/CE. A través de ese comité, que se ha venido reuniendo mensualmente desde 2010, los Estados miembros fueron informados de los avances y el contenido del proceso de revisión.
Furthermore, the Commission services organised several rounds of bi-lateral and multi-lateral meetings with Member States, to discuss in detail the development of the comprehensive network and to present the main features of the core network.	Los servicios de la Comisión organizaron asimismo varias rondas de reuniones bilaterales y multilaterales con los Estados miembros con el fin de debatir en profundidad el desarrollo de la red global y de presentar las principales características de la red principal.
Contacts with individual interested parties have been established through separate meetings, at conferences and through the EU Coordinators at meetings of their respective Priority Projects.	Se han establecido contactos con partes interesadas concretas a través de reuniones específicas, en conferencias y a través de los coordinadores de la UE en las reuniones de sus proyectos prioritarios respectivos.
2.3. Impact Assessment	2.3. Evaluación de impacto
The Impact Assessment identifies four specific objectives for addressing the problem of a fragmented network.	La evaluación de impacto determina cuatro objetivos específicos para resolver el problema de la fragmentación de la red.
To enhance coordination in EU planning, the first specific objective is to :	Para reforzar la coordinación de la planificación de la UE, el primer objetivo específico es el siguiente:
- Define a coherent and transparent approach to maximise the EU added value of the TEN-T, addressing aspects of network fragmentation linked to missing links, multimodality, and adequate connections to neighbouring and third countries, as well as to ensure adequate geographical coverage.	- Definir una estrategia coherente y transparente a fin de maximizar el valor añadido para la UE de la RTE-T, resolver los aspectos de la fragmentación de la red relacionados con los enlaces pendientes, plantear la multimodalidad y conexiones adecuadas con los países vecinos y terceros, y garantizar una cobertura geográfica adecuada.
With a view to designing a sound governance structure to secure implementation of an optimal network configuration, the other three specific objectives are to:	Con vistas a diseñar una estructura de gobernanza sólida para garantizar la realización de una configuración óptima de la red, los otros tres objetivos específicos son los siguientes:
- Foster the implementation of European standards for management systems and push for the development of harmonised operational rules for TEN-T projects of common interest. This objective does not aim to impose new specific standards and rules, but rather to ensure the effective adoption and implementation of common European standards already developed.	- Fomentar la aplicación de normas europeas en los sistemas de gestión y alentar la elaboración de reglas de funcionamiento armonizadas para los proyectos de RTE-T de interés común. Este objetivo no pretende imponer nuevas normas y reglas específicas, sino más bien garantizar la adopción y aplicación efectivas de las normas comunes europeas ya elaboradas.
- Enhance Member States cooperation in order to coordinate investments, timing, the choice of routes, and environmental and cost-benefit assessments for projects of common interest.	- Mejorar la cooperación entre los Estados miembros a fin de coordinar las inversiones, los calendarios, los itinerarios y las evaluaciones medioambiental y de rentabilidad de los proyectos de interés común.
- Ensure that the optimal network configuration is a key element in the allocation	- Garantizar que la configuración óptima de la red sea un elemento clave en la asignación de

of EU funding allowing for a focus on cross-border sections, missing links and bottlenecks.	la financiación de la UE que permita concentrar los recursos en las secciones transfronterizas, los enlaces pendientes y los cuellos de botella.
Two policy options were the result:	Las dos opciones políticas resultantes de dicha evaluación son las siguientes:
- Option 1, combining a planning approach largely based on the current policy, though with certain amendments in the light of the experience gained, with a reinforced coordination approach to implementation;	- Opción 1, combinar un enfoque de planificación basado principalmente en la política actual, aunque con determinadas modificaciones a la luz de la experiencia adquirida, con un enfoque de coordinación reforzada de la implementación;
- Option 2, combining a stronger approach to planning coordination, through identification of an optimised configuration for the strategic "core" of the TEN-T, with the same reinforced coordination approach to implementation.	- Opción 2, combinar un enfoque de coordinación reforzada de la planificación mediante la determinación de una configuración optimizada del «núcleo» de la RTE-T con el mismo enfoque de coordinación reforzada de la implementación.
Each option would bring significant improvements when compared to the baseline policy approach, both in terms of effectiveness in implementation and in terms of economic, social and environmental impacts. Option 2, due to the stronger coordination at both planning and implementation levels, would have an overall higher positive impact.	Cada una de las dos opciones aportaría mejoras significativas en comparación con el enfoque político de base, tanto en cuanto a la eficacia de la implementación como en cuanto a las repercusiones económicas, sociales y medioambientales. Gracias al refuerzo de la coordinación al nivel de la planificación y de la implementación, la opción 2 tendría un mayor impacto positivo global.
2.4. Methodology for the design of the core network	2.4. Metodología del diseño de la red principal
The core network design as included in this proposal is the outcome of a commonly agreed methodology. It has been designed in accordance with the following two-step methodology.[15]	El diseño de la red central incluido en esta propuesta es el resultado de una metodología de dos fases acordada en común[15].
The first step was the identification of main nodes:	La primera fase consistió en la determinación de los nodos principales:
- Urban main nodes, comprising all Member States' capitals, all "MEGA" cities according to ESPON and all other large urban areas or conurbations, including their entire relevant multimodal infrastructure as far as part of the comprehensive network; in total 83 urban nodes have been identified and are listed in annex to the Guidelines; the ports and airports directly belonging to the urban node are part of the core network;	- los principales nodos urbanos, que comprenden todas las capitales de los Estados miembros, todas las ciudades «MEGA» según el Observatorio en Red de Ordenación Territorial Europea (ESPON), y todas las demás grandes áreas urbanas o metropolitanas, incluida toda su infraestructura multimodal pertinente en la medida en que forme parte de la red global; en total se han determinado 83 nodos urbanos cuya lista figura en el anexo de las orientaciones; los puertos y aeropuertos que pertenecen directamente al nodo urbano forman parte de la red principal;
- Outside these urban main nodes, ports which exceed a certain volume threshold or fulfil certain geographical criteria; in total, 83 ports are listed in annex to the Guidelines;	- fuera de estos nodos urbanos principales, los puertos que superan un umbral determinado de volumen o cumplen ciertos criterios geográficos; en total, en el anexo de las

	orientaciones figura una lista de 83 puertos;
- The most relevant border crossing points: one per mode between each Member State and each neighbouring country; in total 46 border crossing points are listed in annex to the Guidelines.	- los pasos fronterizos más relevantes: uno por modo entre cada Estado miembro y cada país vecino; en total, en el anexo de las orientaciones figura una lista de 46 pasos fronterizos.
The second step consisted in connecting these main nodes by multimodal links (road, rail, inland waterway), according to availability or feasibility, taking into account effectiveness and efficiency and preferably using existing infrastructure.	La segunda fase consistió en la conexión de esos nodos principales mediante enlaces multimodales (por carretera, ferrocarril o vía de navegación interior), según su disponibilidad o viabilidad, atendiendo a criterios de eficacia y eficiencia, y preferentemente aprovechando la infraestructura existente.
3. LEGAL ELEMENTS OF THE PROPOSAL	3. ELEMENTOS JURÍDICOS DE LA PROPUESTA
3.1. Summary of the measures proposed	3.1. Resumen de la acción propuesta
The proposed Regulation will repeal and replace Decision 661/2010/EU of the European Parliament and of the Council of 7 July 2010 on Union guidelines for the development of the trans-European transport network.	El Reglamento propuesto derogará y sustituirá a la Decisión nº 661/2010/UE del Parlamento Europeo y del Consejo, de 7 de julio de 2010, sobre las orientaciones de la Unión para el desarrollo de la red transeuropea de transporte.
The proposal contains the following main elements:	La propuesta contiene los siguientes elementos principales:
- TEN-T will be developed gradually through the implementation of a dual layer approach, comprising a comprehensive network and a core network.	- La RTE-T se desarrollará gradualmente mediante la aplicación de una estrategia de doble capa compuesta de una red global y de una red principal.
- The comprehensive network is to be in place by 31 December 2050 at the latest, whereas the core network is to be implemented as a priority by 31 December 2030.	- La red global deberá estar lista como muy tarde el 31 de diciembre de 2050, mientras que la red principal deberá ejecutarse de forma prioritaria de aquí al 31 de diciembre de 2030.
- The Guidelines set the framework for identifying projects of common interest. These projects contribute to the development and establishment of TEN-T through the creation, maintenance, rehabilitation and upgrading of infrastructure, through measures to promote the resource-efficient use of infrastructure and by enabling sustainable and efficient freight transport services.	- Las orientaciones establecen el marco para la determinación de los proyectos de interés común. Estos proyectos contribuyen al desarrollo y al establecimiento de la RTE-T mediante la creación, el mantenimiento, la rehabilitación y la mejora de la infraestructura a través de medidas de fomento del uso eficiente de los recursos de infraestructura y de la habilitación de servicios sostenibles y eficientes de transporte de mercancías.
- With a view to cooperation with third and neighbouring countries[16] the European Union may promote projects of mutual interest.	- La Unión Europea puede promover proyectos de interés mutuo con vistas a la cooperación con países terceros y vecinos[16].
- The comprehensive network is specified by:	- La red global viene especificada por:
- maps;	- mapas;
- infrastructure components;	- componentes de infraestructura;
- infrastructure requirements;	- requisitos de infraestructura;
- priorities for promoting projects of common interest.	- prioridades de promoción de proyectos de interés común.



- Freight terminals, passenger stations, inland ports, maritime ports and airports will connect transport modes in order to allow multi-modal transport;	- Las terminales de mercancías, estaciones de pasajeros, puertos interiores, puertos marítimos y aeropuertos conectarán los modos de transporte para permitir el transporte multimodal.
- Urban nodes form key elements in the comprehensive network as connecting points between the different transport infrastructures;	- Los nodos urbanos forman elementos clave de la red global al ser los puntos de conexión entre las diferentes infraestructuras de transporte.
- The guidelines lay down specific requirements for the core network, in addition to the requirements for the comprehensive network, for example availability of alternative fuels. The Commission will monitor and evaluate the progress made in implementing the core network.	- Las orientaciones establecen requisitos específicos para la red principal, además de los requisitos para la red global, por ejemplo los referentes a la disponibilidad de combustibles alternativos. La Comisión supervisará y evaluará los progresos registrados en la realización de la red principal.
- Core network corridors are an instrument for implementing the core network. They are to be based on modal integration and interoperability and lead to coordinated development and management.	- Los corredores de la red principal, que son un instrumento para la realización de dicha red, deberán basarse en la integración modal y la interoperabilidad y llevar a un desarrollo y una gestión coordinados.
- European Coordinators will facilitate the coordinated implementation of the corridors, in cooperation with corridor platforms to be established by Member States concerned.	- Los coordinadores europeos facilitarán la realización coordinada de los corredores, en cooperación con las plataformas de corredores que deberán establecer los Estados miembros interesados.
- Each corridor platform will establish a multi-annual development plan, including investment and implementation plans, as a management structure. Based on this information the Commission will adopt implementing acts (decisions) for each corridor.	- Cada plataforma de corredor establecerá un plan plurianual desarrollo que incluirá los planes de inversión y ejecución y una estructura de gestión. Atendiendo a esta información, la Comisión adoptará los actos de ejecución (decisiones) para cada corredor.
- The proposal calls for regular revision of the annexes by means of delegated acts in order to update the maps of the comprehensive network. It also envisages a review of the core network by 2023.	- La propuesta insta a revisar con regularidad los anexos mediante actos delegados a fin de actualizar los mapas de la red global y prevé asimismo que se revise la red principal a más tardar en 2023.
3.2. Legal basis	3.2. Base jurídica
The legal basis for this proposal is Article 172 TFEU.	La base jurídica de la presente propuesta es el artículo 172 del TFUE.
3.3. Subsidiarity principle	3.3. Principio de subsidiariedad
The coordinated development of a trans-European transport network to support transport flows within the single European market and economic, social and territorial cohesion within Europe requires action to be taken at European Union level, as such action could not be taken individually by Member States. This is particularly the case for cross-border sections.	El desarrollo coordinado de una red transeuropea de transporte para respaldar los flujos de transporte dentro del mercado único europeo y la cohesión económica, social y territorial en Europa exige la intervención de la Unión Europea, ya que los Estados miembros por sí solos no estarían en condiciones de hacerlo. Este es el caso en particular de los tramos transfronterizos.
3.4. Proportionality principle	3.4. Principio de proporcionalidad
The proposal complies with the proportionality	La propuesta cumple el principio de

principle, and falls within the scope for action in the field of the trans-European transport network, as defined in Article 170 of the Treaty on the Functioning of the European Union.	proporcionalidad y entra dentro del ámbito de actuación en el campo de las redes transeuropeas de transporte, de conformidad con el artículo 170 del Tratado de Funcionamiento de la Unión Europea.
The action envisaged by this proposal is specifically limited to the European dimension of transport infrastructure networks.	La actuación prevista en la presente propuesta se limita específicamente a la dimensión europea de las redes de infraestructura de transporte.
<b>3.5. Choice of instrument</b>	<b>3.5. Instrumento elegido</b>
The current TEN-T Guidelines were proposed and adopted as a Decision of the European Parliament and of the Council. This Decision is specifically addressed to the Member States, rendering the Guidelines binding in their entirety for all the Member States.	Las orientaciones de la RTE-T actuales fueron propuestas y adoptadas en forma de una Decisión del Parlamento Europeo y del Consejo destinada específicamente a los Estados miembros, que hacía las orientaciones obligatorias en todos sus elementos para todos los Estados miembros.
While the Member States have traditionally been the main actors involved in transport infrastructure development and management, developments suggest that this situation has been progressively changing. Regional and local authorities, infrastructure managers, transport operators and other public and private entities have also become key actors in the development of infrastructure.	Si bien los Estados miembros han tenido históricamente un papel protagonista en el desarrollo y la gestión de la infraestructura de transporte, esta situación ha ido cambiando progresivamente. Las autoridades regionales y locales, los gestores de la infraestructura, los operadores de transporte y otras entidades públicas y privadas se han convertido también en actores principales en el desarrollo de la infraestructura.
With more actors besides the Member States becoming involved in the planning, development and operation of TEN-T, it is important to ensure that the Guidelines are binding for all. The Commission has therefore chosen a Regulation as the legal instrument for this proposal.	Con la participación de más actores aparte de los Estados miembros en la planificación, el desarrollo y la explotación de la RTE-T, es importante garantizar que las orientaciones sean obligatorias para todos. Por consiguiente, la Comisión ha elegido como instrumento jurídico para esta propuesta un reglamento.
Moreover, it should be noted that the proposal is intended to cover the period up to 2050. It is therefore difficult to anticipate all categories of actors that could become involved in TEN-T implementation projects in that period.	Además, conviene señalar que la propuesta abarcaría el período hasta 2050, por lo que es difícil prever todas las categorías de actores que podrían acabar participando en la ejecución de los proyectos de la RTE-T a lo largo de este tiempo.
<b>3.6. European Economic Area</b>	<b>3.6. Espacio Económico Europeo</b>
The proposed act concerns an EEA matter and should therefore extend to the European Economic Area.	El acto propuesto es pertinente a efectos del Espacio Económico Europeo y, por consiguiente, debe hacerse extensivo al mismo.
<b>4. BUDGETARY IMPLICATIONS</b>	<b>4. IMPLICACIONES PRESUPUESTARIAS</b>
The proposal will not entail any additional cost for the EU budget.	La propuesta no representa coste adicional alguno para el presupuesto de la UE.
<b>5. CONNECTING EUROPE FACILITY</b>	<b>5. MECANISMO «CONECTAR EUROPA»</b>
In the context of the Communication on the Multi-annual Financial Framework 2014-2020 [17], the Commission has announced the creation of a new instrument at EU level, the	En el contexto de la Comunicación sobre el Marco Financiero Plurianual 2014-2020[17], la Comisión ha anunciado la creación de un nuevo instrumento de la UE, el Mecanismo

"Connecting Europe Facility", which will finance EU priority infrastructure in transport, energy and digital broadband. The facility will support infrastructures with a European and Single Market dimension, targeting EU support on priority networks that must be implemented by 2020 and where European action is most warranted. The facility will have a single fund of € 50 billion for the period 2014-2020, of which € 31.7 billion will be allocated to transport, out of which €10 billion ring fenced for related transport infrastructures investments inside the Member States eligible under the Cohesion Fund. The Communication also suggests that infrastructure projects of EU interest that pass through neighbourhood and pre-accession countries should in the future be coordinated and reinforced through the new Connecting Europe Facility.[18]	«Conectar Europa», que financiará la infraestructura prioritaria de transporte, energía y banda ancha digital de la UE. Este mecanismo dará apoyo a infraestructuras con una dimensión europea y de mercado único centrando la ayuda de la UE en las redes prioritarias que deberán estar finalizadas en 2020 y en las que más se justifique la intervención europea. El mecanismo estará dotado de un fondo único de 50 000 millones de euros para el período 2014-2020, de los que 31 700 millones se asignarán al transporte, incluidos 10 000 millones reservados para inversiones en infraestructuras de transporte en los Estados miembros que pueden beneficiarse del Fondo de Cohesión. La Comunicación también aconseja que los proyectos de infraestructura de interés para la UE que discurren por países vecinos y candidatos a la adhesión se coordinen y refuercen en el futuro a través del nuevo Mecanismo «Conectar Europa»[18].
Together with the Connecting Europe Facility, the present guidelines will establish the priorities for European funding of transport infrastructure.	Junto con el Mecanismo «Conectar Europa», las orientaciones actuales establecerán las prioridades de la financiación europea de infraestructura de transporte.
6. SIMPLIFICATION	6. SIMPLIFICACIÓN
The proposal contributes to the simplification of existing rules. Through the new corridor approach and the establishment of corridor platforms, the project preparation can be streamlined.	La propuesta contribuye a la simplificación de las normas existentes. La elaboración de proyectos puede simplificarse mediante la nueva estrategia de corredores y el establecimiento de plataformas de corredores.
2011/0294 (COD)	2011/0294 (COD)
Proposal for a	Propuesta de
REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL	REGLAMENTO DEL PARLAMENTO EUROPEO Y DEL CONSEJO
on Union guidelines for the development of the trans-European transport network	sobre las orientaciones de la Unión para el desarrollo de la Red Transeuropea de Transporte
(Text with EEA relevance)	(Texto pertinente a efectos del EEE)
THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,	EL PARLAMENTO EUROPEO Y EL CONSEJO DE LA UNIÓN EUROPEA,
Having regard to the Treaty on the Functioning of the European Union, and in particular Article 172 thereof,	Visto el Tratado de Funcionamiento de la Unión Europea y, en particular, su artículo 172,
Having regard to the proposal from the European Commission,	Vista la propuesta de la Comisión Europea,
After transmission of the draft legislative act to the national Parliaments,	Prevía transmisión del proyecto de acto legislativo a los Parlamentos nacionales,
Having regard to the opinion of the European Economic and Social Committee[19],	Visto el dictamen del Comité Económico y Social Europeo[19],
Having regard to the opinion of the Committee	Visto el dictamen del Comité de las Regiones

of the Regions[20],	[20],
Acting in accordance with the ordinary legislative procedure,	De conformidad con el procedimiento legislativo ordinario,
Whereas:	Considerando lo siguiente:
1. Decision No 1692/96/EC of the European Parliament and of the Council of 23 July 1996 on Community guidelines for the development of the trans-European transport network[21] was recast in the interest of clarity by Decision No 661/2010/EU of the European Parliament and of the Council of 7 July 2010 on Union guidelines for the development of the trans-European transport network[22].	1. La Decisión nº 1692/96/CE del Parlamento Europeo y del Consejo, de 23 de julio de 1996, sobre las orientaciones comunitarias para el desarrollo de la red transeuropea de transporte [21] fue refundida en aras de la claridad mediante la Decisión nº 661/2010/UE del Parlamento Europeo y del Consejo, de 7 de julio de 2010, sobre las orientaciones de la Unión para el desarrollo de la red transeuropea de transporte[22].
2. The planning, development and operation of trans-European transport networks contribute to the attainment of major Union objectives, such as the smooth functioning of the internal market and the strengthening of economic and social cohesion and also have the specific objectives of allowing the seamless and sustainable mobility of persons and goods and ensuring accessibility for all regions of the Union.	2. La planificación, el desarrollo y la explotación de las redes transeuropeas de transporte contribuyen a la consecución de importantes objetivos de la Unión, como el buen funcionamiento del mercado interior y el fortalecimiento de la cohesión económica y social, y tienen asimismo los objetivos específicos de permitir la movilidad sin fisuras y sostenible de personas y mercancías y de asegurar la accesibilidad de todas las regiones de la Unión.
3. These specific objectives should be achieved by establishing interconnections and interoperability between national transport networks in a resource-efficient way.	3. Estos objetivos específicos deben lograrse mediante el establecimiento de interconexiones y de la interoperabilidad entre las redes nacionales de transporte haciendo un uso eficiente de los recursos.
4. Growth in traffic has resulted in increased congestion on international transport corridors. In order to ensure the international mobility of goods and passengers, the capacity of the trans-European transport network and the use of this capacity should be optimised and, if necessary, expanded by removing infrastructure bottlenecks and bridging missing infrastructure links within and between Member States.	4. El aumento del tráfico ha tenido como consecuencia una mayor congestión de los corredores internacionales de transporte. Para garantizar la movilidad internacional de mercancías y pasajeros, la capacidad de la red transeuropea de transporte y el uso de esta capacidad deben optimizarse y, llegado el caso, ampliarse eliminando cuellos de botella en la infraestructura y creando los enlaces de infraestructura pendientes entre los Estados miembros y dentro de los mismos.
5. As stated in the White Paper on Transport "Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system"[23], the efficiency and effectiveness of transport can be significantly enhanced by ensuring a better modal integration across the network, in terms of infrastructure, information flows and procedures.	5. Tal y como se establece en el Libro Blanco «Hoja de ruta hacia un espacio único europeo de transporte: por una política de transportes competitiva y sostenible»[23], la eficiencia y eficacia del transporte se pueden mejorar significativamente asegurando una mayor integración modal en toda la red en cuanto a infraestructura, flujos de información y procedimientos.
6. The White Paper calls for the deployment of transport-related information and communication technology to ensure improved	6. El Libro Blanco insta al despliegue de tecnología de información y comunicación relacionada con el transporte para asegurar una

and integrated traffic management and to simplify administrative procedures through improved freight logistics, cargo tracking and tracing, and optimised schedules and traffic flows. As such measures promote the efficient management and use of transport infrastructure they should fall within the scope of this Regulation.	gestión mejorada e integrada del tráfico y para simplificar los procedimientos administrativos mediante una mejor logística del transporte de mercancías, el seguimiento y la localización de la carga, y una programación y flujos de tráfico optimizados. Puesto que dichas medidas fomentan la gestión y el uso eficientes de la infraestructura de transporte, deben entrar en el ámbito del presente Reglamento.
7. The trans-European transport network policy has to take into account the evolution of the transport policy and infrastructure ownership. In the past, Member States were the principal entity in charge of creating and maintaining transport infrastructure. However, other entities, including private, have also become relevant for the realisation of a multimodal trans-European transport network, including for example infrastructure managers, concessionaires or port and airports authorities.	7. La política de la red transeuropea de transporte tiene que tener en cuenta la evolución de la política de transporte y la titularidad de la infraestructura. Anteriormente, los Estados miembros eran la entidad principal responsable de la construcción y el mantenimiento de la infraestructura de transporte. No obstante, ahora también han adquirido relevancia otras entidades para la realización de una red transeuropea de transporte multimodal, incluso privadas, como por ejemplo, los gestores de infraestructura, los concesionarios, o las autoridades portuarias o aeroportuarias.
8. The trans-European transport network consists to a large extent of existing infrastructure. This existing infrastructure is managed by different public and private entities. In order to achieve fully the objectives of the new trans-European transport network policy, uniform requirements regarding the infrastructure have to be established in a Regulation in order to be complied with by any entity responsible for the infrastructure of the trans-European transport network.	8. La red transeuropea de transporte se compone en gran medida de la infraestructura existente. Esta infraestructura existente es gestionada por diferentes entidades públicas y privadas. A fin de lograr plenamente los objetivos de la nueva política de la red transeuropea de transporte, deben establecerse requisitos uniformes en relación con la infraestructura en un Reglamento de forma que sean cumplidos por cualquier entidad responsable de la infraestructura de la red transeuropea de transporte.
9. The trans-European transport network should best be developed through a dual layer approach, consisting of a comprehensive network and a core network, these two layers being the highest level of infrastructure planning within the Union.	9. La mejor forma de desarrollar la red transeuropea de transporte debe ser mediante una estrategia de doble capa consistente en una red global y otra principal, ya que ambas capas representan el nivel máximo de planificación de infraestructuras en la Unión.
10. The comprehensive network should be a European-wide transport network ensuring the accessibility of all regions in the Union, including the remote and outermost regions, as also pursued by the Integrated Maritime Policy [24], and strengthening cohesion between them. The guidelines should set the requirements for the infrastructure of the comprehensive network, in order to achieve a high-quality network throughout the Union by 2050.	10. La red global debe ser una red de transporte de ámbito europeo que garantice la accesibilidad de todas las regiones de la Unión, incluidas las remotas y ultraperiféricas, al igual que persigue la Política Marítima Integrada [24], y que refuerce la cohesión entre ellas. Las orientaciones deben establecer los requisitos para la infraestructura de la red global con vistas a lograr una red de alta calidad en toda la Unión de aquí a 2050.
11. The core network should be identified and implemented as a priority within the	11. La red principal debe determinarse y ejecutarse con prioridad de aquí a 2030 dentro

framework provided by the comprehensive network by 2030. It should constitute the backbone of the development of a multi-modal transport network and stimulate the development of the entire comprehensive network. It should enable Union action to concentrate on those components of the trans-European transport network with the highest European added value, in particular cross-border sections, missing links, multi-modal connecting points and major bottlenecks.	del marco previsto para la red global, y debe constituir la columna vertebral del desarrollo de una red de transporte multimodal y fomentar el desarrollo de la totalidad de la red global. Debe permitir asimismo que la intervención de la Unión se centre en aquellos componentes de la red transeuropea de transporte con el mayor valor añadido europeo, en particular en lo que se refiere a los tramos transfronterizos, los enlaces pendientes, los puntos de conexión multimodal y los principales cuellos de botella.
12. In order to establish the core and the comprehensive network in a coordinated and timely manner, allowing thereby maximising the network benefits, Member States concerned should ensure that the projects of common interest are finalised by 2030 and 2050 respectively.	12. Para establecer la red principal y global de forma coordinada y rápida de modo que pueda sacarse el máximo provecho de la red, los Estados miembros interesados deben garantizar que los proyectos de interés común estén finalizados a más tardar en 2030 y 2050, respectivamente.
13. It is necessary to identify projects of common interest which will contribute to the achievement of the trans-European transport network and which correspond to the priorities established in the guidelines.	13. Es necesario determinar los proyectos de interés común que contribuirán al logro de la red transeuropea de transporte y que corresponden a las prioridades establecidas en las orientaciones.
14. Projects of common interest should demonstrate a clear European added value. Cross-border projects typically have high European added value, but may have lower direct economic effects compared to purely national projects. Therefore, they are likely not to be implemented without Union intervention.	14. Los proyectos de interés común deben demostrar un claro valor añadido europeo. Los proyectos transfronterizos normalmente tienen un valor añadido europeo elevado, pero pueden tener unos efectos económicos directos inferiores en comparación con proyectos puramente nacionales. Por consiguiente, sin la intervención de la Unión su ejecución es improbable.
15. As the development and implementation of the trans-European transport network is not solely carried out by Member States, all promoters of projects of common interest such as local and regional authorities, infrastructure managers or other private or public entities should be subject to the rights and obligations of this Regulation, as well other relevant Union and national rules and procedures, when carrying out such projects.	15. Puesto que el desarrollo y la ejecución de la red transeuropea de transporte no son llevados a cabo exclusivamente por los Estados miembros, todos los promotores de proyectos de interés común, como las autoridades locales y regionales, los gestores de infraestructura y otras entidades privadas o públicas, deben estar amparados por los derechos y sujetos a las obligaciones que se derivan del presente Reglamento, así como de otras normas y procedimientos pertinentes de la Unión y nacionales, cuando lleven a cabo dichos proyectos.
16. Cooperation with neighbouring and third countries is necessary to ensure connection and interoperability between the respective infrastructure networks. Therefore the Union should where appropriate promote projects of mutual interest with those countries.	16. La cooperación con los países vecinos y terceros es necesaria para garantizar la conexión e interoperabilidad entre las redes de infraestructura respectivas. La Unión debe por tanto fomentar proyectos adecuados de interés mutuo con esos países.
17. In order to achieve modal integration	17. Para lograr la integración modal en toda la

across the network, adequate planning of the trans-European transport network is required. This also implies the implementation of specific requirements throughout the network in terms of infrastructure, intelligent transport systems, equipment, and services. It is therefore necessary to ensure adequate and concerted deployment of such requirements across Europe for each transport mode and for their interconnection across the trans-European transport network and beyond, in order to obtain the benefits of the network effect and to enable efficient long-range trans-European transport operations.	red, es necesaria la planificación adecuada de la red transeuropea de transporte. Esto implica asimismo la aplicación de requisitos específicos en toda la red en lo que se refiere a infraestructura, sistemas de transporte inteligentes, equipos y servicios. Es por lo tanto necesario asegurar el desarrollo adecuado y concertado de dichos requisitos en toda Europa para cada modo de transporte y para su interconexión en toda la red transeuropea de transporte y más allá, a fin de obtener los frutos del efecto de red y de permitir operaciones transeuropeas de transporte de larga distancia eficientes.
18. In order to determine existing and planned transport infrastructures for the comprehensive and the core network, maps should be provided and adapted over time to take into account the evolution of traffic flows. The technical basis of the maps is provided by the Commission's TENtec system which contains a higher level of detail concerning the trans-European transport infrastructure.	18. A fin de determinar las infraestructuras existentes y planificadas de las redes global y principal, deben facilitarse mapas y adaptarlos regularmente para tener en cuenta la evolución de los flujos de tráfico. La base técnica de los mapas la proporciona el sistema de TENtec de la Comisión, que contiene un mayor nivel de detalle en relación con la infraestructura transeuropea de transporte.
19. The guidelines should set priorities in order to achieve the objectives within the given time horizon.	19. Las orientaciones deben establecer prioridades para lograr los objetivos en el horizonte temporal previsto.
20. Intelligent transport systems are necessary to provide the basis for optimising of traffic and transport operations and improving related services.	20. Son necesarios sistemas de transporte inteligentes que proporcionen la base para optimizar las operaciones de tráfico y transporte y mejorar los servicios relacionados.
21. The guidelines should provide for the development of the comprehensive network in urban nodes, as those nodes are the starting point or the final destination ("last mile") for passengers and freight moving on the trans-European transport network and are points of transfer within or between different transport modes.	21. Las orientaciones deben prever el desarrollo de la red global en los nodos urbanos, ya que esos nodos son el punto de partida o el destino final («el último kilómetro») para los pasajeros y las mercancías que se desplazan por la red transeuropea de transporte y son los puntos de transbordo dentro de un mismo modo de transporte o entre modos distintos.
22. The trans-European transport network, thanks to its large scale, should provide the basis for the large-scale deployment of new technologies and innovation, which, for example, can help enhance the overall efficiency of the European transport sector and curb its carbon footprint. This will contribute towards the Europe 2020 strategy and the Transport White Paper's target of a 60% cut in greenhouse gas emissions by 2050 (based on 1990 levels) and at the same time contribute to the objective of increasing fuel security for the Union.	22. Por las características de su tamaño, la red transeuropea de transporte debe servir de base para la implantación a gran escala de nuevas tecnologías e innovación que, por ejemplo, pueden contribuir a aumentar la eficiencia global del sector europeo del transporte y reducir su huella de carbono en consonancia con la estrategia Europa 2020 y el objetivo del Libro Blanco del transporte de reducir en un 60 % las emisiones de gases de efecto invernadero de aquí a 2050 (en relación con los niveles de 1990) y, al mismo tiempo, contribuir al objetivo de aumentar la seguridad de abastecimiento de combustible de la Unión.

23. The trans-European transport network has to ensure efficient multi-modality in order to allow better modal choices to be made and large volumes to be consolidated for transfers over long distances. This will make multi-modality economically more attractive for shippers.	23. La red transeuropea de transporte tiene que garantizar una multimodalidad eficiente para permitir la elección del mejor modo posible en cada caso y la consolidación de grandes volúmenes para su traslado a largas distancias. Esto hará la multimodalidad más interesante económicamente para los transportistas.
24. In order to achieve a high-quality and efficient transport infrastructure across all modes the guidelines should contain provisions regarding the security and safety of passengers and freight movements, the impact of climate change and of potential natural and man-made disasters on infrastructure and accessibility for all transport users.	24. Con el fin de lograr una infraestructura de transporte de alta calidad y eficiente en todos los modos, las orientaciones deben contener disposiciones sobre la seguridad y la protección de los movimientos de pasajeros y mercancías, el impacto del cambio climático y de potenciales catástrofes naturales y antropogénicas sobre la infraestructura, y la accesibilidad para todos los usuarios del transporte.
25. The core network should be a subset of the comprehensive network overlaying it. It should represent the strategically most important nodes and links of the trans-European transport network, according to traffic needs. It should be multi-modal, i.e. include all transport modes and their connections as well as relevant traffic and information management systems.	25. La red principal debe ser un subconjunto de la red global superpuesta a ella. Debe representar los nodos y enlaces estratégicamente más importantes de la red transeuropea de transporte, según las necesidades del tráfico. Debe ser multimodal, es decir, debe incluir todos los modos de transporte y sus conexiones, así como los sistemas pertinentes de gestión del tráfico y la información.
26. In order to implement the core network within the given time horizon, a corridor approach could be used as an instrument to coordinate on a transnational basis different projects and synchronise the development of the corridor, thereby maximising network benefits.	26. A fin de implementar la red principal en el horizonte temporal previsto, debe emplearse un enfoque basado en corredores como instrumento para coordinar transnacionalmente proyectos diferentes y sincronizar el desarrollo del corredor, maximizando de este modo los beneficios de la red.
27. Core network corridors should also address wider transport policy objectives and facilitate modal integration and multi-modal operations. This should allow specially developed corridors that are optimised in terms of energy use and emissions, thus minimising environmental impacts, and are also attractive for their reliability, limited congestion and low operating and administrative costs. An initial list of corridors should be included in the Regulation (EU) XXX/2012 [Connecting Europe Facility], but should be adaptable in order to take account of changes in traffic flows.	27. Los corredores de la red principal deben abordar asimismo los objetivos más generales de la política de transporte y facilitar la integración modal y las operaciones multimodales, lo que debe permitir la ejecución de corredores especialmente desarrollados y optimizados en cuanto al consumo de energía y a las emisiones de forma que se reduzca al máximo el impacto medioambiental del transporte, y que sean asimismo corredores interesantes por su fiabilidad, congestión limitada y bajos costes de explotación y administración. En el Reglamento (UE) XXX/2012 [Mecanismo «Conectar Europa»] debe figurar una lista inicial de corredores sujeta a modificación posterior para adaptarla a posibles cambios en los flujos de tráfico.
28. Designing the right governance structure and identifying the sources of financing for	28. La creación de plataformas para los corredores de la red principal facilitaría el



complex cross-border projects would be eased by creating corridor platforms for such core network corridors. European Coordinators should facilitate the coordinated implementation of the core network corridors.	diseño de la estructura de gobernanza adecuada y la identificación de las fuentes de financiación para los proyectos transfronterizos complejos. Los coordinadores europeos deben facilitar la realización coordinada de los corredores de la red principal.
29. In developing core network corridors due account should be given to the rail freight corridors set up in accordance with Regulation (EU) No 913/2010 of 22 September 2010 of the European Parliament and of the Council concerning a European rail network for competitive freight[25] as well as to the European Deployment Plan for ERTMS provided for in Commission Decision 2009/561/EC of 22 July 2009 amending Decision 2006/679/EC as regards the implementation of the technical specification for interoperability relating to the control-command and signalling subsystem of the trans-European conventional rail system[26].	29. A la hora de diseñar los corredores de la red principal deben tenerse debidamente en cuenta los corredores ferroviarios de mercancías creados de conformidad con el Reglamento (UE) n° 913/2010, de 22 de septiembre de 2010, sobre una red ferroviaria europea para un transporte de mercancías competitivo[25], así como al Plan de Despliegue Europeo del ERTMS previsto en la Decisión de la Comisión 2009/561/CE, de 22 de julio de 2009, por la que se modifica la Decisión 2006/679/CE en lo que se refiere a la aplicación de la especificación técnica de interoperabilidad relativa al subsistema de control y mando y señalización del sistema ferroviario transeuropeo convencional[26].
30. In order to maximise consistency between the guidelines and the programming of the relevant financial instruments available at Union level, trans-European transport network funding should be based on this Regulation and draw on the Connecting Europe Facility [27]. Correspondingly, it should aim at aligning and combining funding from relevant internal and external instruments such as structural and cohesion funds, the Neighbourhood Investment Facility (NIF), the Instrument for Pre-Accession Assistance (IPA) [28], and from financing from the European Investment Bank, the European Bank for Reconstruction and Development and other financial institutions. In particular, when developing the trans-European transport network, Member States should take into account to the ex ante conditionalities applicable to transport as provided for in Annex IV to Regulation (EU) No XXX2012 [Regulation laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund covered by the Common Strategic Framework and laying down general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund and repealing Regulation (EC) No 1083/2006].[29]	30. A fin de maximizar la coherencia entre las orientaciones y la programación de los instrumentos financieros pertinentes disponibles a nivel de la Unión, la financiación de la red transeuropea de transporte debe basarse en el presente Reglamento y aprovechar el Mecanismo «Conectar Europa»[27]. En consecuencia, su objetivo debe ser coordinar y combinar financiación de los instrumentos internos y externos pertinentes, tales como los Fondos Estructurales y de Cohesión, el Instrumento de inversión de la Política de Vecindad (NIF) y el Instrumento de Ayuda Preadhesión (IPA[28]) , así como financiación del Banco Europeo de Inversiones, el Banco Europeo de Reconstrucción y Desarrollo y otras instituciones financieras. En particular, a la hora de desarrollar la red transeuropea de transporte, los Estados miembros deben tener en cuenta las condicionalidades ex ante aplicables al transporte previstas en el anexo IV del Reglamento (UE) n° XXXX/2012 [Reglamento por el que se establecen las disposiciones comunes relativas al Fondo Europeo de Desarrollo Regional, al Fondo Social Europeo, al Fondo de Cohesión, al Fondo Europeo Agrícola de Desarrollo Rural y al Fondo Europeo Marítimo y de Pesca amparados por el Marco Estratégico Común, y por el que se establecen las disposiciones generales relativas al Fondo Europeo de

	Desarrollo Regional, al Fondo Social Europeo, al Fondo de Cohesión y se deroga el Reglamento (CE) nº 1083/2006][29].
31. In order to update the Annexes and in particular the maps to take into account possible changes resulting from the actual usage of certain elements of transport infrastructure analysed against pre-established quantitative thresholds, the power to adopt acts in accordance with Article 290 of the Treaty on the Functioning of the European Union should be delegated to the Commission in respect of amendments to the Annexes. It is of particular importance for the Commission to carry out appropriate consultations during its preparatory work, including at expert level. The Commission, when preparing and drawing-up delegated acts, should ensure a simultaneous, timely and appropriate transmission of relevant documents to the European Parliament and to the Council.	31. A fin de actualizar los anexos, y en particular los mapas, para acomodar los posibles cambios derivados del uso real de determinados elementos de la infraestructura de transporte analizado en relación con umbrales cuantitativos preestablecidos, la facultad de adoptar actos con arreglo al artículo 290 del Tratado de Funcionamiento de la Unión Europea debe delegarse en la Comisión en lo relativo a la modificación de los anexos. Es especialmente importante que la Comisión proceda a las consultas adecuadas durante sus trabajos preparatorios, incluso a nivel de expertos. Al preparar y redactar los actos delegados, la Comisión debe garantizar la transmisión adecuada, simultánea y oportuna de los documentos pertinentes al Parlamento Europeo y al Consejo.
32. In order to ensure uniform conditions for the implementation of this Regulation, implementing powers should be conferred on the Commission. Those powers should be exercised in accordance with Regulation (EU) No 182/2011 of the European Parliament and of the Council of 16 February 2011 laying down the rules and general principles concerning mechanisms for control by Member States of the Commission's exercise of implementing powers[30].	32. A fin de garantizar condiciones uniformes de ejecución del presente Reglamento, deben conferirse a la Comisión competencias de ejecución. Dichas competencias deben ejercerse de conformidad con el Reglamento (UE) nº 182/2011 del Parlamento Europeo y del Consejo, de 16 de febrero de 2011, por el que se establecen las normas y los principios generales relativos a las modalidades de control por parte de los Estados miembros del ejercicio de las competencias de ejecución por la Comisión[30].
33. Since the objectives of the action to be taken, and in particular the coordinated establishment and development of the trans-European transport network, cannot be sufficiently achieved by the Member States and can therefore, by reason of the need for coordination of these objectives, be better achieved at Union level, the Union may adopt measures in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty on European Union. In accordance with the principle of proportionality, as also set out in that Article, this Regulation does not go beyond what is necessary in order to achieve those objectives,	33. Dado que la realización de los objetivos de la acción prevista y, en particular, el establecimiento y desarrollo coordinados de la red transeuropea de transporte, no pueden ser alcanzados de manera suficiente por los Estados miembros y, por consiguiente, dada la necesidad de coordinar dichos objetivos, pueden lograrse mejor a nivel de la Unión, esta puede adoptar medidas de acuerdo con el principio de subsidiariedad consagrado en el artículo 5 del Tratado de la Unión Europea. De conformidad con el principio de proporcionalidad, asimismo enunciado en dicho artículo, el presente Reglamento no excede de lo necesario para alcanzar estos objetivos.
HAVE ADOPTED THIS REGULATION:	HAN ADOPTADO EL PRESENTE REGLAMENTO:
CHAPTER I	CAPÍTULO I
GENERAL PRINCIPLES	PRINCIPIOS GENERALES

Article 1 Subject matter	Artículo 1 Objeto
34. This Regulation establishes the Union guidelines (hereinafter "the guidelines") for the development of a trans-European transport network which determine the infrastructure of the trans-European transport network within which projects of common interest and projects of mutual interest are identified.	34. El presente Reglamento establece las orientaciones de la Unión (en lo sucesivo denominadas «las orientaciones») para el desarrollo de una red transeuropea de transporte que determinan la infraestructura de la red transeuropea de transporte dentro de la cual se identificarán los proyectos de interés común y los proyectos de interés mutuo.
35. The guidelines specify the requirements to be respected by the entities responsible for management of the infrastructure of the trans-European transport network.	35. Las orientaciones especifican los requisitos que deberán respetar las entidades responsables de la gestión de la infraestructura de la red transeuropea de transporte.
36. The guidelines set out the priorities for the development of the trans-European network.	36. Las orientaciones establecen las prioridades para el desarrollo de la red transeuropea.
37. The guidelines provide for measures for the implementation of the trans-European network.	37. Las orientaciones prevén medidas para la ejecución de la red transeuropea de transporte.
Article 2 Scope	Artículo 2 Ámbito de aplicación
38. The guidelines shall apply to the trans-European transport network which comprises:	38. Las orientaciones se aplicarán a la red transeuropea de transporte, que comprende :
39. existing and planned transport infrastructure referred to in paragraph 2, and	39. la infraestructura de transporte existente y planificada a que se refiere el apartado 2, y
40. measures promoting the efficient management and use of such infrastructure.	40. las medidas de fomento de la gestión y el uso eficientes de dicha infraestructura.
41. Transport infrastructure of the trans-European transport network consists of:	41. La infraestructura de transporte de la red transeuropea de transporte consta de:
42. railway transport infrastructure as determined in Section 1 of Chapter II;	42. la infraestructura de transporte ferroviario a que se refiere la sección 1 del capítulo II;
43. inland waterway infrastructure as determined in Section 2 of Chapter II;	43. la infraestructura de transporte por vías de navegación interior a que se refiere la sección 2 del capítulo II;
44. road transport infrastructure as determined in Section 3 of Chapter II;	44. la infraestructura de transporte por carretera a que se refiere la sección 3 del capítulo II;
45. maritime transport infrastructure as determined in Section 4 of Chapter II;	45. la infraestructura de transporte marítimo a que se refiere la sección 4 del capítulo II;
46. air transport infrastructure as determined in Section 5 of Chapter II;	46. la infraestructura de transporte aéreo a que se refiere la sección 5 del capítulo II;
47. infrastructure for multimodal transport as determined in Section 6 of Chapter II;	47. la infraestructura de transporte multimodal a que se refiere la sección 6 del capítulo II;
48. the equipment and intelligent transport systems associated with the transport infrastructure referred to in points (a) to (f).	48. los equipos y sistemas de transporte inteligentes asociados a las infraestructuras de transporte mencionadas en las letras a) a f).
Article 3 Definitions	Artículo 3 Definiciones
For the purpose of this Regulation, the following definitions shall apply:	A los efectos el presente Reglamento, se entenderá por:
49. 'project of common interest' means any piece of planned transport infrastructure, of existing transport infrastructure or any modification of existing transport	49. «proyecto de interés común»: cualquier parte de una infraestructura de transporte planificada o de una infraestructura de transporte existente, o cualquier modificación

infrastructure that complies with the provisions of Chapter II and any measures providing the efficient management and use of such infrastructure;	de una infraestructura de transporte existente, que cumpla las disposiciones del capítulo II, y cualesquiera medidas que dispongan la gestión y el uso eficientes de dicha infraestructura;
50. 'project of mutual interest' means a project involving both the Union and one or more third countries which aims to connect the trans-European transport network with the transport infrastructure networks of those countries to facilitate major transport flows;	50. «proyecto de interés mutuo»: proyecto en el que participen la Unión y uno o más países terceros que tenga por objeto conectar la red transeuropea de transporte con las redes de infraestructura de transporte de esos países para facilitar los principales flujos de transporte;
51. 'third country' means any neighbouring country and all other countries with which the Union may cooperate to achieve the objectives pursued by this Regulation;	51. «país tercero»: cualquier país vecino y todos los demás países con los que la Unión pueda cooperar para alcanzar los objetivos perseguidos por el presente Reglamento;
52. 'neighbouring country' means the country coming under the European Neighbourhood Policy including the Strategic Partnership[31], the Enlargement Policy, the European Economic Area or the European Free Trade Association;	52. «país vecino»: cualquier país que forme parte de la Política Europea de Vecindad, la Asociación Estratégica[31], la Política de Ampliación, el Espacio Económico Europeo o la Asociación Europea de Libre Comercio;
53. 'European added value' means, in relation to a project, the value resulting from Union intervention which is additional to the value that would otherwise have been created by Member State action alone;	53. «valor añadido europeo»: en relación con un proyecto, valor resultante de una intervención de la Unión que viene a sumarse al valor que se hubiera generado de haber actuado los Estados miembros de forma aislada;
54. 'infrastructure manager' means any body or undertaking that is responsible in particular for establishing and maintaining transport infrastructure. This may also include the management of infrastructure control and safety systems;	54. «administrador de infraestructuras»: cualquier organismo o empresa responsable, en particular, de la creación y mantenimiento de una infraestructura de transporte; estas funciones podrán incluir asimismo la gestión de los sistemas de control y de seguridad de la infraestructura;
55. 'intelligent transport systems (ITS)' mean systems using information, communication, navigation and positioning/localization technologies in order to manage mobility and traffic on the trans-European transport network and to provide value added services to citizens and operators, including for safe, secure, environmentally sound and capacity efficient use of the network. They may also include onboard devices, provided they form an indivisible system with corresponding infrastructure components. They include systems, technologies and services referred to in points (h)-(l);	55. «sistemas de transporte inteligentes (STI)»: sistemas que utilizan tecnologías de información, comunicación, navegación y posicionamiento/localización a fin de gestionar la movilidad y el tráfico en la red transeuropea de transporte y de proporcionar servicios de valor añadido a ciudadanos y operadores, incluidos los necesarios para usar la red en condiciones de seguridad física y operacional, de forma respetuosa con el medio ambiente y con eficiencia desde el punto de vista de la capacidad; los sistemas pueden incluir también dispositivos a bordo siempre y cuando formen un sistema indivisible con los componentes de infraestructura correspondientes e incluyen los sistemas, tecnologías y servicios mencionados en las letras g) a k);
56. 'air traffic management system' means a system as specified in Regulation (EC) No.	56. «sistema de gestión del tránsito aéreo»: sistema conforme al especificado en el

<p>552/2004 of the European Parliament and of the Council of 10 March 2004 on the interoperability of the European Air Traffic Management network (the interoperability Regulation)[32] and in the European Air Traffic Management (ATM) Master Plan as defined in Council Regulation (EC) No 219/2007 of 27 February 2007 on the establishment of a Joint Undertaking to develop the new generation European air traffic management system (SESAR)[33];</p>	<p>Reglamento (CE) nº 552/2004 del Parlamento Europeo y del Consejo, de 10 de marzo de 2004, relativo a la interoperabilidad de la red europea de gestión del tránsito aéreo (el Reglamento de interoperabilidad)[32] y en el Plan maestro de gestión del tránsito aéreo (ATM) definido en el Reglamento (CE) nº 219/2007, de 27 de febrero de 2007, relativo a la constitución de una empresa común para la realización del sistema europeo de nueva generación para la gestión del tránsito aéreo (SESAR)[33].;</p>
<p>57. 'Vessel Traffic Monitoring and Information Systems' (VTMIS) means systems deployed to monitor and manage traffic and maritime transport, using information from Automatic Identification Systems of Ships (AIS), Long-Range Identification and Tracking of Ships (LRIT), coastal radar systems and radio communications as provided in Directive 2002/59/EC of the European Parliament and of the Council of 27 June 2002 establishing a Community vessel traffic monitoring and information system and repealing Council Directive 93/75/EEC[34];</p>	<p>57. «sistemas de seguimiento y de información sobre el tráfico marítimo (VTMIS)»: sistemas implantados para supervisar y gestionar el tráfico y el transporte marítimo gracias a la información facilitada por los sistemas automáticos de identificación de buques (AIS), los sistemas de identificación y seguimiento de largo alcance de los buques (LRIT), los sistemas de radares costeros y de comunicaciones por radio conforme a lo dispuesto en la Directiva 2002/59/CE del Parlamento Europeo y del Consejo, de 27 de junio de 2002, relativa al establecimiento de un sistema comunitario de seguimiento y de información sobre el tráfico marítimo y por la que se deroga la Directiva 93/75/CEE del Consejo[34];</p>
<p>58. 'River Information Services (RIS)' means information and communication technologies on inland waterways as defined in Directive 2005/44/EC of the Parliament and of the Council of 7 September 2005 on harmonised river information services (RIS) on inland waterways in the Community[35];</p>	<p>58. «servicios de información fluvial (SIF)»: tecnologías de la información y comunicación en las vías navegables interiores tal y como se definen en la Directiva 2005/44/CE del Parlamento Europeo y del Consejo, de 7 de septiembre de 2005, relativa a los servicios de información fluvial (SIF) armonizados en las vías navegables interiores de la Comunidad [35];</p>
<p>59. 'e Maritime services' means services using advanced and interoperable information technologies in the maritime transport sector to facilitate the throughput of cargo at sea and in port areas;</p>	<p>59. «servicios marítimos electrónicos (e-Maritime)»: servicios que utilizan tecnologías de la información avanzadas e interoperables en el sector del transporte marítimo para facilitar el procesamiento de la carga en el mar y en las zonas portuarias;</p>
<p>60. 'European Rail Traffic Management System (ERTMS)' means the system defined in Commission Decision 2006/679/EC of 28 March 2006[36] and Commission Decision 2006/860 of 7 November 2006[37] concerning the technical specification for interoperability relating to the control-command and signalling subsystems of the trans-European conventional and high-speed rail systems;</p>	<p>60. «sistema europeo de gestión del transporte ferroviario (ERTMS)»: sistema definido en la Decisión de la Comisión 2006/679/CE, de 28 de marzo de 2006,[36] y la Decisión de la Comisión 2006/860, de 7 de noviembre de 2006,[37] sobre la especificación técnica de interoperabilidad referente a los subsistemas de control y mando y señalización de los sistemas ferroviarios europeos convencional y del alta velocidad;</p>

61. 'transport mode' means railway, inland waterways, road, maritime or air transport;	61. «modo de transporte»: transporte ferroviario, por vía navegable interior, por carretera, marítimo o aéreo;
62. 'multimodal transport' means the carriage of freight or passengers, or both, using two or more modes of transport;	62. «transporte multimodal»: transporte de mercancías o de pasajeros, o de ambos, que utiliza dos o más modos de transporte;
63. 'urban node' means an urban area where the transport infrastructure of the trans-European transport network is connected with other parts of that infrastructure and with the infrastructure for regional and local traffic;	63. «nodo urbano»: zona urbana en que la infraestructura de transporte de la red transeuropea de transporte está conectada con otras partes de esa infraestructura y con la infraestructura de tráfico regional y local;
64. 'logistic platform' means an area that is directly linked to the transport infrastructure of the trans-European transport network including at least one freight terminal, and enables logistics activities to be carried out;	64. «plataforma logística»: zona directamente conectada con la infraestructura de la red transeuropea de transporte que incluye al menos una terminal de mercancías y que permite la realización de actividades logísticas;
65. 'freight terminal' means a structure equipped for transshipment between at least two transport modes and for temporary storage of freight such as ports, inland ports, airports and rail-road terminals;	65. «terminal de mercancías»: estructuras equipadas para el transbordo entre al menos dos modos de transporte y para el almacenamiento temporal de mercancías, tales como puertos marítimos e interiores, aeropuertos, y terminales ferroviarias;
66. 'NUTS region' means a region which as defined in the Nomenclature of Territorial Units for Statistics.	66. «región NUTS»: región tal y como se define en la Nomenclatura de Unidades Territoriales Estadísticas.
Article 4 Objectives of the trans-European transport network	Artículo 4 Objetivos de la red transeuropea de transporte
67. The trans-European transport network shall enable transport services and operations which:	67. La red transeuropea de transporte posibilitará la realización de servicios y operaciones de transporte que:
68. meet the mobility and transport needs of its users within the Union and in the relations with third countries, thereby contributing to further economic growth and competitiveness;	68. den satisfacción a las necesidades de movilidad y transporte de sus usuarios en la Unión y en las relaciones con los países terceros, contribuyendo de esta manera a un mayor crecimiento de la economía y la competitividad;
69. are economically efficient, contribute to the objectives of low-carbon and clean transport, fuel security and environmental protection, are safe and secure and have high quality standards, both for passenger and freight transport;	69. sean económicamente eficientes, contribuyan a los objetivos de un transporte hipocarbónico y limpio, seguridad de abastecimiento y protección del medio ambiente, sean seguros desde los puntos de vista operacional y físico y tengan un alto nivel de calidad, tanto en lo que se refiere al transporte de pasajeros como al de mercancías;
70. promote the most advanced technological and operational concepts;	70. promuevan los conceptos tecnológicos y operacionales más avanzados; y
71. provide appropriate accessibility of all regions of the Union, thereby promoting social, economic and territorial cohesion and supporting inclusive growth.	71. proporcionen una accesibilidad adecuada a todas las regiones de la Unión, fomentando de esta manera la cohesión social, económica y territorial y apoyando un crecimiento integrador.
72. In developing the infrastructure of the	72. En el desarrollo de la infraestructura de la

trans-European transport network, the following objectives shall be pursued:	red transeuropea de transporte se perseguirán los siguientes objetivos:
73. the interconnection and interoperability of national transport networks;	73. la interconexión e interoperabilidad de las redes nacionales de transporte;
74. the removal of bottlenecks and the bridging of missing links, both within the transport infrastructures and at connecting points between these, within Member States' territories and at border crossing points between them;	74. la eliminación de cuellos de botella y la construcción de los enlaces pendientes, tanto dentro de las infraestructuras de transporte como en sus puntos de conexión, dentro de los territorios de los Estados miembros y en los pasos fronterizos entre ellos;
75. the development of all transport modes in a manner consistent with ensuring sustainable and economically efficient transport in the long term;	75. el desarrollo de todos los modos de transporte de manera coherente con la garantía de un transporte sostenible y económicamente eficiente a largo plazo;
76. optimal integration and interconnection of all transport modes;	76. la integración óptima y la interconexión de todos los modos de transporte;
77. the efficient use of infrastructure;	77. el uso eficiente de la infraestructura;
78. promotion of a broad use of transport with the most carbon neutral effect;	78. el fomento del uso preferente del tipo de transporte cuyo impacto sea más neutro en carbono;
79. transport infrastructure connections between the trans-European transport network and transport infrastructure networks of neighbouring countries, and the promotion of their interoperability;	79. las conexiones entre las infraestructuras de la red transeuropea de transporte y de las redes de infraestructura de transporte de los países vecinos, y el fomento de su interoperabilidad;
80. the establishment of infrastructure requirements, notably in the field of interoperability, safety and security, which will benchmark quality, efficiency and sustainability of transport services;	80. el establecimiento de requisitos de infraestructura, en particular en los campos de la interoperabilidad, la seguridad y la protección, que sean los puntos de referencia en cuanto a calidad, eficiencia y sostenibilidad de los servicios de transporte;
81. for both passenger and freight traffic, seamless connections between transport infrastructure for long-distance traffic on the one hand, and regional and local traffic on the other;	81. tanto para el tráfico de pasajeros como de mercancías, conexiones sin fisuras entre, por un lado, la infraestructura de transporte para el tráfico de larga distancia y, por otro, el tráfico regional y local;
82. a transport infrastructure that reflects the specific situations in different parts of the Union and provides for a balanced coverage of European regions, including outermost regions and other peripheral ones;	82. una infraestructura de transporte que refleje las situaciones específicas en las diferentes partes de la Unión y abarque de forma equilibrada las regiones europeas, incluidas las ultraperiféricas y otras zonas periféricas;
83. accessibility for elderly people, persons of reduced mobility and for disabled passengers.	83. la accesibilidad para las personas mayores, las personas de movilidad reducida y los pasajeros discapacitados.
Article 5 Resource efficient network	Artículo 5 Una red que utilice eficazmente los recursos
Member States and, as appropriate, regional and local authorities, infrastructure managers, transport operators and other public and private entities shall plan, develop and operate the trans-European transport network in a resource efficient way, through:	Los Estados miembros y, cuando proceda, las autoridades regionales y locales, los gestores de infraestructuras, los operadores de transporte, y otras entidades públicas y privadas, planificarán, desarrollarán y explotarán la red transeuropea de transporte

	haciendo un uso eficiente de los recursos a través de las siguientes actuaciones:
84. an optimisation of infrastructure integration and interconnection;	84. optimización de la integración e interconexión de la infraestructura;
85. the broad deployment of new technologies and ITS;	85. implantación generalizada de las nuevas tecnologías y los STI;
86. improvement and maintenance of existing transport infrastructure;	86. mejora y mantenimiento de la infraestructura de transporte existente;
87. the taking into account of possible synergies with other networks, in particular trans-European energy or telecommunication networks;	87. consideración de posibles sinergias con otras redes, en particular las redes transeuropeas de energía y las de telecomunicaciones;
88. the assessment of strategic environmental impact, with the establishment of appropriate plans and programmes and of impacts on climate mitigation;	88. evaluación del impacto medioambiental estratégico, con el establecimiento de planes y programas apropiados, así como de los efectos sobre la mitigación del cambio climático;
89. measures to plan and expand infrastructure capacity where necessary;	89. medidas de planificación y ampliación de la capacidad de la infraestructura en caso necesario;
90. adequate consideration of the vulnerability of transport infrastructure with regard to a changing climate as well as natural and man-made disasters.	90. consideración adecuada de la vulnerabilidad de la infraestructura de transporte frente al cambio climático, así como frente a las catástrofes naturales y antropogénicas.
Article 6 Dual layer trans-European transport network structure	Artículo 6 Estructura de doble capa de la red transeuropea de transporte
91. The gradual development of the trans-European transport network shall in particular be achieved by implementing a dual-layer structure for this network, comprising a comprehensive network and a core network.	91. El desarrollo gradual de la red transeuropea de transporte se logrará en particular mediante la aplicación de una estructura de doble capa compuesta de una red global y de una red principal.
92. The comprehensive network shall be made up of all existing and planned transport infrastructures of the trans-European transport network as well as measures promoting the efficient use of such infrastructure. It shall be developed in accordance with Chapter II.	92. La red global estará compuesta de todas las infraestructuras existentes y planificadas de la red transeuropea de transporte, así como de medidas destinadas a fomentar el uso eficiente de dicha infraestructura. Se desarrollará de conformidad con lo dispuesto en el capítulo II.
93. The core network shall consist of those parts of the comprehensive network which are of the highest strategic importance for achieving the objectives for the development of the trans-European transport network. It shall be identified and developed in accordance with Chapter III.	93. La red principal estará compuesta de aquellas partes de la red global que tengan la mayor importancia estratégica para lograr los objetivos de desarrollo de la red transeuropea de transporte. Se determinará y desarrollará de conformidad con lo dispuesto en el capítulo III.
Article 7 Projects of common interest	Artículo 7 Proyectos de interés común
94. Projects of common interest shall contribute to the development of the trans-European transport network through the creation of new transport infrastructure, the maintenance, rehabilitation and upgrading of existing transport infrastructure and through measures promoting its resource-efficient use.	94. Los proyectos de interés común contribuirán al desarrollo de la red transeuropea de transporte mediante la creación de nueva infraestructura de transporte, el mantenimiento, la rehabilitación y la mejora de la infraestructura de transporte existente y mediante medidas de fomento de su uso



	eficiente en el consumo de recursos.
95. A project of common interest shall:	95. Todo proyecto de interés común:
96. contribute to the objectives set out in Article 4;	96. contribuirá a los objetivos enunciados en el artículo 4;
97. comply with Chapter II and, if it concerns the core network, comply in addition with Chapter III;	97. será conforme a lo establecido en el capítulo II y, si es relativo a la red principal, será conforme además con lo establecido en el capítulo III;
98. have been subject to a socio-economic cost benefit analysis resulting in a positive net present value;	98. habrá superado un análisis de rentabilidad socioeconómica dando como resultado un valor presente neto positivo;
99. demonstrate clear European added value.	99. demostrará un claro valor añadido europeo.
100. A project of common interest may encompass its entire cycle, including feasibility studies and permission procedures, implementation and evaluation.	100. Un proyecto de interés común podrá abarcar su ciclo entero, incluidos los estudios de viabilidad y los trámites para la obtención de permisos, la ejecución y la evaluación.
101. Member States and other project promoters shall take all necessary measures to ensure that the projects are carried out in compliance with relevant Union and national rules and procedures, in particular with Union legislation on the environment, climate protection, safety, security, competition, state aid, public procurement and public health.	101. Los Estados miembros y demás promotores de proyectos tomarán todas las medidas necesarias para garantizar que los proyectos se lleven a cabo de conformidad con todas las normas y procedimientos de la Unión y nacionales pertinentes, en particular con la legislación de la Unión en los ámbitos del medio ambiente, la protección del clima, la seguridad física y operacional, la competencia, las ayudas estatales, la contratación pública y la sanidad pública.
102. Projects of common interest are eligible for Union financial aid under the instruments available for the trans-European transport network, in particular the Connecting Europe Facility established by Regulation (EU) No XXX/2012.	102. Los proyectos de interés común podrán optar a la ayuda financiera de la Unión al amparo de los instrumentos disponibles para la red transeuropea de transporte, en particular el Mecanismo «Conectar Europa» creado por el Reglamento (UE) n° XXX/2012.
Article 8 Cooperation with third countries	Artículo 8 Cooperación con países terceros
103. The Union may support projects of common interest in order to connect the trans-European transport network with infrastructure networks of third countries covered by the European Neighbourhood Policy, the Enlargement Policy, the European Economic Area and the European Free Trade Association and which seek to:	103. La Unión podrá apoyar proyectos de interés común para conectar la red transeuropea de transporte con las redes de infraestructura de países terceros que formen parte de la Política Europea de Vecindad, la Política de Ampliación, el Espacio Económico Europeo y la Asociación Europea de Libre Comercio y cuya finalidad sea:
104. connect the core network at border crossing points;	104. conectar con la red principal en pasos fronterizos;
105. ensure the connection between the core network and the transport networks of the third countries;	105. garantizar la conexión entre la red principal y las redes de transporte de países terceros;
106. complete the transport infrastructure in third countries which serve as links between parts of the core network in the Union;	106. completar las infraestructuras de transporte en países terceros que sirvan de enlaces entre partes de la red principal de la Unión;
107. implement traffic management systems in	107. implantar sistemas de gestión del tráfico

those countries.	en esos países.
Such projects of common interest shall enhance the capacity or utility of networks located in one or several Member States.	Dichos proyectos de interés común aumentarán la capacidad o utilidad de las redes ubicadas en uno o varios Estados miembros.
108. The Union may cooperate with third countries to promote projects of mutual interest. These projects shall seek to:	108. La Unión podrá cooperar con terceros países para fomentar proyectos de interés mutuo. La finalidad de dichos proyectos será:
109. promote the interoperability between the trans-European transport network and networks of neighbouring countries;	109. fomentar la interoperabilidad entre la red transeuropea de transporte y las redes de los países vecinos;
110. promote the extension of the trans-European transport network policy into third countries;	110. fomentar la ampliación de la política de la red transeuropea de transporte a países terceros;
111. facilitate air transport with third countries, in particular by extending the Single European Sky and air traffic management cooperation;	111. facilitar el transporte aéreo con países terceros, en particular ampliando el Cielo Único Europeo y la cooperación en la gestión del tránsito aéreo;
112. facilitate maritime transport and promote motorways of the sea with third countries.	112. facilitar el transporte marítimo y fomentar las autopistas del mar con países terceros.
113. Projects of mutual interest coming under point (a) of paragraph 2 shall comply with the relevant provisions of Chapter II.	113. Los proyectos de interés mutuo mencionados en el apartado 2, letra a), deberán cumplir las disposiciones pertinentes del capítulo II.
114. Annex III includes indicative maps of the trans-European transport network extended to specific neighbouring countries.	114. En el anexo III figuran mapas indicativos de la red transeuropea de transporte ampliada a países vecinos específicos.
115. The Union may use existing or set up and use new coordination and financial instruments with neighbouring countries, such as the Neighbourhood Investment Facility (NIF) or the Instrument for Pre-Accession Assistance (IPA), for the promotion of projects of mutual interest.	115. La Unión podrá usar los instrumentos de coordinación y financieros existentes, o crear y usar otros nuevos, con los países vecinos, tales como el Instrumento de Inversión de la Política de Vecindad (NIF) o el Instrumento de Ayuda Preadhesión (IPA) para el fomento de proyectos de interés mutuo.
116. The Union may cooperate with international and regional organisations and bodies to achieve any objective pursued by this Article.	116. La Unión podrá cooperar con organizaciones y organismos internacionales y regionales para lograr cualquier otro objetivo perseguido por el presente artículo.
CHAPTER II	CAPÍTULO II
THE COMPREHENSIVE NETWORK	LA RED GLOBAL
Article 9 General provisions	Artículo 9 Disposiciones generales
117. The comprehensive network shall constitute the basis for the identification of projects of common interest.	117. La red global constituirá la base para la determinación de los proyectos de interés común.
118. The comprehensive network shall:	118. La red global:
119. be as specified in the maps in Annex I to this Regulation;	119. será la especificada en los mapas que figuran en el anexo I del presente Reglamento;
120. be specified through the description of the infrastructure components;	120. se especificará mediante la descripción de los componentes de la infraestructura;
121. comply with the requirements for the transport infrastructures set out in this Chapter;	121. cumplirá los requisitos para las infraestructuras de transporte establecidos en el presente capítulo;

122. set the framework for priority infrastructure development as referred to in Articles 10 to 35.	122. establecerá el marco para el desarrollo de la infraestructura prioritaria a que se refieren los artículos 10 a 35.
123. The Member States shall ensure that the comprehensive network is completed and fully complies with the relevant provisions of this Chapter by 31 December 2050 at the latest.	123. Los Estados miembros garantizarán que la red global estará finalizada y será plenamente conforme a las disposiciones pertinentes del presente capítulo a más tardar el 31 de diciembre de 2050.
Article 10 Priorities	Artículo 10 Prioridades
The Union, Member States, infrastructure managers and other project promoters, when developing the comprehensive network, shall give particular consideration to measures that are necessary for:	Al desarrollar la red global, la Unión, los Estados miembros, los gestores de infraestructuras y otros promotores de proyectos prestarán especial atención en las medidas necesarias para:
124. implementing and deploying intelligent transport systems, including measures which enable traffic management, multimodal scheduling and information services, multimodal tracking and tracing, capacity planning and online reservation and integrated ticketing services;	124. implantar y desplegar sistemas de transporte inteligentes, incluidas las medidas para permitir la gestión del tráfico, la programación multimodal y los servicios de información, el seguimiento y la localización multimodales, la planificación de la capacidad y los servicios de reserva en línea y de expedición de billetes integrados;
125. bridging missing links and removing bottlenecks, notably in cross-border sections;	125. construir los enlaces pendientes y eliminar los cuellos de botella, especialmente en los tramos transfronterizos;
126. removing administrative and technical barriers, in particular to the interoperability of the network and to competition;	126. eliminar los obstáculos administrativos y técnicos, en particular a la interoperabilidad de la red y a la competencia;
127. ensuring optimal integration of the transport modes;	127. garantizar la integración óptima de los modos de transporte;
128. ensuring appropriate accessibility for all regions of the Union;	128. garantizar la accesibilidad apropiada de todas las regiones de la Unión;
129. improving or maintaining the quality of infrastructure in terms of efficiency, safety, security, climate and where appropriate disaster resilience, environmental performances, social conditions, accessibility for all users, quality of services and continuity of traffic flows;	129. mejorar o mantener la calidad de la infraestructura en cuanto a la eficiencia, la seguridad, la protección, el clima y, llegado el caso, la resiliencia frente a las catástrofes, el comportamiento medioambiental, las condiciones sociales, la accesibilidad para todos los usuarios, la calidad de los servicios y la continuidad de los flujos de tráfico;
130. promoting state-of-the-art technological development;	130. fomentar el desarrollo tecnológico de vanguardia;
131. ensuring fuel security by allowing the use of alternative and in particular low or zero carbon energy sources and propulsion systems;	131. garantizar la seguridad de abastecimiento permitiendo el uso de fuentes de energía y sistemas de propulsión alternativos, en particular los de emisiones bajas o nulas de carbono;
132. bypassing urban areas for rail freight transport.	132. evitar el paso por zonas urbanas del transporte ferroviario de mercancías.
Section 1 Railway transport infrastructure	Sección 1 Infraestructura de transporte ferroviario
ARTICLE 11 Maps	ARTÍCULO 11 Mapas

Railway lines which form part of the comprehensive network are indicated on the maps in Annex I.	Las líneas ferroviarias que forman parte de la red global vienen indicadas en los mapas del anexo I.
Article 12 Infrastructure components	Artículo 12 Componentes de la infraestructura
133. Railway transport infrastructure comprises in particular:	133. La infraestructura ferroviaria se compone en particular de los siguientes elementos:
134. high-speed and conventional railway lines, including:	134. líneas ferroviarias de alta velocidad y convencionales, incluidos:
(i) sidings;	i) apartaderos;
(ii) tunnels;	ii) túneles;
(iii) bridges;	iii) puentes;
135. freight terminals and logistic platforms for the transshipment of goods within the rail mode and between rail and other transport modes;	135. terminales de mercancías y plataformas logísticas para el transbordo de mercancías de tren a tren y entre el ferrocarril y otros modos de transporte;
136. stations along the lines indicated in Annex I for the transfer of passengers within the rail mode and between rail and other transport modes;	136. estaciones, según las indicaciones del anexo I, para el transbordo de pasajeros de tren a tren, y entre el ferrocarril y otros modos de transporte;
137. associated equipment;	137. equipos asociados;
138. ITS.	138. STI.
139. Railway lines shall take one of the following forms:	139. Las líneas ferroviarias serán de uno de los tipos siguientes:
140. Railway lines for high speed transport which are:	140. Líneas ferroviarias para el transporte de alta velocidad, que son:
(i) specially built high-speed lines equipped for speeds equal to or greater than 250 km/h;	i) líneas especialmente construidas para la alta velocidad, equipadas para velocidades de 250 km/h o superiores;
(ii) specially upgraded conventional lines equipped for speeds in the order of 200 km/h;	ii) líneas convencionales especialmente acondicionadas equipadas para velocidades del orden de 200 km/h;
141. Railway lines for conventional transport.	141. Líneas ferroviarias para el transporte convencional.
142. The technical equipment associated with railway lines shall include electrification systems, equipment for the boarding and alighting of passengers and the loading and unloading of cargo in stations, logistic platforms and freight terminals. It shall include any facility necessary to ensure the safe, secure and efficient operation of vehicles.	142. Los equipos asociados a las líneas ferroviarias incluirán sistemas de electrificación, equipos de ayuda al embarque y desembarque de pasajeros y la carga y descarga de mercancías en las estaciones, plataformas logísticas y terminales de mercancías. Estarán incluidas las instalaciones necesarias para garantizar el funcionamiento seguro, tanto desde el punto de vista físico como operacional, y eficiente de los vehículos.
Article 13 Transport infrastructure requirements	Artículo 13 Requisitos de la infraestructura de transporte
143. Operators of freight terminals shall ensure that any freight terminal is open to all operators.	143. Los operadores de terminales de mercancías garantizarán que éstas estén abiertas a todos los operadores.
Operators of logistic platforms shall offer at least one terminal open to all operators.	Los operadores de plataformas logísticas ofrecerán al menos una terminal abierta a todos los operadores.

Operators of freight terminals and logistic platform shall provide this access in a non-discriminatory way and apply transparent charges.	Los operadores de terminales de mercancías y plataformas logísticas facilitarán este acceso de forma no discriminatoria y aplicarán tarifas transparentes.
144. Operators of passenger stations shall ensure that passenger stations provide access to information, ticketing and commercial activities for railway traffic throughout the comprehensive network and where appropriate information on connection with local and regional transport, in accordance with Commission Regulation (EU) No 454/2011 of 5 May 2011 on the technical specification for interoperability relating to the subsystem 'telematics applications for passenger services' of the trans-European rail system[38].	144. Los operadores de estaciones de pasajeros proporcionarán acceso a información, billettería y actividades comerciales para el tráfico ferroviario en toda la red global y, cuando proceda, a información sobre correspondencias con transportes locales o regionales, de conformidad con el Reglamento (UE) n° 454/2011 de la Comisión, de 5 de mayo de 2011, relativo a la especificación técnica de interoperabilidad correspondiente al subsistema «aplicaciones telemáticas para los servicios de viajeros» del sistema ferroviario transeuropeo[38].
145. Within the sphere of their responsibility, Member States and infrastructure managers shall ensure that:	145. En el ámbito de su responsabilidad, los Estados miembros y los gestores de infraestructura garantizarán que:
146. railway lines are equipped with ERTMS;	146. las líneas ferroviarias estén equipadas con ERTMS;
147. railway infrastructure complies with Directive 2008/57/EC of the European Parliament and of the Council of 17 June 2008 on the interoperability of the rail system within the Community[39] and its implementing measures in order to achieve the interoperability of the comprehensive network;	147. la infraestructura ferroviaria sea conforme a la Directiva 2008/57/CE del Parlamento Europeo y del Consejo, de 17 de junio de 2008, sobre la interoperabilidad del sistema ferroviario dentro de la Comunidad[39] y sus medidas de ejecución a fin de asegurar la interoperabilidad de la red global;
148. railway infrastructure complies with the requirements of the technical specification for Interoperability (TSI) adopted pursuant to Article 6 of Directive 2008/57/EC for new and upgraded lines, except in duly justified cases, where allowed by the relevant TSI or under the procedure provided for in Article 9 of Directive 2008/57/EC. In any case, the railway infrastructure shall comply with the following requirements:	148. la infraestructura ferroviaria cumpla los requisitos de la especificación técnica de interoperabilidad (ETI) adoptada con arreglo al artículo 6 de la Directiva 2008/57/CE para las líneas nuevas y acondicionadas, excepto en los casos debidamente justificados, siempre que así lo permita la ETI pertinente o al amparo del procedimiento previsto en el artículo 9 de la Directiva 2008/57/CE. En cualquier caso, la infraestructura ferroviaria cumplirá los siguientes requisitos:
149. nominal track gauge for new railway lines: 1 435 mm[40];	149. ancho de vía nominal para las nuevas líneas ferroviarias: 1 435 mm[40],
150. electrification;	150. electrificación;
151. lines which are used by conventional freight trains[41]: 22,5 t axle load, and 750 m train length;	151. líneas utilizadas por trenes de mercancías convencionales[41]: 22,5 t de carga por eje y 750 m de longitud del tren;
152. maximum gradients for new lines which are to be used by conventional freight trains: 12,5 mm/m.[42]	152. pendientes máximas para las líneas nuevas destinadas al paso de trenes de mercancías convencionales: 12,5 mm/m[42]
Article 14 Framework for priority infrastructure development	Artículo 14 Marco de desarrollo de la infraestructura prioritaria
Member States and other project promoters, when promoting projects of common interest	A la hora de promover proyectos de interés común, y además de las prioridades

and in addition to the priorities set out in Article 10, shall give particular consideration to:	establecidas en el artículo 10, los Estados miembros y demás promotores de proyectos prestarán especial atención a los siguientes aspectos:
153. deploying ERTMS;	153. implantación del ERTMS;
154. mitigating the impact of noise caused by rail transport;	154. atenuación del impacto del ruido provocado por el transporte por ferrocarril;
155. achieving standards higher than those set out as minimum requirements in the technical specifications, as described in Article 13.	155. logro de normas más estrictas que las establecidas como requisitos mínimos en las especificaciones técnicas descritas en el artículo 13.
Section 2 Inland waterways transport infrastructure	Sección 2 Infraestructura de vías navegables interiores
ARTICLE 15 Maps	ARTÍCULO 15 Mapas
Inland waterways and inland ports which form part of the comprehensive network are indicated on the maps in Annex I.	Las vías navegables y puertos interiores que forman parte de la red global vienen indicados en los mapas del anexo I.
Article 16 Infrastructure components	Artículo 16 Componentes de la infraestructura
156. Inland waterways infrastructure comprises in particular:	156. La infraestructura de las vías navegables interiores se compone en particular de los siguientes elementos:
157. rivers;	157. ríos;
158. canals;	158. canales;
159. lakes;	159. lagos;
160. related infrastructure such as locks, elevators, bridges, reservoirs;	160. infraestructura relacionada como esclusas, ascensores, puentes, embalses;
161. inland ports including the infrastructure necessary for transport operations within the port area;	161. puertos interiores, incluida la infraestructura necesaria para las operaciones de transporte en la zona portuaria;
162. associated equipment;	162. equipos asociados;
163. ITS.	163. STI.
164. Inland ports shall have an annual freight transshipment volume exceeding 500 000 tonnes. The total annual freight transshipment volume is based on the latest available three-year average, as published by Eurostat.	164. Los puertos interiores deberán registrar un volumen anual de transbordo de mercancías superior a 500 000 toneladas. El volumen total anual de transbordo de mercancías se basará en la media disponible de los últimos tres años publicada por Eurostat.
165. Port-associated equipment shall enable in particular propulsion and operating systems which reduce pollution, energy consumption and carbon intensity. It includes waste reception facilities.	165. Los equipos asociados a los puertos permitirán en particular el funcionamiento de sistemas de propulsión y operativos que reduzcan la contaminación, el consumo de energía y la intensidad de carbono e incluirán instalaciones de recepción de residuos.
Article 17 Transport infrastructure requirements	Artículo 17 Requisitos de la infraestructura de transporte
166. Within the sphere of their responsibility, Member States, port operators and infrastructure managers shall ensure that inland ports are connected with the road or rail infrastructure of the comprehensive network.	166. En el ámbito de su responsabilidad, los Estados miembros, operadores portuarios y gestores de infraestructura garantizarán que los puertos interiores estén conectados con la infraestructura de carreteras o ferrocarril de la red global.

167. Port operators shall ensure that any inland port offers at least one freight terminal open to all operators in a non-discriminatory way and apply transparent charges.	167. Los operadores portuarios garantizarán que los puertos interiores ofrezcan al menos una terminal de carga abierta a todos los operadores de forma no discriminatoria y apliquen tarifas transparentes.
168. Within the sphere of their responsibility, Member States and infrastructure managers shall ensure that:	168. En el ámbito de su responsabilidad, los Estados miembros y los gestores de infraestructura garantizarán que:
169. rivers, canals and lakes comply with the minimum requirements for class IV waterways as laid down in the European Agreement on Main Inland Waterways of International Importance (AGN) on the new classification of inland waterways[43] and ensure continuous bridge clearance.	169. los ríos, canales y lagos sean conformes a los requisitos mínimos para las vías navegables de la clase IV, tal y como se establecen en el Acuerdo Europeo sobre Grandes Vías de Navegación Interior de Importancia Internacional (AGN) sobre la nueva clasificación de las vías navegables interiores [43] y aseguren la continuidad de los gálibos de los puentes;
170. rivers, canals and lakes are equipped with RIS.	170. los ríos, canales y lagos estén equipados con SIF.
Article 18 Framework for priority infrastructure development	Artículo 18 Marco de desarrollo de la infraestructura prioritaria
Member States and other project promoters, when promoting projects of common interest and in addition to the priorities set out in Article 10, shall give particular consideration to:	A la hora de promover proyectos de interés común, y además de las prioridades establecidas en el artículo 10, los Estados miembros y demás promotores de proyectos prestarán especial atención a los siguientes aspectos:
171. for existing inland waterways: implementing measures necessary to reach the standards of the inland waterways class IV;	171. en lo que se refiere a las vías navegables interiores existentes: la aplicación de las medidas necesarias para alcanzar las normas de las vías navegables interiores de la clase IV;
172. where appropriate, achieving higher standards than inland waterways class IV, to meet market demands;	172. cuando proceda, logro de normas más estrictas que las establecidas para las vías navegables interiores de la clase IV, para atender la demanda del mercado;
173. implementing ITS, including RIS;	173. implantación de los STI, incluidos los SIF;
174. connecting inland port infrastructure to railway transport infrastructure.	174. conexión de la infraestructura portuaria interior con la infraestructura de transporte ferroviario.
Section 3 Road transport infrastructure	Sección 3 Infraestructura de transporte por carretera
ARTICLE 19 Maps	ARTÍCULO 19 Mapas
Roads which form part of the comprehensive network are indicated on the maps in Annex I.	Las carreteras que forman parte de la red global vienen indicadas en los mapas del anexo I.
Article 20 Infrastructure components	Artículo 20 Componentes de la infraestructura
175. Road transport infrastructure comprises in particular:	175. La infraestructura de transporte por carretera se compone en particular de los siguientes elementos:
176. high quality roads, including	176. vías de alta calidad, incluidos
(i) bridges;	i) puentes;

(ii) tunnels;	ii) túneles;
(iii) junctions;	iii) empalmes;
(iv) crossings;	iv) cruces;
(v) interchanges;	v) distribuidores;
177. parking areas;	177. zonas de estacionamiento;
178. associated equipment;	178. equipos asociados;
179. ITS;	179. STI;
180. freight terminals and logistic platforms;	180. terminales de mercancías y plataformas logísticas;
181. bus stations.	181. estaciones de autobuses.
182. The high quality roads referred to in point (a) of paragraph 1 are those which play an important role in long-distance freight and passenger traffic, integrate the main urban and economic centres, interconnect with other transport modes and link landlocked and peripheral NUTS 2 regions to central regions of the Union.	182. Las carreteras de alta calidad a que se hace referencia en el apartado 1, letra a), son las que desempeñan una función importante en el tráfico de larga distancia de mercancías y pasajeros, integran los principales centros urbanos y económicos, comunican con otros modos de transporte y enlazan regiones NUTS 2 interiores y periféricas con las regiones centrales de la Unión.
183. High-quality roads shall be specially designed and built for motor traffic, and shall be either motorways or express roads.	183. Las carreteras de alta calidad estarán diseñadas y construidas para la circulación de vehículos de motor y podrán ser o bien autopistas, o bien vías rápidas.
184. A motorway is a road specially designed and built for motor traffic, which does not serve properties bordering on it, and which :	184. Una autopista es una carretera especialmente concebida y construida para la circulación de vehículos de motor a la que no tienen acceso las propiedades colindantes y que:
(i) is provided, except at special points or temporarily, with separate carriageways for the two directions of traffic, separated from each other by a dividing strip not intended for traffic, or, exceptionally, by other means;	i) está dotada, salvo en puntos especiales o de modo temporal, de dos sentidos de circulación con calzadas distintas, separadas por una franja divisoria no destinada a la circulación, o, excepcionalmente, por otros medios;
(ii) does not cross at level with any road, railway or tramway track, or footpath; and	ii) no presenta pasos a nivel con ninguna carretera, vía férrea o de tranvía, ni con ninguna senda para la circulación de peatones; y
(iii) is especially sign-posted as a motorway.	iii) está especialmente señalizada como autopista.
185. An express road is a road reserved for motor traffic accessible from interchanges or controlled junctions only and which:	185. Una vía rápida es una carretera reservada para la circulación de vehículos de motor accesible exclusivamente desde distribuidores o empalmes controlados y en la que:
(i) prohibits stopping and parking on the running carriageway; and	i) está prohibido parar y estacionarse en el carril de circulación; y
(ii) does not cross at level with any railway or tramway track, or footpath.	ii) no existen pasos a nivel con ninguna vía férrea o de tranvía, ni con ninguna senda para la circulación de peatones.
186. Equipment associated with roads shall include in particular equipment for traffic management, information and route guidance,	186. Entre los equipos asociados a las carreteras figurarán en particular los de gestión del tráfico, información y orientación vial,



for the levying of user charges, for safety, for reducing negative environmental effects, for refuelling or recharging of vehicles with alternative drives, and for secure parking areas for commercial vehicles.	cobro de peajes o tarifas por el uso de la infraestructura, seguridad, reducción de los efectos negativos sobre el medio ambiente, reabastecimiento de combustible o recarga de vehículos con sistemas alternativos de propulsión, y zonas de estacionamiento protegidas para vehículos comerciales.
Article 21 Transport infrastructure requirements	Artículo 21 Requisitos de la infraestructura de transporte
Within the sphere of their responsibility, Member States and infrastructure managers shall ensure that:	En el ámbito de su responsabilidad, los Estados miembros y los gestores de infraestructura garantizarán que:
187. Roads correspond to the provisions of Article 20(3).	187. las carreteras correspondan a lo dispuesto en el artículo 20, apartado 3;
188. The safety of road transport infrastructure is assured, monitored and, when necessary, improved according to the procedure provided for by Directive 2008/96/EC of the European Parliament and of the Council of 19 November 2008 on road infrastructure safety management [44].	188. la seguridad de la infraestructura de transporte por carretera esté garantizada y supervisada y, llegado el caso, se mejore con arreglo al procedimiento previsto en la Directiva 2008/96/CE del Parlamento Europeo y del Consejo, de 19 de noviembre de 2008 , sobre gestión de la seguridad de las infraestructuras viarias[44].;
189. Road tunnels with length of over 500 m comply with Directive 2004/54/EC of the European Parliament and of the Council of 29 April 2004 on minimum safety requirements for tunnels in the trans-European road network [45].	189. los túneles de carretera de longitud superior a 500 m sean conformes a la Directiva 2004/54/CE del Parlamento Europeo y del Consejo, de 29 de abril de 2004, sobre requisitos mínimos de seguridad para túneles de la red transeuropea de carreteras[45].;
190. The interoperability of toll collection systems is ensured in accordance with Directive 2004/52/EC of the European Parliament and of the Council of 29 April 2004 on the interoperability of electronic road toll systems in the Community[46] and by Commission Decision 2009/750/EC of 6 October 2009 on the definition of the European Electronic Toll Service and its technical elements[47].	190. la interoperabilidad de los sistemas de cobro de peajes se garantice de conformidad con la Directiva 2004/52/CE del Parlamento Europeo y del Consejo, de 29 de abril de 2004, relativa a la interoperabilidad de los sistemas de telepeaje de las carreteras de la Comunidad [46] y mediante la Decisión 2009/750/CE de la Comisión, de 6 de octubre de 2009, relativa a la definición del Servicio Europeo de Telepeaje y sus elementos técnicos[47].;
191. Intelligent transport systems of the road transport infrastructure complying with Directive 2010/40/EU of the European Parliament and of the Council of 7 July 2010 on the framework for the deployment of Intelligent Transport Systems in the field of road transport and for interfaces with other modes of transport[48] are deployed.	191. los sistemas de transporte inteligentes de la infraestructura de transporte por carretera sean conformes a la Directiva 2010/40/UE del Parlamento Europeo y del Consejo, de 7 de julio de 2010, por la que se establece el marco para la implantación de los sistemas de transporte inteligentes en el sector del transporte por carretera y para las interfaces con otros modos de transporte[48].
Article 22 Framework for priority infrastructure development	Artículo 22 Marco de desarrollo de la infraestructura prioritaria
Member States and other project promoters, when promoting projects of common interest and in addition to the priorities set out in Article 10, shall give particular consideration	A la hora de promover proyectos de interés común, y además de las prioridades establecidas en el artículo 10, los Estados miembros y demás promotores de proyectos

to:	prestarán especial atención a los siguientes aspectos:
192. use of ITS, in particular multi-modal information and traffic management and to enable integrated communication and payment systems;	192. el uso de STI, en particular la información multimodal y la gestión del tráfico, para permitir el funcionamiento de sistemas integrados de comunicación y pago;
193. introduction of new technologies and innovation for promoting low carbon transport;	193. la introducción de las nuevas tecnologías y la innovación para fomentar el transporte hipocarbónico;
194. provision of secure parking areas;	194. la provisión de zonas de estacionamiento protegidas;
195. promotion of road safety.	195. la promoción de la seguridad vial.
Section 4Maritime transport infrastructure	Sección 4Infraestructura de transporte marítimo
ARTICLE 23 Maps	ARTÍCULO 23 Mapas
Maritime ports which form part of the comprehensive network are indicated on the maps in Annex I.	Los puertos marítimos que forman parte de la red global vienen indicados en los mapas del anexo I.
Article 24 Infrastructure components	Artículo 24 Componentes de la infraestructura
196. Maritime transport infrastructure comprises in particular:	196. La infraestructura de transporte marítimo se compone en particular de los siguientes elementos:
197. maritime space;	197. espacio marítimo;
198. sea canals;	198. canales marinos;
199. maritime ports, including the infrastructure necessary for transport operations within the port area;	199. puertos marítimos, incluida la infraestructura necesaria para las operaciones de transporte en la zona portuaria;
200. navigational aids;	200. ayudas a la navegación;
201. port approaches;	201. accesos a los puertos;
202. motorways of the sea;	202. autopistas del mar;
203. associated equipment;	203. equipos asociados;
204. ITS.	204. STI.
205. Maritime ports shall be entry and exit points for the land infrastructure of the comprehensive network. They shall meet at least one of the following criteria:	205. Los puertos marítimos serán los puntos de entrada y salida para la infraestructura terrestre de la red global y deberán cumplir al menos uno de los criterios siguientes:
206. The total annual passenger traffic volume exceeds 0,1 % of the total annual passenger traffic volume of all maritime ports of the Union. The reference amount for this total volume is the latest available three-year average, based on the statistics published by Eurostat.	206. El volumen total anual de tráfico de pasajeros deberá ser superior en un 0,1 % al volumen total anual de tráfico de pasajeros de todos los puertos marítimos de la Unión. La cantidad de referencia de este volumen total será la media disponible de los últimos tres años según las estadísticas publicadas por Eurostat.
207. The total annual cargo volume – either for bulk or for non-bulk cargo handling – exceeds 0,1% of the corresponding total annual cargo volume handled in all maritime ports of the Union. The reference amount for this total volume is the latest available three-year average, based on the statistics published by	207. El volumen total anual de mercancía gestionada – tanto a granel como general – será superior en un 0,1% al volumen total anual de mercancía gestionada en todos los puertos marítimos de la Unión. La cantidad de referencia de este volumen total será la media disponible de los últimos tres años según las

Eurostat.	estadísticas publicadas por Eurostat.
208. The maritime port is located on an island and provides the sole point of access to a NUTS 3 region in the comprehensive network.	208. El puerto marítimo se encontrará ubicado en una isla y constituirá el único punto de acceso a una región NUTS 3 en la red global.
209. The maritime port is located in an outermost region or a peripheral area, outside a radius of 200 km from the nearest other port in the comprehensive network.	209. El puerto marítimo se encontrará ubicado en una región ultraperiférica o periférica, fuera de un radio de 200 km desde el puerto más cercano de la red global.
210. Equipment associated with maritime transport infrastructure shall include in particular equipment for ice breaking, hydrological surveys, and dredging and maintenance of the port and port approaches.	210. Entre los equipos asociados a la infraestructura de transporte marítimo figurarán en particular los rompehielos y los de prospección hidrológica, dragado y mantenimiento del puerto y sus accesos.
Article 25 Motorways of the sea	Artículo 25 Autopistas del mar
211. Motorways of the sea represent the maritime dimension of the trans-European transport network. They shall consist of short-sea routes, ports, associated maritime infrastructure and equipment, and facilities enabling short-sea shipping or sea-river services between at least two ports, including hinterland connections, in at least two different Member States. Motorways of the sea shall include:	211. Las «autopistas del mar» representan la dimensión marítima de la red transeuropea de transporte. Consistirán en rutas marítimas de corta distancia, puertos, infraestructura y equipos marítimos asociados e instalaciones que permitan el transporte marítimo de corta distancia o los servicios marítimo-fluviales entre al menos dos puertos, incluidas las conexiones con las áreas de influencia, situados en al menos dos Estados miembros. Las autopistas del mar comprenderán:
212. maritime links between maritime ports of the comprehensive network;	212. enlaces marítimos entre los puertos marítimos de la red global;
213. port facilities, information and communication technologies (ICT) such as electronic logistics management systems, safety and security and administrative and customs procedures in at least one Member State;	213. instalaciones portuarias, tecnologías de la información y la comunicación (TIC) tales como los sistemas electrónicos de gestión logística, seguridad y protección, y procedimientos administrativos y aduaneros en al menos un Estado miembro;
214. infrastructure for direct land and sea access.	214. infraestructura de acceso terrestre y marítimo directo.
215. Projects of common interest for motorways of the sea in the trans-European transport network shall be proposed by at least two Member States. They shall take one of the following forms:	215. Los proyectos de interés común para autopistas del mar en la red transeuropea de transporte deberán ser propuestos por al menos dos Estados miembros. Estos contratos podrán adoptar una de las formas siguientes:
216. be the maritime component of a core network corridor as defined in Article 49, or constitute the maritime component between two core network corridors;	216. podrán ser el componente marítimo de un corredor de la red principal con arreglo a la definición del artículo 49, o constituir el componente marítimo entre dos corredores de la red principal;
217. constitute a maritime link and its hinterland connections within the core network between two or more core network ports;	217. podrán constituir un enlace marítimo y sus conexiones con la zona de influencia dentro de la red principal entre dos o más puertos de la red principal;
218. constitute a maritime link and its hinterland connections between a core network port and ports of the comprehensive network,	218. podrán constituir un enlace marítimo y sus conexiones con la zona de influencia entre un puerto de la red principal y puertos de la red

with a special focus on the hinterland connections of the core and comprehensive network ports.	global, con un especial hincapié en las conexiones con las zonas de influencia de los puertos de las redes principal y global.
219. Projects of common interest for motorways of the sea in the trans-European transport network may also include activities that have wider benefits and are not linked to specific ports, such as activities for improving environmental performance, making available facilities for ice-breaking, activities ensuring year-round navigability, dredging operations, alternative fuelling facilities, as well as the optimisation of processes, procedures and the human element, ICT platforms and information systems, including traffic management and electronic reporting systems.	219. Los proyectos de interés común para autopistas del mar de la red transeuropea de transporte podrán también incluir actividades que redunden en beneficios más amplios no directamente vinculados a puertos específicos, tales como actividades de mejora del comportamiento medioambiental, instalaciones y equipos rompehielos, actividades que garanticen la navegabilidad todo el año, operaciones de dragado, instalaciones de abastecimiento de combustibles alternativos, así como de optimización de procesos, procedimientos y el elemento humano, plataformas y sistemas de información TIC, incluidos los sistemas de gestión del tráfico y de información electrónicos.
Article 26 Transport infrastructure requirements	Artículo 26 Requisitos de la infraestructura de transporte
220. Within the sphere of their responsibility, Member States, port operators and infrastructure managers shall ensure that:	220. En el ámbito de su responsabilidad, los Estados miembros, operadores portuarios y gestores de infraestructura garantizarán que:
221. Maritime ports are connected with railway lines, roads and, where possible, inland waterways of the comprehensive network, except in Malta and Cyprus for as long as no railway system is established within their territory.	221. los puertos marítimos estén conectados por líneas de ferrocarril, carreteras y, llegado el caso, vías navegables interiores de la red global, salvo en Malta y Chipre hasta que no construyan un sistema ferroviario en su territorio;
222. Any maritime port offers at least one terminal open to all operators in a non-discriminatory way and apply transparent charges.	222. los puertos marítimos ofrezcan al menos una terminal abierta a todos los operadores de forma no discriminatoria y apliquen tarifas transparentes;
223. Sea canals, port fairways and estuaries connect two seas, or provide access from the sea to maritime ports and correspond at least to inland waterway class VI.	223. los canales marinos, pasos portuarios y estuarios comuniquen dos mares, o den acceso desde el mar a puertos marítimos, y correspondan como mínimo a vías navegables interiores de la categoría VI.
224. Port operators shall ensure that ports include equipment necessary to ensure the environmental performance of ships in ports, in particular reception facilities for ship generated waste and cargo residues in accordance with Directive 2000/59/EC of the European Parliament and of the Council of 27 November 2000 on port reception facilities for ship-generated waste and cargo residues[49].	224. Los operadores portuarios garantizarán que los puertos incluyan los equipos necesarios para garantizar el comportamiento medioambiental de los buques en los puertos, en particular instalaciones receptoras para los desechos y residuos de carga generados por buques de conformidad con la Directiva 2000/59/CE del Parlamento Europeo y del Consejo, de 27 de noviembre de 2000, sobre instalaciones portuarias receptoras de desechos generados por buques y residuos de carga[49].
225. Member States shall implement VTMS as provided for in Directive 2002/59/EC.	225. Los Estados miembros implantarán sistemas de información y gestión del tráfico de buques (VTMS) de conformidad con la

	Directiva 2002/59/CE.
Article 27 Framework for priority infrastructure development	Artículo 27 Marco de desarrollo de la infraestructura prioritaria
Member States and other project promoters, when promoting projects of common interest and in addition to the priorities set out in Article 10, shall give particular consideration to:	A la hora de promover proyectos de interés común, y además de las prioridades establecidas en el artículo 10, los Estados miembros y demás promotores de proyectos prestarán especial atención a los siguientes aspectos:
226. promoting motorways of the sea including short sea shipping;	226. fomento de las autopistas del mar, incluido el transporte marítimo de corta distancia;
227. interconnection of maritime ports with inland waterways;	227. interconexión de los puertos marítimos con las vías navegables interiores;
228. implementation of VTMS and e Maritime services.	228. implantación de los servicios VTMS y electrónicos marítimos.
Section 5 Air transport infrastructure	Sección 5 Infraestructura de transporte aéreo
Article 28 Maps	ARTÍCULO 28 Mapas
Airports which form part of the comprehensive network are indicated on the maps in Annex I.	Los aeropuertos que forman parte de la red global vienen indicados en los mapas del anexo I.
Article 29 Infrastructure components	Artículo 29 Componentes de la infraestructura
229. Air transport infrastructure comprises in particular:	229. La infraestructura de transporte aéreo se compone en particular de los siguientes elementos:
230. air space, routes and airways;	230. espacio aéreo, rutas y compañías aéreas;
231. airports;	231. aeropuertos;
232. associated equipment;	232. equipos asociados;
233. ITS.	233. STI.
234. Airports shall comply with one of the following criteria:	234. Los aeropuertos deberán cumplir uno de los criterios siguientes:
235. For passenger airports:	235. En cuanto a los aeropuertos de pasajeros:
(i) the total annual passenger traffic is at least 0,1 % of the total annual passenger volume of all airports of the Union. The total annual passenger volume is based on the latest available three-years average, as published by Eurostat;	i) el volumen anual total de tráfico de pasajeros será al menos un 0,1 % del volumen total anual de pasajeros de todos los aeropuertos de la Unión; el volumen total anual de pasajeros se basará en la media disponible de los últimos tres años publicada por Eurostat;
(ii) the volume threshold of 0,1 % does not apply if the airport is situated outside a radius of 100 km from the nearest airport in the comprehensive network, or outside a radius of 200 km if the region in which it is situated is provided with a high-speed railway line.	ii) el umbral de volumen del 0,1 % no se aplicará si el aeropuerto está situado fuera de un radio de 100 km desde el aeropuerto más cercano de la red global, o fuera de un radio de 200 km si la región en que está situado dispone de una línea de ferrocarril de alta velocidad;
236. For cargo airports the total annual cargo volume is at least 0,2 % of the total annual cargo volume of all airports of the Union. The total annual cargo volume is based on the latest available three-year average, as published by Eurostat.	236. En cuanto a los aeropuertos de mercancías, el volumen total anual de tráfico de mercancías será al menos un 0,2 % del volumen total anual de mercancías de todos los aeropuertos de la Unión; el volumen total anual de mercancías se basará en la media disponible de los últimos tres años publicada por Eurostat.

Article 30 Transport infrastructure requirements	Artículo 30 Requisitos de la infraestructura de transporte
237. Within the sphere of their responsibility, Member States and airport operators shall ensure that any airport offers at least one terminal open to all operators in a non-discriminatory way and apply transparent charges.	237. En el ámbito de su responsabilidad, los Estados miembros y operadores aeroportuarios garantizarán que los aeropuertos ofrezcan al menos una terminal abierta a todos los operadores de forma no discriminatoria y apliquen tarifas transparentes.
238. Within the sphere of their responsibility, Member States, airport operators and air carriers shall ensure that common basic standards for safeguarding civil aviation against acts of unlawful interference, as adopted by the Union in accordance with Regulation (EC) No 300/2008 of the European Parliament and of the Council of 11 March 2008 on common rules in the field of civil aviation security and repealing Regulation (EC) No 2320/2002[50], apply to the air transport infrastructure of the comprehensive network.	238. En el ámbito de su responsabilidad, los Estados miembros, los operadores aeroportuarios y las compañías aéreas garantizarán que las normas básicas comunes para proteger la aviación civil contra actos de interferencia ilícita, tal y como fueron adoptadas por la Unión de conformidad con el Reglamento (CE) n° 300/2008 del Parlamento Europeo y del Consejo, de 11 de marzo de 2008, sobre normas comunes para la seguridad de la aviación civil y por el que se deroga el Reglamento (CE) n° 2320/2002[50], se apliquen a la infraestructura de transporte aéreo de la red global.
239. Within the sphere of their responsibility, Member States, airport operators and air carriers shall ensure that infrastructure for air traffic management enables the implementation of the Single European Sky, in accordance with Regulation (EC) No 549/2004 of the European Parliament and of the Council of 10 March 2004 laying down the framework for the creation of the single European sky (the framework Regulation)[51], Regulation (EC) No 550/2004 of the European Parliament and of the Council of 10 March 2004 on the provision of air navigation services in the single European sky (the service provision Regulation)[52], Regulation (EC) No 551/2004 of the European Parliament and of the Council of 10 March 2004 on the organisation and use of the airspace in the single European sky (the airspace Regulation)[53] and Regulation (EC) No 552/2004 of the European Parliament and of the Council of 10 March 2004 on the interoperability of the European Air Traffic Management network (the interoperability Regulation)[54] in order to improve the performance and sustainability of the European aviation system, of implementing rules and of Union specifications.	239. En el ámbito de su responsabilidad, los Estados miembros, los operadores aeroportuarios y las compañías aéreas garantizarán que la infraestructura de gestión del tránsito aéreo permita la implementación del Cielo Único Europeo de conformidad con el Reglamento (CE) n° 549/2004 del Parlamento Europeo y del Consejo, de 10 de marzo de 2004, por el que se fija el marco para la creación del cielo único europeo (Reglamento marco)[51], el Reglamento (CE) n° 550/2004 del Parlamento Europeo y del Consejo, de 10 de marzo de 2004, relativo a la prestación de servicios de navegación aérea en el cielo único europeo (Reglamento de servicios)[52], el Reglamento (CE) n° 551/2004 del Parlamento Europeo y del Consejo, de 10 de marzo de 2004, relativo a la organización y utilización del espacio aéreo en el cielo único europeo (Reglamento del espacio aéreo)[53], y el Reglamento (CE) n° 552/2004 del Parlamento Europeo y del Consejo, de 10 de marzo de 2004, relativo a la interoperabilidad de la red europea de gestión del tránsito aéreo (Reglamento de interoperabilidad)[54] , a fin de mejorar el rendimiento y la sostenibilidad del sistema de aviación europeo, de las normas de desarrollo y de las especificaciones de la Unión.
Article 31 Framework for priority infrastructure development	Artículo 31 Marco de desarrollo de la infraestructura prioritaria
Member States and other project promoters,	A la hora de promover proyectos de interés

when promoting projects of common interest and in addition to the priorities set out in Article 10, shall give particular consideration to:	común, y además de las prioridades establecidas en el artículo 10, los Estados miembros y demás promotores de proyectos prestarán especial atención a los siguientes aspectos:
240. optimise existing infrastructure;	240. optimizar la infraestructura existente;
241. increase airport capacity;	241. aumentar la capacidad aeroportuaria;
242. support the implementation of the Single European Sky and of air traffic management systems, in particular those deploying SESAR.	242. apoyar la implementación del Cielo Único Europeo y de los sistemas de gestión del tránsito aéreo, en particular los que despliegan el SESAR.
<b>SECTION 6 INFRASTRUCTURE FOR MULTIMODAL TRANSPORT</b>	<b>Sección 6 Infraestructura de transporte multimodal</b>
<b>ARTICLE 32 Maps</b>	<b>ARTÍCULO 32 Mapas</b>
Freight terminals and logistic platforms which form part of the comprehensive network are indicated on the maps in Annex I.	Las terminales de mercancías y plataformas logísticas que forman parte de la red global vienen indicadas en los mapas del anexo I.
<b>Article 33 Infrastructure components</b>	<b>Artículo 33 Componentes de la infraestructura</b>
Freight terminals or logistic platforms shall comply with at least one of the following criteria:	Las terminales de mercancías y las plataformas logísticas cumplirán al menos uno de los criterios siguientes:
243. its total transshipment of freight exceeds the quantitative threshold for maritime ports set in Article 24;	243. el transbordo total de mercancías superará el umbral cuantitativo para los puertos marítimos establecido en el artículo 24;
244. where there is no freight terminal or logistic platform complying with point (a) in a NUTS 2 region, it is the main freight terminal or logistic platform designated by the Member State concerned, linked at least to roads and railways for that NUTS 2 region.	244. cuando no exista ninguna terminal de mercancías o plataforma logística conforme a lo dispuesto en la letra a) en una región NUTS 2, formará parte de la red la principal terminal de mercancías o plataforma logística designada por el Estado miembro interesado que esté conectada al menos con las carreteras y ferrocarriles de esa región NUTS 2.
<b>Article 34 Transport infrastructure requirements</b>	<b>Artículo 34 Requisitos de la infraestructura de transporte</b>
245. Within the sphere of their responsibility, Member States, operators of freight terminals, ports and airports, and infrastructure managers shall ensure that:	245. En el ámbito de su responsabilidad, los Estados miembros, los operadores de terminales de mercancías, puertos y aeropuertos, y los gestores de infraestructura garantizarán que:
246. transport modes are connected in any of the following places: freight terminals, passenger stations, inland ports, airports, maritime ports, in order to allow multimodal transport of freight and passengers.	246. los modos de transporte estén conectados en alguno de los lugares siguientes: terminales de mercancías, estaciones de pasajeros, puertos interiores, aeropuertos y puertos marítimos a fin de permitir el transporte multimodal de mercancías y pasajeros;
247. Without prejudice to the applicable provisions laid down in Union and national law, freight terminals and logistic platforms, inland and maritime ports as well as airports handling cargo are equipped for the provision of information flows within this infrastructure and between the transport modes along the	247. sin perjuicio de las disposiciones aplicables establecidas en las legislaciones de la Unión y de los Estados miembros, las terminales de mercancías y plataformas logísticas, los puertos interiores y marítimos, así como los aeropuertos con terminales de carga, estén equipados para facilitar flujos de

logistic chain. Such systems shall in particular enable real time information on available infrastructure capacity, traffic flows and positioning, tracking and tracing, and ensure safety and security throughout multi-modal journeys.	información dentro de la propia infraestructura y entre modos de transporte a lo largo de la cadena logística; dichos sistemas permitan, en particular, la obtención de información en tiempo real sobre la capacidad de infraestructura disponible, los flujos de tráfico y el posicionamiento, el seguimiento y el rastreo, y garanticen la seguridad y la protección de principio a fin en los viajes multimodales;
248. Without prejudice to the applicable provisions laid down in Union and national law, continuous passenger traffic across the comprehensive network shall be facilitated through appropriate equipment and the availability of ITS in railway stations, bus stations, airports and where relevant maritime and inland waterway ports.	248. sin perjuicio de las disposiciones aplicables establecidas en las legislaciones de la Unión y de los Estados miembros, el tráfico ininterrumpido de pasajeros por toda la red global se facilite mediante los equipos adecuados y la disponibilidad de STI en las estaciones de ferrocarril, estaciones de autobuses, aeropuertos y, cuando sea pertinente, en los puertos marítimos e interiores.
249. Freight terminal operators shall ensure that freight terminals are equipped with cranes, conveyors and other devices for moving freight between different transport modes and for the positioning and storage of freight.	249. Los operadores de terminales de mercancías garantizarán que éstas estén equipadas con grúas, cintas transportadoras y otros dispositivos para transbordar mercancías entre modos de transporte distintos y para la localización y el almacenamiento de mercancías.
Article 35 Framework for priority infrastructure development	Artículo 35 Marco de desarrollo de la infraestructura prioritaria
Member States and other project promoters, when promoting projects of common interest and in addition to the priorities set out in Article 10, shall give particular consideration to:	A la hora de promover proyectos de interés común, y además de las prioridades establecidas en el artículo 10, los Estados miembros y demás promotores de proyectos prestarán especial atención a los siguientes aspectos:
250. providing for effective interconnection and integration of the infrastructure of the comprehensive network, including through access infrastructure where necessary and through freight terminals and logistic platforms;	250. la existencia de una interconexión e integración efectivas de la infraestructura de la red global, incluso a través de la infraestructura de acceso cuando sea necesario, y a través de terminales de mercancías y plataformas logísticas;
251. removing the main technical and administrative barriers to multimodal transport;	251. la eliminación de las principales barreras técnicas y administrativas al transporte multimodal;
252. developing a smooth flow of information between the transport modes and enabling the provision of multimodal and single-mode services across the trans-European transport system, including the related communication, payment, ticketing and commercialisation services.	252. el desarrollo de un flujo continuo de información entre los modos de transporte y la prestación de servicios multi y unimodales en todo el sistema transeuropeo de transporte, incluidos los servicios de comunicaciones, pago, billettería y comercialización relacionados.
Section 7 Common provisions	Sección 7 Disposiciones comunes
ARTICLE 36 Urban nodes	ARTÍCULO 36 Nodos urbanos



Member States and other project promoters, when developing the comprehensive network in urban nodes shall aim to ensure:	A la hora de desarrollar la red global en los nodos urbanos, los Estados miembros y demás promotores de proyectos, procurarán garantizar:
253. for passenger transport: interconnection between rail, air and, as appropriate, inland waterway, road and maritime infrastructure of the comprehensive network;	253. en cuanto al transporte de viajeros: la interconexión entre las infraestructuras ferroviaria, de transporte aéreo y, según proceda, de navegación interior, carreteras, y puertos marítimos de la red global;
254. for freight transport: interconnection between rail and, as appropriate, inland waterway, air, maritime and road infrastructure of the comprehensive network;	254. en cuanto al transporte de mercancías la interconexión entre las infraestructuras ferroviaria, y, según proceda, de navegación interior, de transporte aéreo, puertos marítimos y carreteras de la red global;
255. adequate connection between different railway stations or airports of the comprehensive network within an urban node;	255. la conexión adecuada entre las diferentes estaciones de ferrocarril o aeropuertos de la red global en un mismo nodo urbano;
256. seamless connection between the infrastructure of the comprehensive network and the infrastructure for regional and local traffic, including logistic consolidation and distribution centres;	256. la conexión sin fisuras entre la infraestructura de la red global y la infraestructura para el tráfico regional y local, incluidos los centros de consolidación logística y de distribución;
257. bypassing of urban areas for road transport to facilitate long-distance traffic flows on the comprehensive network;	257. variantes en las zonas urbanas para facilitar los flujos de tráfico de transporte de larga distancia por las carreteras de la red global;
258. bypassing of urban areas for rail freight transport;	258. variantes ferroviarias en las zonas urbanas para el transporte ferroviario de mercancías;
259. promotion of efficient low-noise and low-carbon urban freight delivery.	259. fomento del reparto urbano de mercancías eficiente, de bajo ruido e hipocarbónico.
Article 37 ITS	Artículo 37 STI
260. ITS shall enable traffic management and the exchange of information within and between transport modes for multi-modal transport operations and value added transport-related services, improving safety, security and environmental performance.	260. Los STI permitirán la gestión del tráfico y el intercambio de información entre modos de transporte y dentro de los mismos para las operaciones de transporte multimodal y los servicios de valor añadido relacionados con el transporte, mejorando la seguridad operacional y física y el comportamiento medioambiental.
261. ITS shall facilitate seamless connection between the infrastructure of the comprehensive network and the infrastructure for regional and local transport.	261. Los STI facilitarán la conexión sin fisuras entre la infraestructura de la red global y la infraestructura de transporte regional y local.
262. ITS associated with transport modes shall in particular include:	262. Los STI asociados a los modos de transporte incluirán en particular:
263. for railways: ERTMS;	263. para el ferrocarril: el ERTMS;
264. for inland waterways: River Information Services and e-Maritime services;	264. para las vías navegables interiores: los Servicios de Información Fluvial y los servicios marítimos electrónicos (e-Maritime);
265. for road transport: ITS in accordance with Directive 2010/40/EU;	265. para el transporte por carretera: los STI de conformidad con la Directiva 2010/40/UE;
266. for maritime transport: VTMS and e-Maritime services;	266. para el transporte marítimo: servicios de información y gestión del tráfico marítimo

	(VTMIS) y servicios marítimos electrónicos (e-Maritime);
267. for air transport: air traffic management systems, in particular those resulting from SESAR.	267. para el transporte aéreo: sistemas de gestión del tránsito aéreo, en particular los resultantes del SESAR.
Article 38 Freight transport services	Artículo 38 Servicios de transporte de mercancías
The Union, Member States and other project promoters shall pay particular attention to projects of common interest which provide efficient freight transport services that use the infrastructure of the comprehensive network and contribute to reducing carbon dioxide emissions. These projects shall in particular aim to:	La Unión, los Estados miembros y demás promotores de proyectos prestarán especial atención a los proyectos de interés común que proporcionen servicios eficientes de transporte de mercancías que utilicen la infraestructura de la red global y contribuyan a reducir las emisiones de dióxido de carbono. El objetivo de estos proyectos será en particular:
268. improve sustainable use of transport infrastructure, including its efficient management;	268. mejorar el uso sostenible de la infraestructura de transporte, incluida su gestión eficiente;
269. promote the deployment of innovative transport services or new combinations of proven existing transport services, including through the application of ITS and the establishment of relevant governance structures;	269. fomentar la implantación de servicios de transporte innovadores o nuevas combinaciones de servicios de transporte existentes de eficacia probada, incluso mediante la aplicación de los STI y el establecimiento de las estructuras de gobernanza pertinentes;
270. facilitate multi-modal transport service operations and improve cooperation between transport service providers;	270. facilitar las operaciones de servicios de transporte multimodal y mejorar la cooperación entre los proveedores de servicios de transporte;
271. stimulate resource and carbon efficiency, notably in the fields of vehicle traction, driving/steaming, systems and operations planning, resource sharing and cooperation;	271. fomentar la eficiencia en términos de consumo de recursos y de emisiones de carbono, en particular en los campos de la tracción, la conducción y la propulsión de vehículos, los sistemas y la planificación de operaciones, el uso compartido de recursos y la cooperación;
272. analyse, provide information on and monitor markets, fleet characteristics and performance, administrative requirements and human resources.	272. analizar, vigilar y proporcionar información sobre los mercados, las características y el rendimiento de las flotas, los requisitos administrativos y los recursos humanos.
Article 39 New technologies and innovation	Artículo 39 Nuevas tecnologías e innovación
The comprehensive network shall keep up with state-of-the-art technological developments and deployments. They shall in particular aim to:	La red global se adaptará continuamente a los avances tecnológicos de vanguardia mediante la implantación de los sistemas correspondientes. El objetivo de esta adaptación será en particular:
273. enable the decarbonisation of transport through transition to innovative transport technologies;	273. permitir la descarbonización del transporte mediante la transición hacia tecnologías de transporte innovadoras;
274. enable the decarbonisation of all transport modes by stimulating energy efficiency as well	274. permitir la descarbonización de todos los modos de transporte mediante el fomento de la

as the introduction of alternative propulsion systems and the provision of corresponding infrastructure. Such infrastructure may include grids and other facilities necessary for the energy supply, take account of the infrastructure – vehicle interface and encompass intelligent transport systems;	eficiencia energética, así como la introducción de sistemas de propulsión alternativos y la construcción de las infraestructuras correspondientes, tales como redes y otras instalaciones necesarias para el suministro de energía, que tengan en cuenta la interfaz entre vehículo e infraestructura y engloben sistemas de transporte inteligentes;
275. improve the safety and sustainability of the movement of persons and goods;	275. mejorar la seguridad y sostenibilidad de la circulación de las personas y las mercancías;
276. improve the operation, accessibility, interoperability, multimodality and efficiency of the network, including multimodal ticketing;	276. mejorar la explotación, accesibilidad, interoperabilidad, multimodalidad y eficiencia de la red, incluida la expedición de billetes integrados multimodales;
277. promote measures to reduce external costs, such as pollution of any kind, including noise, congestion and health damage;	277. fomentar medidas de reducción de los costes externos, tales como la contaminación de cualquier tipo, incluida la sonora, la congestión y los daños a la salud;
278. introduce security technology and compatible identification standards on the networks;	278. introducir la tecnología de la seguridad y normas de identificación compatibles en las redes;
279. improve resilience to climate change;	279. aumentar la resiliencia ante el cambio climático;
280. further advance the development and deployment of intelligent transport systems within and between modes of transport.	280. seguir potenciando el desarrollo y la implantación de los sistemas de transporte inteligentes entre modos de transporte y dentro de los mismos.
Article 40 Safe and secure infrastructure	Artículo 40 Seguridad física y operacional de la infraestructura
Member States and other project promoters shall give due consideration to ensure that transport infrastructure provides for a high degree of safety and security for passenger and freight movements.	Los Estados miembros y demás promotores de proyectos prestarán la debida atención a garantizar que la infraestructura de transporte ofrezca un nivel elevado de seguridad física y operacional a los movimientos de pasajeros y mercancías.
Article 41 Climate change proven infrastructure and disaster resilience	Artículo 41 Infraestructura resistente al cambio climático y resiliente ante las catástrofes
During infrastructure planning, Member States and other project promoters shall give due consideration to the risk assessments and adaptation measures adequately improving the resilience to climate change, in particular in relation to precipitation, floods, storms, high temperature and heat waves, droughts, sea level rise and coastal surges, in compliance with any requirement which may be set out in relevant Union legislation.	Durante la planificación de la infraestructura, los Estados miembros y demás promotores de proyectos darán la consideración debida a las evaluaciones de riesgos y a las medidas de adaptación que mejoren adecuadamente la resiliencia ante el cambio climático, en particular en relación con las precipitaciones, las inundaciones, las tormentas, las altas temperaturas y olas de calor, las sequías, la subida del nivel del mar y las oleadas costeras, de conformidad con cualquier requisito que pueda figurar en la legislación pertinente de la Unión.
Where appropriate, due consideration should also be given to the resilience of infrastructure to natural or man-made disasters in compliance	Cuando proceda, deberá darse asimismo la consideración debida a la resiliencia de la infraestructura ante catástrofes naturales o

with any requirement which may be set out in relevant Union legislation.	antropogénicas de conformidad con cualquier requisito que pueda figurar en la legislación pertinente de la Unión.
Article 42 Environmental protection	Artículo 42 Protección del medio ambiente
Member States and other project promoters shall carry out environmental assessment of plans and projects in particular as provided in Council Directives 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment [55] and 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora[56], and Directives of the European Parliament and of the Council: 2000/60/EC of 23 October 2000 establishing a framework for Community action in the field of water policy[57], 2001/42/EC of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment[58], and 2009/147/EC of 30 November 2009 on the conservation of wild birds[59] in order to avoid or, when not possible, mitigate or compensate for negative impacts on the environment, such as landscape fragmentation, soil sealing, air and water pollution as well as noise, and to effectively protect biodiversity.	Los Estados miembros y demás promotores de proyectos llevarán a cabo la evaluación medioambiental de los planes y proyectos, en particular de conformidad con lo dispuesto en las Directivas del Consejo 85/337/CEE, de 27 de junio de 1985, relativa a la evaluación de las repercusiones de determinados proyectos públicos y privados sobre el medio ambiente [55] y 92/43/CEE, de 21 de mayo de 1992, relativa a la conservación de los hábitats naturales y de la fauna y flora silvestres[56], y en las Directivas del Parlamento Europeo y del Consejo 2000/60/CE, de 23 de octubre de 2000, por la que se establece un marco comunitario de actuación en el ámbito de la política de aguas[57], 2001/42/CE, de 27 de junio de 2001, relativa a la evaluación de los efectos de determinados planes y programas en el medio ambiente[58], y 2009/147/CE, de 30 de noviembre de 2009, relativa a la conservación de las aves silvestres[59] a fin de evitar o, si ello no fuera posible, de atenuar los impactos negativos sobre el medio ambiente, tales como la fragmentación del paisaje, el sellado del suelo y la contaminación atmosférica, acuática y acústica, así como a la protección efectiva de la biodiversidad.
Article 43 Accessibility for all users	Artículo 43 Accesibilidad para todos los usuarios
Transport infrastructure shall allow seamless mobility and accessibility for all users, in particular elderly people, persons of reduced mobility and disabled passengers.	La infraestructura de transporte permitirá la movilidad sin fisuras y la accesibilidad para todos los usuarios, en particular las personas mayores, las personas con movilidad reducida y los pasajeros discapacitados.
CHAPTER III	CAPÍTULO III
THE CORE NETWORK	LA RED PRINCIPAL
Article 44 Identification of the core network	Artículo 44 Determinación de la red principal
281. The core network shall consist of those parts of the comprehensive network which are of the highest strategic importance for achieving the objectives of the trans-European transport network policy. The core network shall in particular contribute to coping with increasing mobility and to the development of a low-carbon transport system.	281. La red principal estará compuesta de aquellas partes de la red global que tengan la máxima importancia estratégica para lograr los objetivos de la política de la red transeuropea de transporte. La red principal contribuirá en particular a hacer frente al aumento de la movilidad y al desarrollo de un sistema de transporte hipocarbónico.
282. The core network shall be interconnected in nodes and provide for connections with neighbouring countries' transport infrastructure networks.	282. La red principal estará interconectada en nodos y establecerá conexiones con las redes de infraestructura de transporte de los países vecinos.

283. The transport infrastructures constituting the core network are indicated in the corresponding maps of the comprehensive network in Annex I.	283. Las infraestructuras de transporte que constituyen la red principal están indicadas en los mapas correspondientes de la red global adjuntos en el anexo I.
Article 45 Requirements	Artículo 45 Requisitos
284. The core network shall reflect evolving traffic demand and the need for multi-modal transport. State-of-the-art technologies and regulatory and governance measures for managing the infrastructure use shall be taken into account in order to ensure resource-efficient use of transport infrastructure and to provide for sufficient capacity.	284. La red principal reflejará la evolución de la demanda de tráfico y la necesidad de transporte multimodal. A fin de garantizar el uso eficiente de los recursos de infraestructura de transporte y de proporcionar capacidad suficiente, se tendrán en cuenta las tecnologías de vanguardia y las medidas reglamentarias y de gobernanza para gestionar la infraestructura.
285. The infrastructure of the core network shall meet all the requirements set out in Chapter II without exception. In addition, the following requirements shall also be met by the infrastructure of the core network:	285. La infraestructura de la red principal deberá cumplir todos los requisitos establecidos en el capítulo II sin excepción. Además, la infraestructura de la red principal deberá cumplir asimismo los requisitos siguientes:
286. for railway transport infrastructure:	286. en cuanto a la infraestructura de transporte ferroviario:
287. full electrification of the railway lines;	287. electrificación total de las líneas ferroviarias;
288. lines with regular freight traffic: at least 22.5 t axle load, 100 km/h line speed and 750 m train length;	288. líneas con tráfico regular de mercancías: como mínimo una carga por eje de 22,5 t, velocidad de 100 km/h y trenes de 750 m de longitud;
289. for inland navigation and maritime transport infrastructure:	289. en cuanto a la infraestructura de transporte de navegación interior y marítima:
290. availability of alternative clean fuels;	290. disponibilidad de combustibles alternativos limpios;
291. for road transport infrastructure:	291. en cuanto a la infraestructura de transporte por carretera:
292. the development of rest areas approximately every 50 kilometres on motorways in order inter alia to provide sufficient parking space for commercial road users with an appropriate level of safety and security;	292. la construcción de áreas de descanso aproximadamente cada 50 kilómetros en las autopistas con el fin, entre otras cosas, de ofrecer zonas de estacionamiento suficientes con un nivel suficiente de seguridad y protección a los usuarios comerciales de la carretera;
293. availability of alternative clean fuels;	293. disponibilidad de combustibles alternativos limpios;
294. for air transport infrastructure:	294. en cuanto a la infraestructura de transporte aéreo:
295. capacity to make available alternative clean fuels.	295. capacidad para poner a disposición combustibles alternativos limpios.
Article 46 Development of the core network	Artículo 46 Desarrollo de la red principal
296. The transport infrastructure included in the core network shall be developed in accordance with the corresponding provisions of Chapter II.	296. La infraestructura de transporte de la red principal se desarrollará de conformidad con las disposiciones correspondientes del capítulo II.
297. Projects of common interest contributing	297. Los proyectos de interés común que

to the completion of the core network shall be implemented as a priority.	contribuyan a la finalización de la red principal se ejecutarán de forma prioritaria.
298. Without prejudice to Article 47(2) and (3), the Member States shall ensure the core network is completed and complies with the provisions of this Chapter by 31 December 2030 at the latest.	298. Sin perjuicio de lo dispuesto en el artículo 47, apartados 2 y 3, los Estados miembros garantizarán que la red principal estará finalizada y será conforme a las disposiciones del presente capítulo a más tardar el 31 de diciembre de 2030.
Article 47 Nodes of the core network	Artículo 47 Nodos de la red principal
299. The nodes of the core network are set out in Annex II and include:	299. Los nodos de la red principal están establecidos en el anexo II y comprenden:
300. urban nodes, including their ports and airports;	300. nodos urbanos, incluidos sus puertos y aeropuertos;
301. maritime ports;	301. puertos marítimos;
302. border crossing points to neighbouring countries.	302. pasos fronterizos hacia los países vecinos.
303. Maritime ports indicated in Part 2 of Annex II shall be connected with the railway and road transport infrastructure of the trans-European transport network by 31 December 2030 at the latest, except in duly justified cases.	303. Los puertos marítimos indicados en la parte 2 del anexo II deberán estar conectados con la infraestructura de transporte por ferrocarril y carretera de la red transeuropea de transporte a más tardar el 31 de diciembre de 2030, salvo en casos debidamente justificados.
304. The main airports indicated in Part 1b of Annex II shall be connected with the railway and road transport infrastructure of the trans-European transport network by 31 December 2050 at the latest. Taking into account potential traffic demand, such airports shall be integrated into the high speed rail network wherever possible.	304. Los aeropuertos principales indicados en la parte 1b del anexo II deberán estar conectados con la infraestructura de transporte por ferrocarril y carretera de la red transeuropea de transporte a más tardar el 31 de diciembre de 2050. Teniendo en cuenta la demanda potencial de tráfico, dichos aeropuertos se integrarán en la red de ferrocarril de alta velocidad siempre que sea posible.
CHAPTER IV	CAPÍTULO IV
IMPLEMENTATION OF THE CORE NETWORK THROUGH CORE NETWORK CORRIDORS	REALIZACIÓN DE LA RED PRINCIPAL MEDIANTE CORREDORES DE LA RED PRINCIPAL
Article 48 General purpose of core network corridors	Artículo 48 Finalidad general de los corredores de la red principal
305. Core network corridors are an instrument to facilitate the coordinated implementation of the core network. Core network corridors shall be based on modal integration, interoperability, as well as on a coordinated development and management of infrastructure, in order to lead to resource-efficient multimodal transport.	305. Los corredores de la red principal son un instrumento para facilitar la realización coordinada de la red principal. Los corredores de la red principal se basarán en la integración modal, la interoperabilidad y el desarrollo y gestión coordinados de la infraestructura, con el fin de lograr un transporte multimodal eficiente en términos de consumo de recursos.
306. Core network corridors shall provide for a coordinated approach with regard to infrastructure use and investments, so as to manage capacities in the most efficient way. Multimodal infrastructure within core network corridors shall be built and coordinated,	306. Los corredores de la red principal preverán un enfoque coordinado del uso de la infraestructura y de las inversiones para gestionar las capacidades en la forma más eficiente. La infraestructura multimodal de los corredores de la red principal se construirá y

wherever needed, in a way that optimises the use of each transport mode and their cooperation. The core network corridors shall support the comprehensive deployment of interoperable traffic management systems.	coordinará, siempre que sea necesario, de la forma que optimice el uso de cada modo de transporte y la cooperación entre ellos. Los corredores de la red principal apoyarán la implantación general de sistemas interoperables de gestión del tráfico.
Article 49 Definition of core network corridors	Artículo 49 Definición de los corredores de la red principal
307. Core network corridors consist of parts of the core network. They shall involve at least three transport modes and cross at least three Member States. They cover the most important cross-border long-distance flows in the core network.	307. Los corredores de la red central estarán compuestos de partes de la red central, comprenderán al menos tres modos de transporte, cruzarán al menos tres Estados miembros y abarcarán los flujos transfronterizos de larga distancia más importantes de la red principal.
308. In duly justified cases the core network corridor may involve only two transport modes.	308. En casos debidamente justificados, el corredor de la red principal podrá constar de tan solo dos modos de transporte.
309. Core network corridors shall include maritime ports and its accesses, except in duly justified cases.	309. Los corredores de la red principal incluirán puertos marítimos y sus accesos, salvo en casos debidamente justificados.
Article 50 List of core network corridors	Artículo 50 Lista de corredores de la red principal
310. Each Member State shall participate in at least one core network corridor.	310. Cada Estado miembro participará en al menos un corredor de la red principal.
311. The list of core network corridors is set out in Annex I to Regulation (EU) No XXX/2012 of ... [Connecting Europe Facility].	311. La lista de corredores de la red principal figura en el anexo I del Reglamento (UE) nº XXX/2012 de ... [Mecanismo «Conectar Europa»].
Article 51 Coordination of core network corridors	Artículo 51 Coordinación de los corredores de la red principal
312. In order to facilitate the coordinated implementation of core network corridors, the Commission shall designate, after consultation with the Member States concerned, and after having consulted the European Parliament, persons called "European Coordinator".	312. A fin de facilitar la realización coordinada de los corredores de la red principal, la Comisión designará, previa consulta a los Estados miembros interesados y al Parlamento Europeo, a las personas denominadas «coordinadores europeos».
313. The European Coordinator shall be chosen, in particular, on the basis of his/her experience of European institutions and knowledge of issues relating to the financing and the socio-economic and environmental evaluation of major projects.	313. El coordinador europeo será elegido, en particular, atendiendo a su experiencia en instituciones europeas y de sus conocimientos relativos a la financiación y evaluación socioeconómica y medioambiental de grandes proyectos.
314. The Commission decision designating the European Coordinator shall specify how the tasks referred to in paragraph 5 are to be performed.	314. La decisión de la Comisión por la que se proceda al nombramiento del coordinador europeo precisará las modalidades de ejercicio de las funciones mencionadas en el apartado 5.
315. The European Coordinator shall act in the name and on behalf of the Commission. The remit of the European Coordinator shall relate to a single core network corridor. The European Coordinator shall draw up together	315. El coordinador actuará en nombre y por cuenta de la Comisión. El mandato del coordinador europeo se referirá a un único corredor de la red principal. El coordinador europeo elaborará juntamente con los Estados

with the Member States concerned a work plan for the activities to be fulfilled.	miembros interesados un plan de trabajo de sus actividades.
316. The European Coordinator shall:	316. El coordinador europeo deberá:
317. lead the coordinated implementation of the core network corridor in order to enable respect of the timeline set in the implementing decision for the individual core network corridor;	317. dirigir la realización coordinada del corredor de la red principal a fin de permitir el respeto del calendario establecido en la decisión específica sobre el corredor de la red principal de que se trate;
318. report to the Member States, to the Commission and, as appropriate, to all other entities directly involved in the development of the core network corridor on any difficulties encountered and contribute to finding appropriate solutions;	318. informar a los Estados miembros, a la Comisión y, cuando proceda, a todas las demás entidades que participen directamente en el desarrollo del corredor de la red principal sobre cualesquiera dificultades encontradas y contribuir a encontrar las soluciones adecuadas;
319. draw up a report every year for the European Parliament, the Commission and the Member States concerned on the progress achieved in implementing the core network corridor;	319. elaborar un informe anual para el Parlamento Europeo, la Comisión y los Estados miembros interesados sobre los avances realizados en la implementación del corredor de la red principal;
320. consult, in cooperation with the Member States concerned, in particular regional and local authorities, infrastructure managers, transport operators, transport users and, as appropriate, other public and private entities, with a view to gaining a fuller knowledge of the demand for transport services, the possibilities of investment funding and financing and steps to be undertaken and the conditions to be met in order to facilitate access to such funding or financing.	320. consultar, en colaboración con los Estados miembros interesados, en particular, a las autoridades regionales y locales, los gestores de infraestructura, los operadores de transportes, los usuarios de transportes y, llegado el caso, a otras entidades públicas y privadas, con vistas a obtener un conocimiento más completo de la demanda de servicios de transporte, las posibilidades de fondos para inversión y financiación y las gestiones y condiciones necesarias para facilitar el acceso a esos fondos o financiación.
321. The Member States concerned shall cooperate with the European Coordinator and give the Coordinator the information required to perform the tasks referred to in paragraph 5.	321. Los Estados miembros interesados cooperarán con el coordinador europeo y le proporcionarán la información necesaria para la realización de las funciones mencionadas en el apartado 5.
322. Without prejudice to the applicable procedures laid down in Union and national law, the Commission may request the opinion of the European Coordinator when examining applications for Union funding for core network corridors for which the European Coordinator is responsible.	322. Sin perjuicio de los procedimientos aplicables establecidos en las legislaciones de la Unión y nacionales, la Comisión podrá solicitar el dictamen del coordinador europeo con ocasión de la tramitación de las solicitudes de financiación de la Unión relativas a los corredores de la red principal que se inscriban dentro de su competencia.
Article 52 Governance of core network corridors	Artículo 52 Gobernanza de los corredores de la red principal
323. For each core network corridor, the Member States concerned shall establish a corridor platform responsible for defining the general objectives of the core network corridor and for preparing and supervising the measures referred to in Article 53(1).	323. Para cada corredor de la red principal, los Estados miembros interesados deberán establecer una plataforma del corredor responsable de la definición de los objetivos generales del corredor de la red principal y de la elaboración y supervisión de las medidas



	mencionadas en el artículo 53, apartado 1.
324. The corridor platform shall be composed of the representatives of the Member States concerned and, as appropriate, other public and private entities. In any case, the relevant infrastructure managers as defined in Directive 2001/14/EC of the European Parliament and of the Council of 26 February 2001 on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure[60] shall participate in the corridor platform.	324. La plataforma del corredor estará compuesta por representantes de los Estados miembros interesados y, llegado el caso, por otras entidades públicas y privadas. En cualquier caso, el gestor o administrador de infraestructuras definido en la Directiva 2001/14/CE del Parlamento Europeo y del Consejo, de 26 de febrero de 2001, relativa a la adjudicación de la capacidad de infraestructura ferroviaria, aplicación de cánones por su utilización y certificación de la seguridad[60], participará en la plataforma del corredor.
325. The European Coordinator shall chair the corridor platform.	325. La plataforma del corredor estará presidida por el coordinador europeo.
326. The corridor platform may be established as a permanent legal entity, such as a European Economic Interest Group.	326. La plataforma del corredor se constituirá en forma de entidad jurídica permanente, como, por ejemplo, una agrupación europea de interés económico.
327. The establishment of corridor platforms is without prejudice to the principle that the beneficiary of Union financial support has the final responsibility for the implementation of the projects.	327. La creación de plataformas de corredores no va en perjuicio del principio de que el beneficiario de la ayuda financiera de la UE es el responsable último de la ejecución del proyecto.
Article 53 Corridor development plan	Artículo 53 Plan de desarrollo del corredor
328. For each core network corridor, the Member States concerned, in cooperation with the corridor platform, shall jointly draw up and notify to the Commission a corridor development plan within six months after entry into force of this Regulation. This plan shall include in particular:	328. Para cada corredor de la red principal, los Estados miembros interesados, en cooperación con la plataforma del corredor, elaborarán conjuntamente y notificarán a la Comisión un plan de desarrollo del corredor en el plazo de seis meses desde la entrada en vigor del presente Reglamento. En dicho plan figurarán, en particular:
329. a description of the characteristics of the core network corridor, including bottlenecks;	329. una descripción de las características del corredor de la red principal, incluidos los cuellos de botella;
330. the objectives for the core network corridor in particular in terms of performance expressed as the quality of the service, its capacity and its compliance with the requirements set out in Chapter II;	330. los objetivos del corredor de la red principal, en particular en cuanto a sus prestaciones expresadas en términos de calidad del servicio, capacidad y conformidad con los requisitos mencionados en el capítulo II;
331. the programme of measures necessary for developing the core network corridor;	331. el programa de medidas necesarias para desarrollar el corredor de la red principal;
332. a multimodal transport market study;	332. un estudio de mercado del transporte multimodal;
333. an implementation plan including:	333. un plan de implementación que abarque, entre otros, los siguientes extremos:
334. a deployment plan relating to interoperable traffic management systems on multi-modal freight corridors without prejudice to the applicable Union legislation;	334. un plan de desarrollo de los sistemas de gestión del tráfico interoperables en los corredores multimodales de mercancías, sin perjuicio de la legislación aplicable de la Unión;

335. a plan for the removal of physical, technical, operational and administrative barriers between and within transport modes and for the enhancement of efficient multimodal transport and services;	335. un plan de eliminación de los obstáculos físicos, técnicos, operacionales y administrativos entre los modos de transporte y dentro de los mismos, y para el refuerzo de transportes y servicios multimodales eficientes;
336. measures to improve the administrative and technical capacity to conceive, plan, design, procure, implement and monitor projects of common interest;	336. medidas para mejorar la capacidad administrativa y técnica de concebir, planificar, diseñar, licitar, ejecutar y hacer el seguimiento de proyectos de interés común;
337. risk assessment, including the possible impacts of climate change on the infrastructure and where appropriate proposed measures to enhance climate resilience;	337. la evaluación de riesgos, incluidos los posibles efectos del cambio climático en la infraestructura y, llegado el caso, medidas propuestas para aumentar la resiliencia ante el cambio climático;
338. measures to be taken in order to mitigate greenhouse gas emissions;	338. medidas previstas para mitigar las emisiones de gases de efecto invernadero;
339. an investment plan, to be updated regularly, including:	339. un plan de inversión actualizado regularmente que incluya los siguientes extremos:
340. the list of projects for the extension, renewal or redeployment of transport infrastructure referred to in Article 2(2) for each of the transport modes involved in the core network corridor;	340. la lista de proyectos de ampliación, renovación o reconversión de infraestructura de transporte a que hace referencia el artículo 2, apartado 2, para cada modo de transporte que forme parte del corredor de la red principal;
341. the related financial plan, with the various sources envisaged for funding and financing, at international, national, regional, local and Union level, including, whenever possible, earmarked cross-financing systems as well as private capital, together with the amount of commitments already made and, where applicable, reference to the contribution of the Union envisaged under the Union's financial programmes.	341. el plan financiero correspondiente, con las distintas fuentes de fondos y financiación previstas a los niveles internacional, nacional, regional, local y de la Unión, incluidos, siempre que sea posible, los sistemas de financiación cruzada así como el capital privado previstos, junto con el importe de los compromisos ya asumidos y, llegado el caso, haciendo referencia a la contribución de la Unión prevista en los programas financieros de la Unión.
342. Based on the corridor development plan provided by Member States concerned, the Commission shall deliver its opinion.	342. Atendiendo al plan de desarrollo del corredor proporcionado por los Estados miembros interesados, la Comisión emitirá su dictamen.
343. In order to support the implementation of the core network corridors, the Commission may adopt implementing decisions for core network corridors. These decisions may:	343. A fin de apoyar la realización de los corredores de la red principal, la Comisión podrá adoptar decisiones de ejecución en relación con los mismos. Estas decisiones podrán:
344. include the investment planning, the related costs and implementation timeline, estimated as necessary to implement the core network corridors in line with the objectives of this Regulation;	344. incluir la planificación de la inversión, los costes relacionados y el calendario de ejecución considerados necesarios para la realización de los corredores de la red principal de conformidad con los objetivos del presente Reglamento;
345. define all measures aimed at reducing external costs, in particular greenhouse gas	345. definir todas las medidas destinadas a reducir los costes externos, en particular las

emissions and noise, and aimed at promoting the introduction of new technologies in traffic and capacity management;	emisiones de gases de efecto invernadero y de ruido, y las medidas destinadas a promover la introducción de nuevas tecnologías de gestión del tráfico y de la capacidad;
346. provide for other measures which are necessary for the implementation of the corridor development plan and for the efficient use of the core network corridor infrastructure.	346. establecer otras medidas que sea necesarias para la ejecución del plan de desarrollo del corredor y para el uso eficiente de la infraestructura del corredor de la red principal.
Those implementing acts shall be adopted in accordance with the advisory procedure referred to in Article 55(2).	Esas disposiciones de aplicación se adoptarán conforme al procedimiento consultivo contemplado en el artículo 55, apartado 2.
CHAPTER V	CAPÍTULO V
COMMON PROVISIONS	DISPOSICIONES COMUNES
Article 54 Updating and reporting	Artículo 54 Actualización e informes
347. Member States shall inform the Commission continuously through the interactive geographical and technical information system for the trans-European transport network (TENtec), about the progress made in implementing projects of common interest and the investments made for this purpose.	347. Los Estados miembros informarán continuamente a la Comisión a través del sistema geográfico, técnico e interactivo de información de la red transeuropea de transporte (TENtec) sobre los avances registrados en la ejecución de los proyectos de interés común y sobre las inversiones realizadas con esta finalidad.
Member States shall provide the Commission with abstracts of national plans and programmes which they are drawing up with a view to develop the trans-European transport network, in particular in relation to the core network. Once adopted, the Member States shall send the national plans and programmes to the Commission for information.	Los Estados miembros facilitarán a la Comisión resúmenes de los planes y programas nacionales que elaboren con vistas al desarrollo de la red transeuropea de transporte, en particular en relación con la red principal. Una vez adoptados, los Estados miembros enviarán los planes y programas nacionales a la Comisión a título informativo.
348. Every two years starting from the entry into force of this Regulation and after consultation of the Committee referred to in Article 54, the Commission shall publish a progress report on the implementation of the guidelines, which shall be submitted to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions.	348. Cada dos años a partir de la entrada en vigor del presente Reglamento, y previa consulta con el Comité mencionado en el artículo 54, la Comisión publicará un informe de situación sobre la implementación de las orientaciones que presentará al Parlamento Europeo, al Consejo, al Comité Económico y Social Europeo y al Comité de las Regiones.
349. The Commission shall be empowered to adopt delegated acts in accordance with Article 56 concerning the adaptation of Annexes I, II and III to take account of possible changes resulting from the quantitative thresholds laid down in Articles 16, 24, 29 and 33. When adapting the Annexes, the Commission shall:	349. Deberán otorgarse a la Comisión poderes para adoptar actos delegados con arreglo al artículo 56 con el fin de adaptar los anexos I, II y III a las posibles modificaciones derivadas de los umbrales cuantitativos establecidos en los artículos 16, 24, 29 y 33. Cuando adapte los anexos, la Comisión deberá:
350. include logistic platforms, freight terminals, inland ports, maritime ports and airports in the comprehensive network, if it is demonstrated that the latest two-year average of their traffic volume exceeds the relevant threshold;	350. incluir las plataformas logísticas, terminales de mercancías, puertos de navegación interior, puertos marítimos y aeropuertos de la red principal, si se demuestra que la media de los dos últimos años de su volumen de tráfico supera el umbral pertinente;

351. exclude logistic platforms, freight terminals, inland ports, maritime ports and airports from the comprehensive network, if it is demonstrated that the average of their traffic volume over the last six years is below the relevant threshold;	351. excluir las plataformas logísticas, terminales de mercancías, puertos de navegación interior, puertos marítimos y aeropuertos de la red principal, si se demuestra que la media de los seis últimos años de su volumen de tráfico es inferior al umbral pertinente;
352. adjust the maps for road, railway and inland waterway infrastructure so as to reflect progress in completing the network. In adjusting those maps, the Commission shall not admit any adjustment in route alignment beyond that which is allowed by the relevant project authorization procedure.	352. ajustar los mapas de infraestructuras de carreteras, ferrocarriles y vías de navegación interior para que reflejen los avances en la finalización de la red; cuando ajuste esos mapas, la Comisión no admitirá ningún cambio de trazado más allá de lo permitido por el procedimiento pertinente de autorización del proyecto.
The adaptations under points (a) and (b) shall be based on the latest available statistics published by Eurostat.	Las adaptaciones previstas en las letras a) y b) deberán basarse en las últimas estadísticas disponibles publicadas por Eurostat.
353. Projects of common interest concerning infrastructure which is newly included in the trans-European transport network shall be eligible for the purposes of Article 7(5) as of the date of entry into force of the delegated acts pursuant to paragraph 3.	353. Los proyectos de interés común que interesen a infraestructura recientemente añadida a la red transeuropea de transporte serán admisibles a los efectos de lo dispuesto en el artículo 7, apartado 5, a partir de la fecha de entrada en vigor de los actos delegados adoptados con arreglo al apartado 3.
Projects of common interest concerning infrastructure which have been excluded from the trans-European transport network shall not be eligible anymore as of the date of entry into force of the delegated acts pursuant to paragraph 3. The end of eligibility shall not affect financing or grant decisions taken by the Commission before this date.	Los proyectos de interés común que interesen a infraestructuras que hayan sido excluidas de la red transeuropea de transporte dejarán de ser admisibles a partir de la fecha de entrada en vigor de los actos delegados adoptados con arreglo al apartado 3. El fin de la admisibilidad no afectará a las decisiones de financiación o subvención adoptadas por la Comisión antes de tal fecha.
Article 55 Committee	Artículo 55 Comité
354. The Commission shall be assisted by a committee. That committee shall be a committee within the meaning of Regulation (EU) No 182/2011.	354. La Comisión estará asistida por un Comité. Este Comité será un comité en el sentido del Reglamento (UE) n° 182/2011.
355. Where reference is made to this paragraph, Article 4 of Regulation (EU) No 182/2011 shall apply.	355. En los casos en que se haga referencia al presente apartado, será de aplicación el artículo 4 del Reglamento (UE) no 182/2011.
Article 56 Exercise of delegation	Artículo 56 Ejercicio de la delegación
356. The power to adopt delegated acts is conferred on the Commission subject to the conditions laid down in this Article.	356. Los poderes para adoptar actos delegados otorgados a la Comisión estarán sujetos a las condiciones establecidas en el presente artículo.
357. The power to adopt delegated acts referred to in Article 54(3) shall be conferred on the Commission for an unlimited period from [date of entry into force of the Regulation].	357. Se otorgarán a la Comisión poderes para adoptar los actos delegados a que se refiere el artículo 54, apartado 3, por un período indeterminado a partir de [fecha de entrada en vigor del Reglamento].
358. The delegation of powers referred to in	358. La delegación de poderes a que se refiere

the Article 54(3) may be revoked at any time by the European Parliament or by the Council. A decision to revoke shall put an end to the delegation of the power specified in that decision. It shall take effect the day following the publication of the decision in the Official Journal of the European Union or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.	el artículo 54, apartado 3, podrá ser revocada en todo momento por el Parlamento Europeo o el Consejo. La decisión de revocación pondrá término a la delegación de los poderes que en ella se especifiquen. La decisión surtirá efecto al día siguiente al de su publicación en el Diario Oficial de la Unión Europea o en una fecha posterior indicada en la misma. No afectará a la validez de los actos delegados que ya estén en vigor.
359. As soon as it adopts a delegated act, the Commission shall notify it simultaneously to the European Parliament and to the Council.	359. Cuando la Comisión adopte un acto delegado, lo notificará simultáneamente al Parlamento Europeo y al Consejo.
360. A delegated act adopted pursuant to the Article 54(3) shall enter into force only if no objection has been expressed either by the European Parliament or by the Council within a period of two months of the notification of that act to the European Parliament and the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by two months at the initiative of the European Parliament or of the Council.	360. Un acto delegado adoptado con arreglo al artículo 54, apartado 3, entrará en vigor únicamente en caso de que ni el Parlamento Europeo ni el Consejo hayan manifestado ninguna objeción en un plazo de dos meses a partir de la notificación de dicho acto a ambas instituciones o en caso de que, antes de que expire ese plazo, el Parlamento Europeo y el Consejo hayan informado a la Comisión de que no manifestarán ninguna objeción. El plazo se prorrogará dos meses a instancia del Parlamento Europeo o del Consejo.
Article 57 Review	Artículo 57 Revisión
By 31 December 2023 at the latest, the Commission shall carry out a review of the implementation of the core network, evaluating compliance with the provisions laid down in this Regulation and the progress in implementation.	A más tardar el 31 de diciembre de 2023, la Comisión revisará la realización de la red principal y evaluará el cumplimiento de las disposiciones establecidas en el presente Reglamento y los avances registrados.
Article 58 Single Contact Authority	Artículo 58 Autoridad única de contacto
Member States may appoint a Single Contact Authority for facilitating and co-ordinating the permitting process for projects of common interest, in particular cross-border projects, in accordance with the relevant Union acquis.	Los Estados miembros podrán designar una autoridad única de contacto para facilitar y coordinar el proceso de concesión de permisos para proyectos de interés común, en particular los proyectos transfronterizos, de conformidad con el correspondiente acervo de la Unión.
Article 59 Delay in completion of the core network	Artículo 59 Retraso en la finalización de la red principal
361. In the event of a significant delay in starting or completing work on the core network, the Commission shall request the Member States concerned to provide the reasons for the delay within three months. On the basis of the reply given, the Commission shall consult the Member States concerned in order to resolve the problem leading to the delay.	361. En caso de un retraso significativo en el inicio o la finalización de las obras de la red principal, la Comisión solicitará a los Estados miembros interesados que le comuniquen las razones del retraso en el plazo de tres meses. En función de la respuesta obtenida, la Comisión consultará a todos los Estados miembros de que se trate a fin de resolver el problema que haya ocasionado el retraso.
362. The Commission may, as part of its active monitoring of the implementation of the core network and having due regard to the principle	362. La Comisión, en el ámbito de su actividad de seguimiento de la realización de la red principal y teniendo en consideración el

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June 2007 laying down general rules for the granting of Community financial aid in the field of trans-European transport and energy networks, OJ L 162, 22.6.2007, p. 1.	junio de 2007, por el que se determinan las normas generales para la concesión de ayudas financieras comunitarias en el ámbito de las redes transeuropeas de transporte y energía, DO L 162 de 22.6.2007, p. 1.
[4] Decision No 661/2010/EU of the European Parliament and of the Council of 7 July 2010 on Union Guidelines for the development of the trans-European transport network (recast), OJ L L 204, 5.8.2010, p. 1.	[4] Decisión nº 661/2010/UE del Parlamento Europeo y del Consejo, de 7 de julio de 2010, sobre las orientaciones de la Unión para el desarrollo de la red transeuropea de transporte (refundición), DO L 204 de 5.8.2010, p.1.
[5] COM(2011) 144.	[5] COM(2011) 144.
[6] Regulation (EU) No 913/2010 of 22 September 2010 of the European Parliament and of the Council concerning a European rail network for competitive freight, OJ L 276, 20.10.2010, p. 22.	[6] Reglamento (UE) nº 913/2010 del Parlamento Europeo y del Consejo, de 22 de septiembre de 2010, sobre una red ferroviaria europea para un transporte de mercancías competitivo, DO L 276 de 20.10.2010, p. 22.
[7] See section 3.1: "Transport infrastructure: territorial cohesion and economic growth" of Annex 1 to the White Paper.	[7] Véase el punto 3.1.: «Infraestructura de transporte: cohesión territorial y crecimiento económico» del anexo 1 del Libro Blanco.
[8] COM(2010) 245 final/2.	[8] COM(2010) 245 final/2.
[9] COM(2011) 206 final.	[9] COM(2011) 206 final.
[10] COM(2010) 2020 final.	[10] COM(2010) 2020 final.
[11] "TEN-T: A policy review. Towards a better integrated trans-European transport network at the service of the Common Transport Policy", COM (2009) 44 final.	[11] "RTE-T: Revisión de la política Hacia una red transeuropea de transporte mejor integrada al servicio de la política común de transportes» COM(2009) 44 final.
[12] The fields covered by the expert groups are: the structure of a comprehensive and core network and the methodology for TEN-T planning, integration of transport policy into TEN-T planning, intelligent transport systems and new technologies within the framework of the TEN-T, TEN-T and connections outside the EU, TEN-T financing, TEN-T legal and non-financial aspects.	[12] Los campos cubiertos por los grupos de expertos son: estructura de una red global y de una red principal y metodología de planificación de la RTE-T, integración de la política de transporte en la planificación de la RTE-T, sistemas de transporte inteligentes y nuevas tecnologías en el marco de la RTE-T, la RTE-T y las conexiones con el exterior de la UE, financiación de la RTE-T, y aspectos jurídicos y no financieros de la RTE-T.
[13] Consultation on the future trans-European transport network policy", COM(2010) 212 final.	[13] Consulta sobre la futura política de la red transeuropea de transporte, COM (2010) 212 final.
[14] "The New Trans-European Transport Network Policy. Planning and implementation issues", SEC(2011) 101.	[14] «The New Trans-European Transport Network Policy. Planning and implementation issues», SEC(2011) 101.
[15] The detailed methodology has been published in the Commission Staff Working Document "The New Trans-European Transport Network Policy – Planning and Implementation Issues" in January 2011. It has been subject to minor adjustments regarding issues which were raised at a Transport Ministers' meeting on 7/8 February 2011 and at meetings with high-level representatives of all EU Member States.	[15] La metodología detallada ha sido publicada en el documento de trabajo de los servicios de la Comisión "The New Trans-European Transport Network Policy – Planning and Implementation Issues", de enero de 2011. El documento ha sufrido pequeñas modificaciones en lo que se refiere a cuestiones suscitadas en la reunión de los Ministros de Transportes de 7 y 8 de febrero de 2011, y en las reuniones con representantes de

	alto nivel de todos los Estados miembros de la UE.
[16] In Annex III the regional transport networks of these countries are provided to the extent that they have already been defined. For neighbourhood countries under the Eastern Partnership, the regional network will be defined following the work of the Transport Panel under the Eastern Partnership, building on work carried out in the framework of TRACECA. For the neighbourhood countries in the South, the regional network will be defined on the basis of the work undertaken in the framework of the Euro-Mediterranean Transport Forum.	[16] En el anexo III figuran las redes de transporte regionales de estos países en la medida en que ya han sido definidas. En los que se refiere a los países de la Asociación Oriental, la red regional se definirá mediante la labor del Grupo de Expertos sobre el Transporte en la Asociación Oriental, sobre la base del trabajo efectuado en el marco del proyecto TRACECA. En lo que se refiere a los países vecinos del Sur, la red regional se definirá sobre la base del trabajo emprendido en el marco del Foro Euromediterráneo de Transporte.
[17] COM(2011) 500 final.	[17] COM(2011) 500 final.
[18] Such coordination could involve among others funding from the Neighbourhood Investment Facility (NIF) or the Instrument for Pre-Accession Assistance (IPA)	[18] Esa coordinación podría implicar entre otras cosas financiación del Instrumento de Inversión de la Política de Vecindad (NIF) o del Instrumento de Ayuda Preadhesión (IPA).
[19] OJ C , , p. .	[19] DO C de , p. .
[20] OJ C , , p. .	[20] DO C de , p. .
[21] OJ L 228, 9.9.1996, p.1.	[21] DO L 228 de 9.9.1996, p. 1.
[22] OJ L 204, 5.8.2010. p. 1.	[22] DO L 204 de 5.8.2010, p. 1.
[23] COM(2011) 144 final.	[23] COM(2011) 144 final.
[24] COM(2007) 575 final.	[24] COM(2007) 575 final.
[25] OJ L 276, 20.10.2010, p. 22.	[25] DO L 276 de 20.10.2010, p. 22.
[26] OJ L 194, 25.7.2009, p. 60.	[26] DO L 194 de 25.7.2009, p. 60.
[27] Regulation (EU) No XXX/2012 of ... [Connecting Europe Facility]	[27] Reglamento (UE) nº XXX/2012 de ... [Mecanismo «Conectar Europa»]
[28] Council Regulation (EC) No 1085/2006 of 17 July 2006 establishing an Instrument for Pre-Accession Assistance (IPA), OJ L 210, 31.7.2006, p. 82.	[28] Reglamento (CE) nº 1085/2006 del Consejo, de 17 de julio de 2006, por el que se establece un Instrumento de ayuda Preadhesión (IPA), DO L 210 de 31.7.2006, p. 82.
[29] COM(2011) 615 final.	[29] COM(2011) 615 final.
[30] OJ L 55, 28.2.2011, p. 13.	[30] DO L 55 de 28.2.2011, p. 13.
[31] COM(2004) 106 final.	[31] COM(2004) 106 final.
[32] OJ L 96, 31.3.2004, p. 26.	[32] DO L 96 de 31.3.2004, p. 26.
[33] OJ L 64, 2.3.2007, p. 1.	[33] DO L 64 de 2.3.2007, p. 1.
[34] OJ L 208, 5.8.2002, p. 10.	[34] DO L 208 de 5.8.2002, p. 10.
[35] OJ L 255, 30.9.2005, p. 152.	[35] DO L 255 de 30.9.2005, p. 152.
[36] OJ L 284, 16.10.2006, p. 1.	[36] DO L 284 de 16.10.2006, p. 1.
[37] OJ L 342, 7.12.2006, p. 1.	[37] DO L 342 de 7.12.2006, p. 1.
[38] OJ L 123, 12.5.2011, p. 11.	[38] DO L 123 de 12.5.2011, p. 11.
[39] OJ L 191, 18.7.2008, p. 1.	[39] DO L 191 de 18.7.2008, p. 1.
[40] European standard nominal track gauge as referred to in technical specification for interoperability on infrastructure, section 4.2.5.1. for the conventional lines (hereafter: CR TSI) of Commission Decision	[40] El ancho de vía nominal normal europeo tal y como viene definido en la especificación técnica de interoperabilidad de la infraestructura, sección 4.2.5.1 para las líneas convencionales (en lo sucesivo: FC ETI) de la



2011/275/EU of 26 April 2011 concerning a technical specification for interoperability relating to the ‘infrastructure’ subsystem of the trans-European conventional rail system, OJ L 126, 14.5.2011, p. 53, and section 4.2.2. for the high speed lines (hereafter: HS TSI) of Commission Decision 2008/217/EC of 20 December 2007 concerning a technical specification for interoperability relating to the ‘infrastructure’ sub-system of the trans-European high-speed rail system, OJ L 77, 19.3.2008, p. 1.	Decisión 2011/275/UE de la Comisión, de 26 de abril de 2011, sobre la especificación técnica de interoperabilidad del subsistema de infraestructura del sistema ferroviario transeuropeo convencional, DO L 126 de 14.5.2011, p. 53, y sección 4.2.2. para las líneas de alta velocidad (en lo sucesivo: AV ETI) de la Decisión 2008/217/CE de la Comisión, de 20 de diciembre de 2007, sobre la especificación técnica de interoperabilidad del subsistema de infraestructura del sistema ferroviario transeuropeo de alta velocidad, DO L 77 de 19.3.2008, p. 1.
[41] See requirements of line category V-F specified in section 4.2.2. of the CR TSI.	[41] Véanse los requisitos de la categoría de línea V-F especificada en la sección 4.2.2. de la FC ETI.
[42] Requirements for line categories IV-F, IV-M, VI-F and VI-M as specified in section 4.2.4.3. of the CR TSI.	[42] Requisitos para las categorías de línea IV-F, IV-M, VI-F y VI-M tal como se especifican en la sección 4.2.4.3. de la FC ETI.
[43] European Conference of Ministers of transports (ECMT), ECMT/CM(92)6/Final.	[43] Conferencia Europea de Ministros de Transportes, ECMT/CM/(92)6/final.
[44] OJ L 319, 29.11.2008, p. 59.	[44] DO L 319 de 29.11.2008, p. 59.
[45] OJ L 167, 30.4.2004, p. 39.	[45] DO L 167 de 30.4.2004, p. 39.
[46] OJ L 166, 30.4.2004, p. 124.	[46] DO L 166 de 30.4.2004, p. 124.
[47] OJ L 268, 13.10.2009, p. 11.	[47] DO L 268 de 13.10.2009, p. 11.
[48] OJ L 207, 6.8.2010, p. 1.	[48] DO L 207 de 6.8.2010, p. 1.
[49] OJ L 332, 28.11.2000, p. 81.	[49] DO L 332 de 28.11.2000, p. 81.
[50] OJ L 97, 9.4.2008, p. 72.	[50] DO L 97 de 9.4.2008, p. 72.
[51] OJ L 96, 31.3.2004, p. 1.	[51] DO L 96 de 31.3.2004, p. 1.
[52] OJ L 96, 31.3.2004, p. 10.	[52] DO L 96 de 31.3.2004, p. 10.
[53] OJ L 96, 31.3.2004, p. 20.	[53] DO L 96 de 31.3.2004, p. 20.
[54] OJ L 96, 31.3.2004, p. 26.	[54] DO L 96 de 31.3.2004, p. 26.
[55] OJ L 175, 5.7.1985, p. 40.	[55] DO L 175 de 5.7.1985, p. 40.
[56] OJ L 206, 22.7.1992, p. 7.	[56] DO L 206 de 22.7.1992, p. 7.
[57] OJ L 327, 22.12.2000, p.1.	[57] DO L 327 de 22.12.2000, p. 1.
[58] OJ L 197, 21.7.2001, p. 30.	[58] DO L 197 de 21.7.2001, p. 30.
[59] OJ L 20, 26.1.2010, p. 7.	[59] DO L 20 de 26.1.2010, p. 7.
[60] OJ L 75, 15.3.2001, p. 29.	[60] DO L 75 de 15.3.2001, p. 29.
[61] 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, OJ L 162, 22.6.2007, p. 1.	[61] 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, OJ L 162, 22.6.2007, p. 1.

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## Trans-European Transport Networks

### The TEN-T Core Network: Country by Country

Member State	Key elements
Austria	<p>Inclusion of major axes in the Core network, including Brenner, Danube/Westbahn (Salzburg-Linz-Vienna), and Semmering + Koralm</p> <p>Inclusion of these axis in project lists under corridor headings</p> <p>Austria very well covered and fully backing this TEN-T revision; Commission notes very high investments in AT, especially in rail (highest in EU per capita, highest after CH)</p>
Belgium	<p>Inclusion of the entire Inland Waterway (IWW) network in the Core: for BE this is very important, given the many IWW and the foreseen major works on several of these axes</p> <p>Inclusion of the second rail axis to the Antwerpen port</p> <p>Inclusion of Oostende, Zeebrugge, Gent and Antwerpen as core ports (all due to their volume)</p> <p>Inclusion of a dense comprehensive and core network due to the many ports and hinterland connections; inclusion in several core network corridors</p>
Bulgaria	<p>Inclusion of major axes in the comprehensive and core network, including Sofia-Varna (Hemus motorway is notably important for BG and is for a large part also in the Core); the network has become much denser and a real network</p> <p>Given the two nodes (Sofia and Burgas, as a port) and the many neighbouring countries, including third countries, BG has a dense network as a result.</p>
Cyprus	<p>Inclusion of southern orbital road of Lefkosia in the Core network for road (CY has no railway), as well as the link to the airport in Larnaka and to the major port of Limassol</p> <p>Inclusion of wider comprehensive network for roads notably</p>

Czech Republic	<p>Inclusion of Prague and Ostrava as nodes and therefore the inclusion of a rather dense comprehensive and core network</p> <p>Inclusion of links from Prague to Munich and Wroclaw (both new)</p>
Denmark	<p>Inclusion of major axes in the comprehensive and core network, linking up the very parcelled territory of the Danish isles</p> <p>Network now including many road and rail links but of course the Öresund and Fehmarn, as well as the core nodes and ports of Copenhagen and Aarhus.</p>
Estonia	<p>Inclusion of major axes in the comprehensive and core network, including Tallinn to Riga via the coast (road and rail) as well as the link to the Russian border (Tallinn-Tartu-RU border). Rail Baltic: the final choice was to include the new, future alignment as the works on upgrading the existing link are nearly completed.</p>
Finland	<p>Inclusion of major axis in the comprehensive and core network, including the present so called 'Nordic Triangle' (Turku-Helsinki-RU border) and the 'Bothnian corridor'. In particular the inclusion of the Bothnian corridor is very important.</p>
France	<p>Inclusion of nearly all major axes in the comprehensive and core network, that are part of the FR planning framework for the next decade.</p> <p>Major projects all part of core network corridors.</p> <p>Positive conclusion of Lyon-Torino: FR and IT concluded on a new sharing of the costs and concluded on most of the technical issues still outstanding; a letter co signed by both Ministers has been received.</p> <p>Central Pyrenean crossing has been agreed with ES to be included in the comprehensive network: clearly, this link will not be realised until 2030, the feasibility studies are ongoing still., but both countries want to include it in a long term modal shift perspective.</p> <p>The Seine-Escaut Canal (also known in FR as Seine-Nord) has been making good progress and is part of the Amsterdam-Marseille corridor, linking the IWW networks of northern FR with those of BE and NL and thus with the Rhine and Danube basins.</p> <p>Tours-Bordeaux has been launched recently with financial support from the EU through its innovative guarantee instrument with the EIB (the LGTT</p>

	loan guarantee instrument); it can be considered as an example for innovative financial set up.
Germany	<p>Inclusion of nearly all major axis in the comprehensive and core network, that are part of the DE planning framework for the next decade, eg Hamburg/Bremen to Hanover, Berlin-Munich, Karlsruhe-Basel.</p> <p>6 major DE ports in core network: Bremen, Bremerhaven, Wilhelmshaven, Lubeck, Hamburg, Rostock.</p> <p>DE therefore very well covered in terms of projects as well as in terms of the geographical coverage: in the present Guidelines, DE is very poorly covered!</p>
Greece	<p>Inclusion of major rail and road axis in the comprehensive and core network, as well as the ports of Thessaloniki, Athens (Piraeus), Igoumenitsa and Patras.</p> <p>Inclusion of many ports and airports on GR islands.</p>
Hungary	<p>Inclusion of nearly all major axis in the comprehensive and core network, that are part of the HU planning framework for the next decade; due to the geographical position of the main node of Budapest, the core network is very dense. This implies: inclusion of Danube and its ports, inclusion of rail and road links to Vienna, to Bucharest, to Belgrade, to Zagreb, to Ljubljana, to Bratislava.</p> <p>HU is therefore very well covered in terms of projects and maps!</p>
Ireland	<p>Inclusion of the major axis of IE in the comprehensive and core network, linking Dublin with Cork and Belfast, as well as with Limerick on the Atlantic Coast; Ireland therefore benefits from three core network ports and from a rather extensive network.</p>
Italy	<p>Inclusion of nearly all major axes in the comprehensive and core network, that are part of the IT planning framework for the next decade.</p> <p>IT therefore very well covered in terms of projects as well as in terms of the geographical coverage.</p> <p>The link between Naples and Palermo has been included: Palermo is a large urban zone (LUZ) of more than 1 million inhabitants and therefore is a node to be included and connected. Sicily also provides the most direct links to</p>

	<p>Malta and therefore this link is included in the Helsinki-Valetta corridor.</p> <p>Positive conclusion of Lyon-Torino: FR and IT concluded on a new sharing of the costs and concluded on most of the technical issues still outstanding; a letter co signed by both Ministers has been received.</p>
Latvia	<p>Inclusion of major axis in the comprehensive and core network, including Riga to Tallinn and Riga to Kaunas along the new Rail/Via Baltica alignment, as well as the link between Ventspils and the RU and BY border.</p>
Lithuania	<p>Inclusion of major axis in the comprehensive and core network, including the north-south Riga-Kaunas-Marijampole-Warsaw and the east-west Klaipeda-Kaunas-Vilnius-BU border in the core network.</p> <p>Rail Baltic: the final choice to include the new, future alignment as the works on upgrading the existing link are nearly completed.</p>
Luxemburg	<p>Inclusion of the Inland Waterway port of Merttert and of the Moselle river in the Core.</p> <p>Inclusion of the new rail link south of Luxemburg to Bettembourg.</p>
Malta	<p>Inclusion of two core ports: Valetta (capital) and Marsaxlokk (threshold).</p> <p>Inclusion of a planned link between both islands (Malta and Gozo) in the comprehensive network (road tunnel). It is expected that a feasibility study will shed light on this issue. Apart from grants for studies at the start, no further involvement than from innovative financial instruments is expected.</p>
Netherlands	<p>Inclusion of the entire Inland Waterway (IWW) network in the Core: for NL this is very important, given the many IWW and the foreseen major works on several of these axis.</p> <p>Inclusion of the new lock complexes for access to the Amsterdam and Terneuzen/Gent ports.</p> <p>Inclusion of Vlissingen, Rotterdam and Amsterdam as core ports (all due to their volume).</p> <p>Inclusion of a relatively dense comprehensive and core network due to the three ports and their hinterland connections; however, NL has been wanting to focus on a limited number of links in line with the methodology.</p> <p>NL is developing several innovative financing projects (Amsterdam locks,</p>

	A4 and A15 highways).
Poland	<p>Inclusion of nearly all major axis in the comprehensive and core network, that are part of the PL planning framework for the next decade.</p> <p>PL therefore well covered in terms of projects and maps; this is a major change compared to the current Guidelines and the Priority Projects.</p> <p>Double Y-grec for high speed has been included in the core (rail passengers). The planning horizon 2030 could be respected. As this project is for the moment not yet in a very advanced stage, the project list attached to the CEF foresees studies only. For the next MFF, it is expected that other rail projects would be implemented first given their state of preparedness.</p>
Portugal	<p>Inclusion of the core ports of Sines, Lisbon and Porto (Leixoes).</p> <p>Inclusion of major axis in the comprehensive and core network, notably Lisbon-Madrid and Porto- Valladolid.</p>
Roumania	Inclusion of Bucharest, Constanta and Timisoara as nodes of the core.
Slovakia	Inclusion of Bratislava and the UA border as nodes and therefore the inclusion of a rather dense comprehensive and core network
Slovenia	Inclusion of almost the entire road highway network and railway network in the comprehensive network but also in the core network given the geographical situation of SI and of its nodes (Ljubljana and Koper) and surrounding countries.
Spain	<p>Inclusion of nearly all major axis in the comprehensive and core network, that are part of the ES planning framework for the next decade.</p> <p>Mediterranean corridor: based upon the methodology, the Mediterranean corridor has been included all along the coast from FR via Barcelona and Valencia up to Carthagen and Almeria. From Almeria it follows an inland route to Granada and then to Sevilla. This routing allows to link the nodes of Valencia and Sevilla. The corresponding road alignment is via Malaga due to traffic intensities.</p> <p>Atlantic corridor linking Portugal via Madrid and Valladolid to the Basque</p>

	<p>country including Bilbao as a core port.</p> <p>Central Pyrenean crossing has been agreed with FR to be included in the comprehensive network: clearly, this link will not be realised until 2030, the feasibility studies are ongoing still., but both countries want to include it in a long term modal shift perspective.</p> <p>Project implementation in ES is very good so far. ES has a strong project portfolio. Important will be to integrate the rail freight network with its neighbours FR and PT which is foreseen to be taken forward further in the next MFF.</p>
Sweden	<p>Inclusion of major axis in the comprehensive and core network, including the 'Bothnian corridor'. In particular the inclusion of the Bothnian corridor is very important for SE.</p> <p>Inclusion in the project list of important project such as Göteborg-Malmö</p>
United Kingdom	<p>Inclusion of the major axis of UK in the comprehensive and core network, linking its main ports (notably Southampton and Felixstowe) with its many nodes.</p> <p>Inclusion of HS 2 in the comprehensive network for the moment: the consultation process in the UK is ongoing and results will be known soon; for the moment, no inclusion in the core is therefore possible.</p> <p>UK has been very supportive of the methodology: putting focus on the essential nodes and links between them. Therefore, there is largely support for the revision as such.</p>

# LIST OF PRE-IDENTIFIED PROJECTS ON THE CORE NETWORK IN THE FIELD OF TRANSPORT

## a) Horizontal Priorities

<b>Innovative Management &amp; Services</b>	<i>Single European Sky - SESAR</i>
<b>Innovative Management &amp; Services</b>	<i>Traffic Management Systems for Road, Rail and Inland Waterways (ITS, ERTMS and RIS)</i>
<b>Innovative Management &amp; Services</b>	<i>Core Network Ports and Airports</i>

## Core Network Corridors

### 1. Baltic – Adriatic Corridor

Helsinki – Tallinn – Riga – Kaunas – Warszawa – Katowice  
Gdynia – Katowice  
Katowice – Ostrava – Brno – Wien  
Katowice – Žilina – Bratislava – Wien  
Wien – Graz – Klagenfurt – Villach – Udine – Venezia – Bologna – Ravenna

<b>Pre-identified sections</b>	<b>Mode</b>	<b>Description/dates</b>
Helsinki - Tallinn	Ports, MoS	port interconnections, (further) development of multimodal platforms and their interconnections, MoS (including icebreaking capacity)
Tallinn - Riga - Kaunas - Warszawa	Rail	(detailed) studies for new UIC gauge fully interoperable line; works for new line to start before 2020; rail – airports/ports interconnections
Gdynia - Katowice	Rail	upgrading
Gdynia, Gdansk	Ports	port interconnections, (further) development of multimodal platforms
Warszawa - Katowice	Rail	upgrading
Katowice - Ostrava - Brno - Wien & Katowice - Žilina - Bratislava - Wien	Rail	upgrading, in particular cross-border sections PL-CZ, PL-SK and SK-AT; (further) development of multimodal platforms
Wien - Graz - Klagenfurt - Udine - Venezia - Ravenna	Rail	upgrading and works ongoing; (further) development of multimodal platforms
Trieste, Venice, Ravenna	Ports	port interconnections, (further) development of multimodal platforms

### 2. Warszawa – Berlin – Amsterdam/Rotterdam – Felixstowe – Midlands

BY border – Warszawa – Poznań – Frankfurt/Oder – Berlin – Hannover – Osnabrück – Enschede – Utrecht – Amsterdam/Rotterdam – Felixstowe – Birmingham/Manchester – Liverpool

<b>Pre-identified sections</b>	<b>Mode</b>	<b>Description/dates</b>
BY border - Warszawa - Poznań - DE border	Rail	upgrading existing line, studies for high speed rail



PL Border - Berlin - Hannover - Amsterdam/Rotterdam	Rail	upgrading of several sections (Amsterdam – Utrecht – Arnhem; Hannover – Berlin)
West-German Canals, Mittellandkanal, Hannover – Magdeburg - Berlin	IWW	upgrading
Amsterdam locks	IWW	studies ongoing
Felixstowe – Midlands	Rail, port, multimodal platforms	interconnections port and multimodal platforms

### 3. Mediterranean Corridor

Algeciras – Madrid – Tarragona

Sevilla – Valencia – Tarragona

Tarragona – Barcelona – Perpignan – Lyon – Torino – Milano – Venezia – Ljubljana – Budapest – UA border

Pre-identified sections	Mode	Description/dates
Algeciras - Madrid	Rail	studies ongoing, works to be launched before 2015, to be completed 2020
Sevilla - Antequera - Granada - Almería - Cartagena - Murcia - Alicante - Valencia	Rail	studies and works
Valencia - Tarragona - Barcelona	Rail	construction between 2014 - 2020
Barcelona	Port	interconnections rail with port and airport
Barcelona - Perpignan	Rail	cross-border section, works ongoing, new line completed by 2015, upgrading existing line
Perpignan - Montpellier	Rail	bypass Nîmes - Montpellier to be operational in 2017, Montpellier - Perpignan for 2020
Lyon - Torino	Rail	cross-border section, works base tunnel to be launched before 2020; studies access routes
Milano - Brescia	Rail	partially upgrading, partially new high-speed line
Brescia - Venezia - Trieste	Rail	works to start before 2014 on several sections
Milano - Mantova - Venezia - Trieste	IWW	studies, upgrading, works
Trieste - Divača	Rail	studies and partial upgrading ongoing; cross-border section to be realised until after 2020
Koper - Divača - Ljubljana - Maribor	Rail	studies and upgrading/partially new line
Ljubljana node	Rail	rail node Ljubljana, including multi-modal platform; rail airport interconnection

Maribor - Zalalövö	Rail	cross-border section: studies, works to start before 2020
Boba- Szekesferhervar	Rail	upgrading
Budapest-Miskolc-UA border	Rail	upgrading

#### 4. Hamburg – Rostock – Burgas/TR border – Piraeus – Lefkosia

Hamburg / Rostock – Berlin – Praha – Brno – Bratislava – Budapest – Arad – Timișoara – Sofia

Sofia – Burgas/TR border

Sofia – Thessaloniki – Piraeus – Limassol – Lefkosia

Pre-identified sections	Mode	Description/dates
Dresden - Praha	Rail	studies for high-speed rail
Prague	Rail	Upgrading, freight bypass; rail connection airport
Hamburg - Dresden - Praha - Pardubice	IWW	Elbe upgrading
Děčín locks	IWW	studies
Breclav - Bratislava	Rail	cross-border, upgrading
Bratislava - Hegyeshalom	Rail	cross-border, upgrading
Budapest - Arad - Timișoara - Calafat	Rail	upgrading in HU nearly completed, ongoing in RO
Vidin - Sofia - Burgas/TR border Sofia - Thessaloniki - Athens/Piraeus	Rail	studies and works Vidin – Sofia – Thessaloniki; upgrading Sofia – Burgas/TR border
Athens/Piraeus - Limassol	MoS	port capacity and hinterland connections
Limassol - Lefkosia	Ports, multimodal platforms	upgrading of modal interconnection

#### 5. Helsinki – Valletta

Helsinki – Turku – Stockholm – Malmö – København – Fehmarn – Hamburg – Hannover  
Bremen – Hannover – Nürnberg – München – Brenner – Verona – Bologna – Roma – Napoli – Bari  
Napoli – Palermo – Valletta

Pre-identified sections	Mode	Description/dates
Kotka/Hamina - Helsinki	Port, rail	port hinterland connections, rail upgrading
Helsinki	Rail	airport-rail connection
RU border - Helsinki	Rail	works ongoing
Turku - Stockholm	Ports, MoS	port hinterland connections, icebraking capacity
Stockholm - Malmö (Nordic Triangle)	Rail	works ongoing on specific sections

Fehmarn	Rail	studies ongoing, construction works Fehmarn Belt fixed link between 2014 and 2020
København - Hamburg via Fehmarn: access routes	Rail	access routes DK to be completed by 2020, access routes Germany to be completed in 2 steps (2020 - 2027)
Hamburg/Bremen - Hannover	Rail	works to be started before 2020
München - Wörgl	Rail	access to Brenner Base Tunnel and cross-border section: studies
Brenner Base Tunnel	Rail	studies and works
Fortezza - Verona	Rail	studies and works
Napoli - Bari	Rail	studies and works
Napoli – Reggio Calabria	Rail	Upgrading
Messina - Palermo	Rail	upgrading (remaining sections)
Palermo - Valletta	Ports, MoS	port hinterland connections
Valletta - Marsaxlokk	Port, airport	traffic management systems to be deployed, upgrading of modal interconnection

## 6. Genova – Rotterdam

Genova – Milano/Novara – Simplon/Lötschberg/Gotthard – Basel – Mannheim – Köln  
Köln– Düsseldorf – Rotterdam/Amsterdam  
Köln– Liège – Bruxelles/Brussel– Zeebrugge

Pre-identified sections	Mode	Description/dates
Genova - Milano/Novara - CH border	Rail	studies; works starting before 2020
Basel - Rotterdam/Amsterdam/Antwerpen	IWW	upgrading
Karlsruhe - Basel	Rail	works to be completed by the end of 2020
Frankfurt - Mannheim	Rail	studies ongoing
Zevenaar - Emmerich - Oberhausen	Rail	works to be completed until 2017
Zeebrugge	Port	locks: studies ongoing

## 7. Lisboa - Strasbourg

Sines / Lisboa – Madrid – Valladolid  
Lisboa – Aveiro – Oporto  
Aveiro – Valladolid – Vitoria – Bordeaux – Paris – Mannheim/Strasbourg

Pre-identified sections	Mode	Description/dates
High Speed rail Sines/Lisboa - Madrid	Rail, ports	studies and works ongoing, upgrading of modal interconnection ports of Sines/Lisboa

High speed rail Porto - Lisboa	Rail	studies ongoing
Rail connection Aveiro - ES	Rail	cross-border: works ongoing
Rail Connection Bergara - San Sebastián - Bayonne	Rail	completion expected in ES by 2016, in FR by 2020
Bayonne - Bordeaux	Rail	ongoing public consultation
Tours - Bordeaux	Rail	works ongoing
Paris	Rail	southern high-speed bypass
Baudrecourt - Mannheim	Rail	upgrading
Baudrecourt - Strasbourg	Rail	works ongoing, to be completed 2016

## 8. Dublin – London – Paris – Brussel/Bruxelles

Belfast – Dublin – Holyhead – Birmingham  
Glasgow/Edinburgh – Birmingham  
Birmingham – London – Lille – Brussel/Bruxelles  
Dublin/Cork/Southampton – Le Havre – Paris  
London – Dover – Calais – Paris

Pre-identified sections	Mode	Description/dates
Dublin - Belfast	Rail	Upgrading; Dublin Interconnectors (DART)
Glasgow - Edinburgh	Rail	upgrading
High Speed 2	Rail	studies
Swansea - Cardiff - Bristol - London	Rail	upgrading
Dublin, Cork, Southampton, Le Havre	Ports	hinterland connections
Le Havre - Paris	IWW	upgrading
Le Havre - Paris	Rail	studies
Calais - Paris	Rail	preliminary studies

## 9. Amsterdam – Basel/Lyon – Marseille

Amsterdam – Rotterdam – Antwerp – Brussel/Bruxelles – Luxembourg  
Luxembourg – Dijon – Lyon  
Luxembourg – Strasbourg – Basel

Pre-identified sections	Mode	Description/dates
Maas	IWW	upgrading

Albertkanaal	IWW	upgrading
Terneuzen	Maritime	locks: studies ongoing
Terneuzen - Gent	IWW	studies, upgrading
Antwerp	Maritime, port	locks: studies ongoing, port: hinterland connections
Canal Seine - Escaut	IWW	design completed, competitive dialogue launched, overall completion by 2018
Waterways upgrade in Wallonia	IWW	studies, upgrading
Brussel/Bruxelles - Luxembourg - Strasbourg	Rail	works ongoing
Strasbourg - Mulhouse - Basel	Rail	upgrading
Rail Connections Luxembourg - Dijon - Lyon (TGV Rhin - Rhône)	Rail	studies and works
Lyon	Rail	eastern bypass: studies and works
Canal Saône - Moselle/Rhin	IWW	preliminary studies ongoing
Rhône	IWW	upgrading

## 10. Strasbourg – Danube Corridor

Strasbourg – Stuttgart – München – Wels/Linz  
Strasbourg – Mannheim – Frankfurt – Würzburg – Nürnberg – Regensburg – Passau – Wels/Linz  
Wels/Linz – Wien – Budapest – Arad – Braşov – Bucureşti – Constanta - Sulina

Pre-identified sections	Mode	Description/dates
Rail connection Strasbourg - Kehl Appenweier	Rail	works interconnection Appenweier
Karlsruhe - Stuttgart - München	Rail	studies and works ongoing
München - Mühldorf - Freilassing - Salzburg	Rail	studies and works ongoing
Salzburg - Wels	Rail	studies
Nürnberg - Regensburg - Passau - Wels	Rail	studies; works partly ongoing
Rail connection Wels - Wien	Rail	completion expected by 2017
Wien - Budapest	Rail	studies high speed HU
Arad - Braşov - Bucureşti - Constanta	Rail	upgrading of specific sections; studies high-speed
Main – Main-Donau-Canal – Danube	IWW	studies and works on several sections and bottlenecks; inland waterway ports: hinterland connections
Constanta	Port	hinterland connections

### b) Other Sections on the Core Network

Sofia to FYROM border	<b>Cross-Border</b>	Rail	studies ongoing
Sofia to Serbian border	<b>Cross-Border</b>	Rail	studies ongoing
Timișoara – Serbia border	<b>Cross-Border</b>	Rail	studies ongoing
München – Praha	<b>Cross-Border</b>	Rail	studies
Nürnberg – Praha	<b>Cross-Border</b>	Rail	studies
Wrocław – Dresden	<b>Cross-Border</b>	Rail	upgrading
Wrocław – Praha	<b>Cross-Border</b>	Rail	studies
Graz – Maribor – Pragersko	<b>Cross-Border</b>	Rail	studies
Bothnian Corridor: Luleå – Oulu	<b>Cross-Border</b>	Rail	studies and works
North-West Spain and Portugal	<b>Bottleneck</b>	Rail	works ongoing
Frankfurt – Fulda – Erfurt – Berlin	<b>Bottleneck</b>	Rail	studies
Halle – Leipzig – Nürnberg	<b>Bottleneck</b>	Rail	works ongoing, to be completed by 2017
Rail Egnathia	<b>Bottleneck</b>	Rail	studies ongoing
Inland waterways Dunkerque – Lille	<b>Bottleneck</b>	IWW	studies ongoing
Parallel HSR line Paris- Lyon	<b>Bottleneck</b>	Rail	preliminary studies ongoing
Sundsvall – Umeå – Luleå	<b>Bottleneck</b>	Rail	studies and works
Malmö - Göteborg	<b>Other Core Network</b>	Rail	works
Bothnian – Kiruna – NO border	<b>Other Core Network</b>	Rail	studies and works
Rail connection Shannon – Cork – Dublin	<b>Other Core Network</b>	Rail	studies ongoing
Rail connection to Wilhelmshaven and Bremerhaven	<b>Other Core Network</b>	Rail	studies ongoing
Zilina – UA border	<b>Other Core Network</b>	Rail	upgrading
Ventspils – Riga – RU border	<b>Other Core Network</b>	Rail	upgrading
Klaipėda – Kaunas – Vilnius – BY border	<b>Other Core Network</b>	Rail	Upgrading, airport interconnection
Katowice – Wrocław – DE border	<b>Other Core Network</b>	Rail	upgrading
Marseille – Toulon – Nice – IT border	<b>Other Core Network</b>	Rail	studies high-speed
Bordeaux – Toulouse	<b>Other Core Network</b>	Rail	studies high-speed
Tampere – Oulu	<b>Other Core Network</b>	Rail	upgrading of sections

Pamplona – Zaragoza - Sagunto	<b>Other Core Network</b>	Rail	studies and works
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**ANNEX**

**to the**

**PROPOSAL FOR A REGULATION OF THE EUROPEAN PARLIAMENT AND OF  
THE COUNCIL**

**on Union guidelines for the development of the trans-European transport network**

{SEC(2011) 1212}

{SEC(2011) 1213}

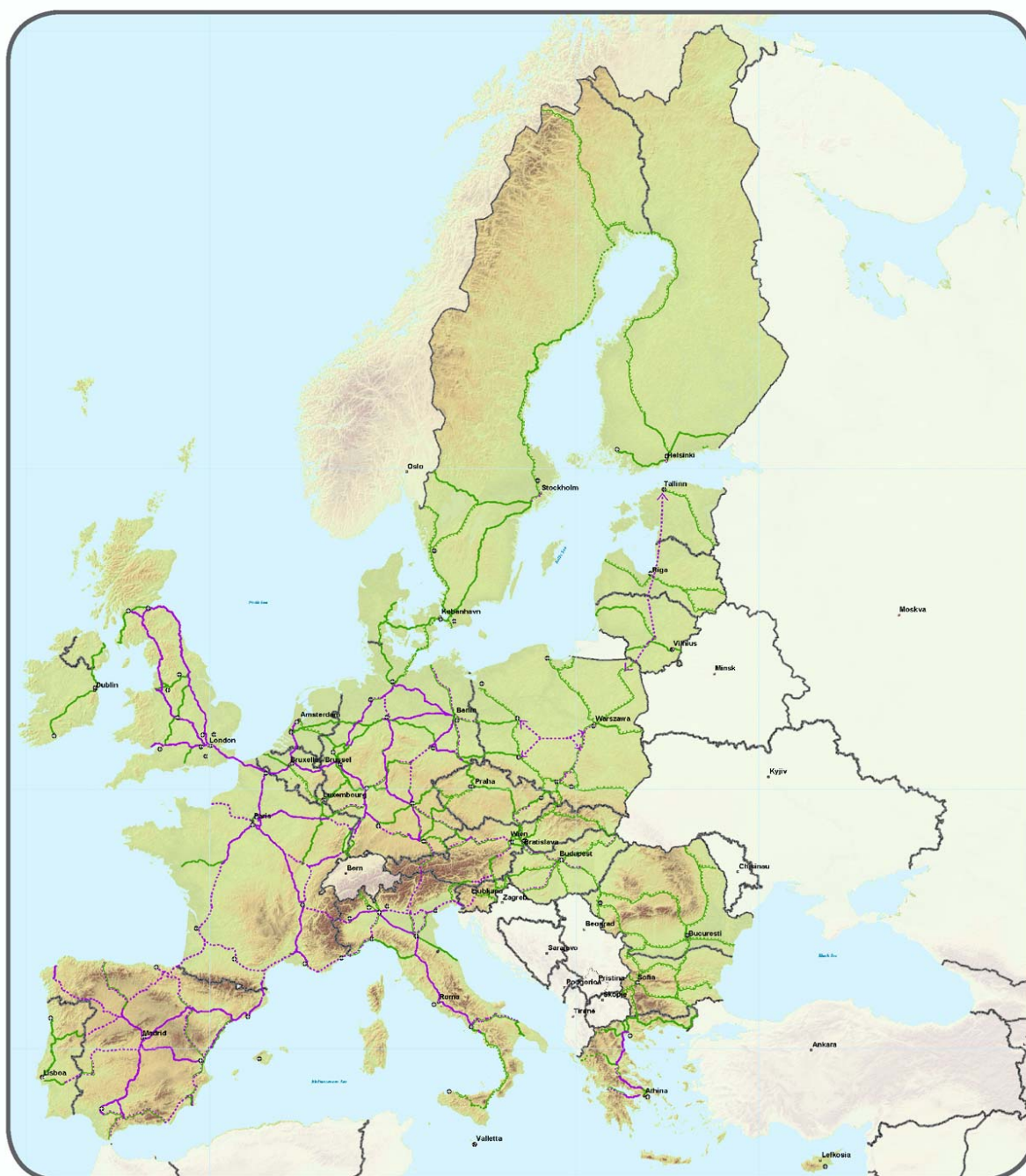




# TRANS-EUROPEAN TRANSPORT NETWORK

Core Network:  
Railways (passengers) and airports  
EU Member States

EU



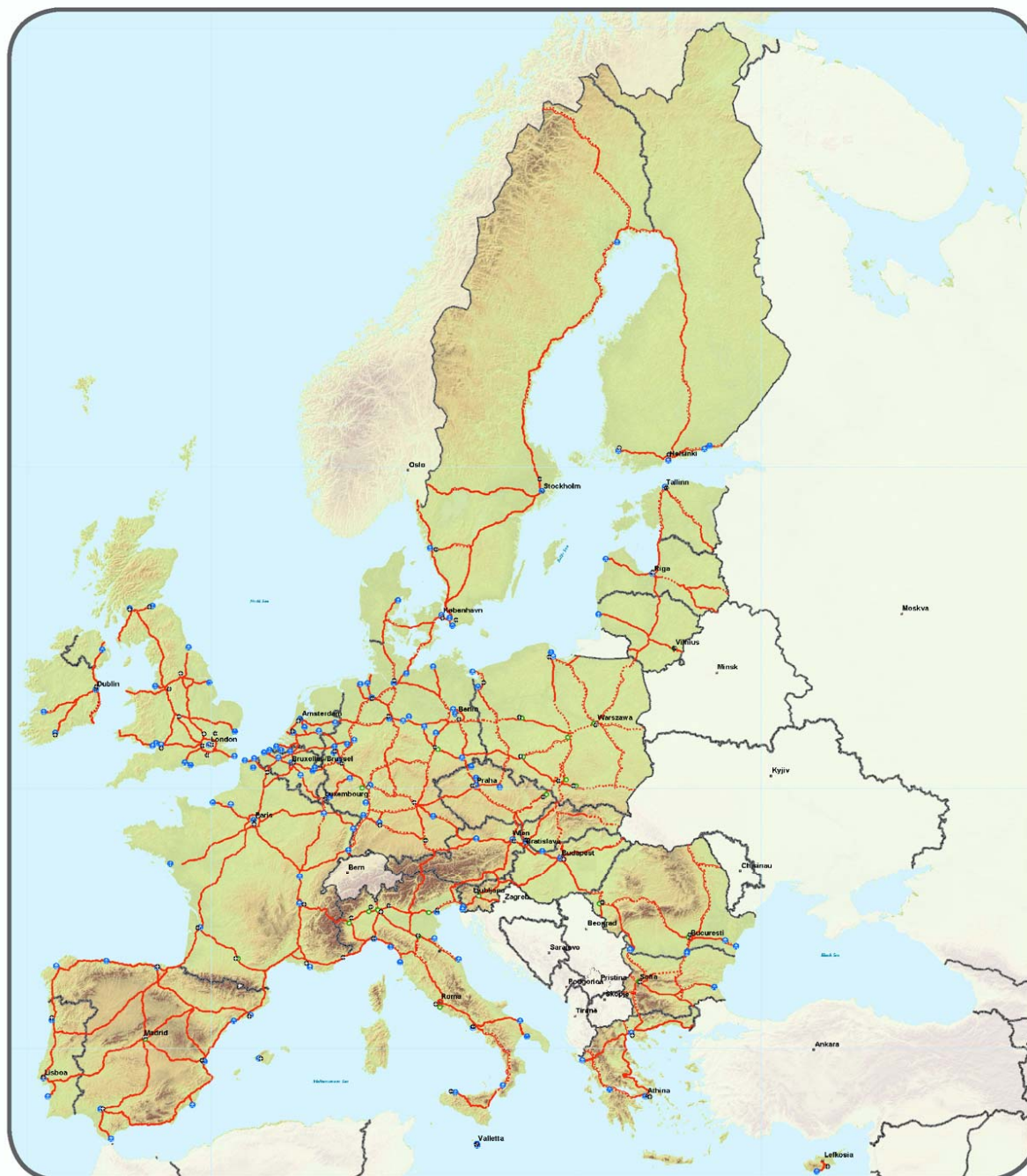
Core		Core		Core	
	Conventional rail / Completed		High speed rail / Completed		Airports
	Conventional rail / To be upgraded		To be upgraded to high speed rail		
	Conventional rail / Planned		High speed rail / Planned		

TENtec



TRANS-EUROPEAN TRANSPORT NETWORK  
Core Network:  
Roads, ports, rail-road terminals (RRT) and airports  
EU Member States

EU



Core	Core	Core
Road / Completed	Ports	Airports
Road / To be upgraded	RRT	
Road / Planned		

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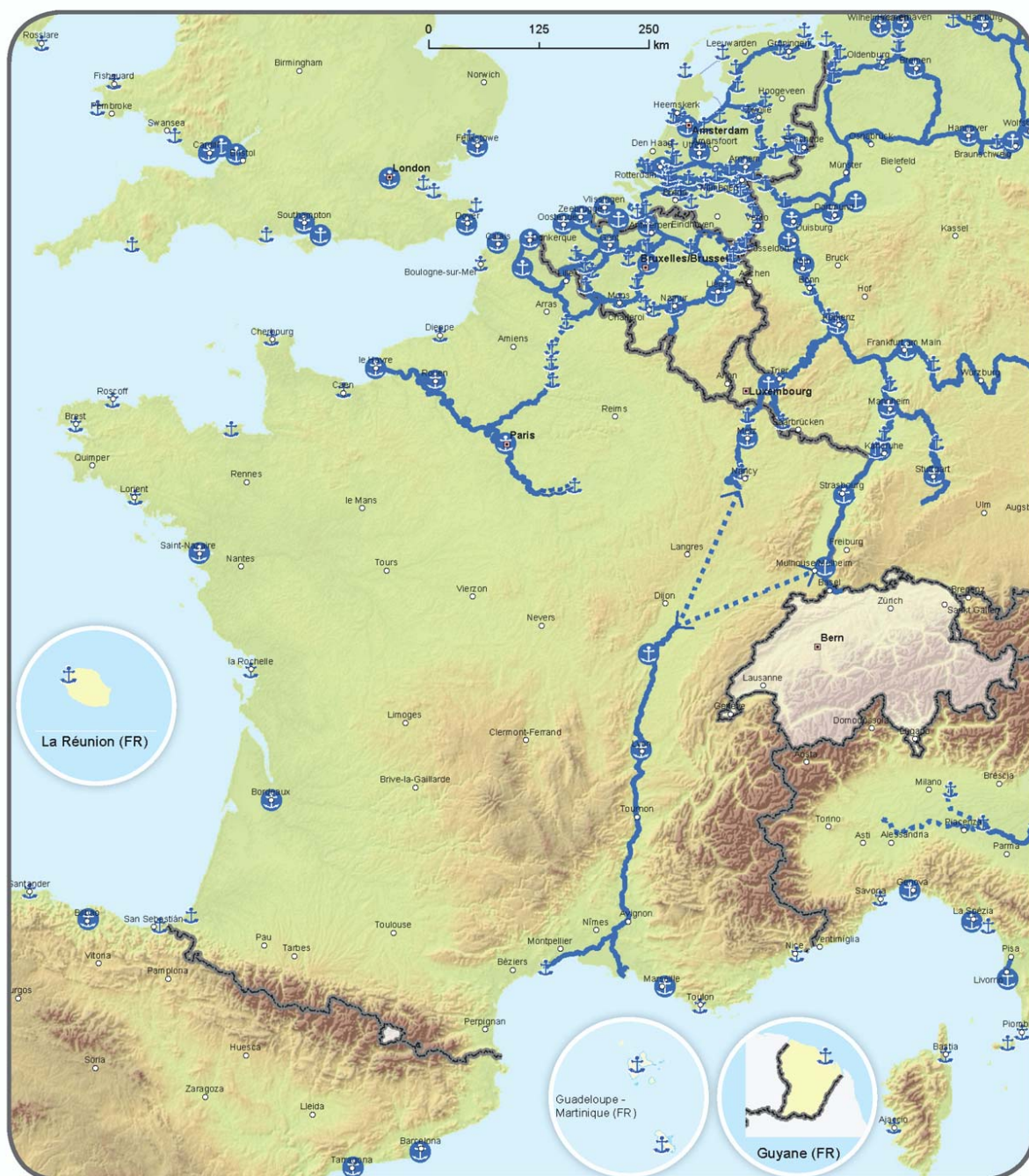


## TRANS-EUROPEAN TRANSPORT NETWORK

### Comprehensive & Core Networks: Inland waterways and ports

BE BG CZ DK DE EE IE EL ES FR IT CY LV LT LU HU MT NL AT PL PT RO SI SK FI SE UK

3



#### Core

- Inland Waterways / Completed
- Inland Waterways / To be upgraded
- Inland Waterways / Planned

#### Compr. Core

- Ports

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# TRANS-EUROPEAN TRANSPORT NETWORK

Comprehensive Network: Railways, ports and rail-road terminals (RRT)

Core Network: Railways (freight), ports and rail-road terminals (RRT)

BE BG CZ DK DE EE IE EL ES FR IT CY LV LT LU HU MT NL AT PL PT RO SI SK FI SE UK

3





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# TRANS-EUROPEAN TRANSPORT NETWORK

**Comprehensive Network:** Railways and airports  
**Core Network:** Railways (passengers) and airports

BE BG CZ DK DE EE IE EL ES FR IT CY LV LT LU HU MT NL AT PL PT RO SI SK FI SE UK

3



Compr.	Core		Compr.	Core		Compr.	Core	
		Conventional rail / Completed			High speed rail / Completed			Airports
		Conventional rail / To be upgraded			To be upgraded to high speed rail			
		Conventional rail / Planned			High speed rail / Planned			

TENtec





TRANS-EUROPEAN TRANSPORT NETWORK  
Comprehensive & Core Network:  
Roads, ports, rail-road terminals and airports

BE BG CZ DK DE EE IE EL ES FR IT CY LV LT LU HU MT NL AT PL PT RO SI SK FI SE UK

3







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{SEC(2011) 1213}



## TRANS-EUROPEAN TRANSPORT NETWORK

### Comprehensive & Core Networks: Inland waterways and ports

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#### Core

- Inland Waterways / Completed
- Inland Waterways / To be upgraded
- Inland Waterways / Planned

#### Compr. Core

- Ports

TENtec



# TRANS-EUROPEAN TRANSPORT NETWORK

**Comprehensive Network:** Railways, ports and rail-road terminals (RRT)

**Core Network:** Railways (freight), ports and rail-road terminals (RRT)

BE BG CZ DK DE EE IE EL ES FR IT CY LV LT LU HU MT NL AT PL PT RO SI SK FI SE UK

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EUROPEAN COMMISSION

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Concerne toutes les versions linguistiques

**ANNEX**

**to the**

**PROPOSAL FOR A REGULATION OF THE EUROPEAN PARLIAMENT AND OF  
THE COUNCIL**

**on Union guidelines for the development of the trans-European transport network**

{SEC(2011) 1212}

{SEC(2011) 1213}





# TRANS-EUROPEAN TRANSPORT NETWORK

**Comprehensive Network:** Railways and airports  
**Core Network:** Railways (passengers) and airports

BE BG CZ DK DE EE IE EL ES FR IT CY LV LT LU HU MT NL AT PL PT RO SI SK FI SE UK

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Compr.	Core		Compr.	Core		Compr.	Core	
		Conventional rail / Completed			High speed rail / Completed			Airports
		Conventional rail / To be upgraded			To be upgraded to high speed rail			
		Conventional rail / Planned			High speed rail / Planned			

TENtec



TRANS-EUROPEAN TRANSPORT NETWORK  
Comprehensive & Core Network:  
Roads, ports, rail-road terminals and airports

BE BG CZ DK DE EE IE EL ES FR IT CY LV LT LU HU MT NL AT PL PT RO SI SK FI SE UK

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EUROPEAN COMMISSION

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Ne concerne que la version EN (ajout des annexes)

**COMMISSION STAFF WORKING PAPER**

**Impact Assessment**

*Accompanying the document*

**PROPOSAL FOR A REGULATION OF THE EUROPEAN PARLIAMENT AND OF  
THE COUNCIL**

**on Union Guidelines for the development of the trans-European transport network**

{COM(2011) 650 final}  
{SEC(2011) 1213 final}

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### ANNEXES attached:

- Annex 1: Documents and studies / Ex-post assessments and similar / Audits – assessments consulted
- Annex 2: Ex-Post evaluation of the TEN-T network policy
- Annex 3: Pre-screening of policy options
- Annex 4: TEN-T and Environmental Legislation



- Annex 5: Monitoring and Evaluation
- Annex 6: Description and analysis of the modelling work for the TEN-T Guidelines
- Annex 7: Case Studies
- Annex 8: Glossary

## **1. PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES**

### **Identification**

Lead DG: Directorate General for Mobility and Transport

Agenda Planning: 2011/MOVE/009

### **1.1. Background in the development of the TEN-T policy**

The Trans-European transport network (TEN-T) policy has been developing since the mid 80ies to provide the infrastructure needed for a smooth functioning of the internal market, to ensure economic, social and territorial cohesion and to improve accessibility across the entire EU territory. The first support framework was set up in 1990, leading to the insertion of trans-European networks in the Maastricht Treaty (1992) and the adoption of a list of 14 major projects at the European Council in Essen in 1994. The first Guidelines defining the TEN-T policy and infrastructure planning were adopted in 1996.

In 2004, a thorough revision of the Guidelines took into account the EU enlargement and the expected changes in traffic flows.<sup>1</sup> The list of [Priority Projects](#) covering the Member States of the recent enlargement was extended to 30. Apart from these 30 Priority Projects, which are declared to be of "European interest", the Guidelines include maps for each Member State for each of the transport modes. All these are declared to be "projects of common interest".

In addition to the Guidelines, financial and non-financial instruments aimed at facilitating the implementation of projects. These instruments include the TEN Financial Regulation<sup>2</sup> and the Cohesion Fund, the European Regional Development Fund (ERDF) and loans from the European Investment Bank as well as coordination initiatives taken by the Commission.

In light of the challenges for the TEN-T policy that have also been identified by the White Paper 'Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system'<sup>3</sup> (hereinafter "the White Paper"), the revision of the Guidelines accompanied by this impact assessment report defines a long-term strategy for the TEN-T policy that would contribute to the transport sector meeting the goals of the White Paper with a 2030/2050 horizon.

### **1.2. Organisation and timing**

For the preparation of the revision of the Guidelines, an inter-service group on the TEN-T policy review was set up on 6 October 2010 and meetings were organised between December

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<sup>1</sup> Decision No 884/2004/EC of the European Parliament and of the Council of 29 April 2004 amending Decision No 1692/96/EC on Community guidelines for the development of the trans-European transport network; this Decision was replaced by Decision No 661/2010/EU of the European Parliament and of the Council of 7 July 2010 on Union guidelines for the development of the trans-European transport network (recast). The recast consisted mainly of a codification of the existing Guidelines, the only change of substance consisted in adjusting the indicative target dates, from 2010 to 2020, for Member States that acceded on 1 May 2004.

<sup>2</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.

<sup>3</sup> COM(2011)144

2010 and April 2011 in order to collect the views of various services<sup>4</sup>. For the preparation of this Impact Assessment, an Impact Assessment Steering Group (IASG) was set up and met three times between December 2010 and April 2011<sup>5</sup>. Comments from participating DGs have been received and taken into account until 13 April 2011.

### 1.3. Consultation process

With a view to preparing the ground for later policy developments, the Commission launched a reflection on the future of TEN-T Policy in February 2009 with the adoption of a Green Paper opening the debate on main challenges and on key objectives for TEN-T Policy and possible ways to meet them.<sup>6</sup> The Green Paper proposed three network planning options (dual structure with the wide TEN-T "comprehensive network" and updated Priority Projects; Priority Projects only; a new dual layer structure comprising the "comprehensive network" and a "core network").

Building on the contributions from stakeholders, the Commission set up six Expert Groups, which between November 2009 and April 2010 analysed a number of key aspects of the future TEN-T development<sup>7</sup>. The Expert Groups' recommendations were included in a Commission Working Document which was presented for public consultation on 4 May 2010.<sup>8</sup>

These two public consultations attracted more than 530 contributions in total. A large majority of contributors supported the option of a new dual-layer approach to TEN-T planning, with a "comprehensive network", that would mainly update and adjust the current TEN-T, as the basic layer; and a "core network", overlaying the comprehensive network and consisted of the strategically most important parts of the TEN-T. Other aspects that enjoyed large support and have been particularly relevant for the current exercise were: the promotion of more environmentally-friendly solutions for transport; resource efficiency; the identification of infrastructural needs from a genuinely European perspective, with a stronger view to meeting service requirements; continuity with previous developments, in particular continued support for the implementation of the current Priority Projects in a future core network; and strengthening the link between transport and TEN-T policy, for instance in the development of interoperability and traffic management systems. The summaries of all the contributions received are available on DG MOVE's website.<sup>9</sup>

Large Ministerial and stakeholder conferences were held in October 2009 in Naples<sup>10</sup> and in June 2010 in Zaragoza.<sup>11</sup> The Zaragoza conference provided a framework for in-depth presentations and discussions with Member States, the European Parliament and stakeholders

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<sup>4</sup> It involves LS, SG, ECFIN, RTD, ESTAT, ENTR, CLIMA, ENV, MARKT, ELARG, MARE, REGIO, EMPL, INFSO, BUDG, ENER, EEAS and MOVE.

<sup>5</sup> 7 December 2010, 25 February 2011 and 8 April 2011

<sup>6</sup> "TEN-T: A Policy Review. Towards A Better Integrated Trans-European Transport Network at the Service of the Common Transport Policy", COM (2009) 44 final.

<sup>7</sup> The fields covered by the expert groups are: the structure of a comprehensive and core network and the methodology for TEN-T planning; integration of transport policy into TEN-T planning; intelligent transport systems and new technologies within the framework of the TEN-T; TEN-T and connections outside the EU; TEN-T financing; TEN-T legal and non-financial aspects. The results are published on: [http://ec.europa.eu/transport/infrastructure/ten\\_t\\_policy\\_review/expert\\_groups/doc/ten-t\\_policy\\_review-report\\_of\\_the\\_expert\\_groups.pdf](http://ec.europa.eu/transport/infrastructure/ten_t_policy_review/expert_groups/doc/ten-t_policy_review-report_of_the_expert_groups.pdf)

<sup>8</sup> "Consultation on the future trans-European transport network policy", COM (2010) 212 final.

<sup>9</sup> [http://ec.europa.eu/transport/infrastructure/consultations/doc/2009-07-31\\_summary\\_report\\_green\\_paper\\_on\\_future\\_ten-t\\_networks.pdf](http://ec.europa.eu/transport/infrastructure/consultations/doc/2009-07-31_summary_report_green_paper_on_future_ten-t_networks.pdf) and [http://ec.europa.eu/transport/infrastructure/consultations/2010\\_09\\_15\\_future\\_policy\\_en.htm](http://ec.europa.eu/transport/infrastructure/consultations/2010_09_15_future_policy_en.htm).

<sup>10</sup> "TEN-T Days 2009: The future of Trans-European Transport Networks: building bridges between Europe and its neighbours", 21-22 October 2009: [http://ec.europa.eu/transport/ten-t\\_days\\_2009/index.html](http://ec.europa.eu/transport/ten-t_days_2009/index.html).

<sup>11</sup> Drawing up the EU Core network - Final report, Zaragoza, June 2010: <https://www.ten-t-days-2010-zaragoza.eu/>

on the Green Paper, on the Commission's working document of May 2010 and on the main conclusions of the Expert Groups.

Taking into account the results of the public consultation process, the Commission came forward in January 2011 with a Staff Working Document that further developed the methodology and the planning and implementation scenarios.<sup>12</sup> This Working Document has been presented and discussed during the Informal Transport Council held in Budapest on 7<sup>th</sup> and 8<sup>th</sup> February 2011 and the TRAN Committee of the European Parliament on 14 February 2011.

In light of the above, it can be concluded that the consultation process has been wide and intensive, meeting all the Commission's minimum consultation standards.<sup>13</sup> In addition, this 2-year long process of internal and external consultation has played a key role in focusing the Guidelines' revision on a limited choice of options.<sup>14</sup>

#### **1.4. External expertise used in the assessment**

A wide range of external opinions was collected during the revision process. In addition to the already mentioned Expert Groups, a number of other studies and ex-post evaluations were carried out.

An ex-post evaluation was carried out on the 2000-2006 TEN-T Programme and a mid-term review on the 2007-2013 TEN-T Programme was recently conducted. This is following directly upon the work carried out by the TEN-T Executive Agency (hereinafter TEN-T EA) on a mid-term review of the TEN-T Programme, whereas DG MOVE and the Agency jointly conducted a mid-term review of the multi-annual programme portfolio.<sup>15</sup>

In parallel, important reviews conducted with the Member States on the implementation of the Priority Projects in 2010 have delivered a detailed view of the progress achieved today on the projects of European interest<sup>16</sup>.

The transport model TRANSTOOLS and the TENconnect studies I and II were used to help define the planning methodology. Further studies have been taken into account, including on the TEN-T planning methodology, on the impact of the development of ports on TEN-T and a post recession revision of the study "Traffic flow: Scenario, Traffic Forecast and Analysis of Traffic on the TEN-T, taking into consideration the external dimension of the Union".<sup>17</sup> The list of key documents that have been used for the purpose of this Impact Assessment report are listed in annex 1.

#### **1.5. Consultation of the Impact Assessment Board**

Following the submission of a draft report to the Impact Assessment Board (IAB) on 15 April 2011 and a hearing with the IAB on 18 May 2011, the IAB sent its opinion on 23 May 2011, asking DG MOVE to resubmit the draft report.

In its opinion of 23 May 2011, the IAB made five recommendations that were addressed in the final version of the IA report in the following manner:

*(1) The report should clarify the objectives of the proposal and explain the links between them.*

The revised IA defines more clearly the general objective of the proposal and establishes a closer link between the general objective as revised and the specific objectives. The

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<sup>12</sup> "The New Trans-European Transport Network Policy. Planning and implementation issues", SEC(2011) 101.

<sup>13</sup> Further details can also be found on DG MOVE's internet site at:

[http://ec.europa.eu/transport/infrastructure/consultations/index\\_en.htm](http://ec.europa.eu/transport/infrastructure/consultations/index_en.htm).

<sup>14</sup> In this respect, see section 4 and annex 3 of the present impact assessment report.

<sup>15</sup> For ex-post assessments, see annex 2.

<sup>16</sup> TEN-T Progress Report, Implementation of the Priority Projects, June 2010:

<sup>17</sup> "Trans-European transport network planning methodology" and "Supplementary model calculations supporting TEN-T network planning and impact assessment" (TENconnect 2)

possibility of trade-offs or synergies between these objectives and of addressing them in a balanced way within the policy options have also been assessed in a new subsection 3.4. The objective related to the standards for management systems and harmonisation of operational rules on the TEN-T projects of common interest has been detailed further.

*(2) The report should improve the presentation of policy options and consider assessing in greater detail a wider range of policy options.*

Section 4 of the report has been revised to include a summary of the planning and implementation scenarios assessed to generate the policy options, as well as to clarify the criteria and the pre-screening process used to discard a number of unviable options, initially presented in Annex 3. The revised IA report also includes a short description of each option, as well as a summary of the qualitative assessment of the options' effectiveness with regard to achieving each of the specific objectives of the policy initiative. The argument why only two policy options (in addition to the baseline scenario) have been retained has been strengthened. The differentiation between the baseline and Policy Option 1 has been strengthened as well as the rationale for retaining Policy Option 1 for in-depth assessment.

*(3) The report should improve the assessment of impacts*

The revised IA report explains in the beginning of section 5 why the results of a fully-fledged modelling exercise of the expected impacts of the envisaged Policy Options could not be used as the primary support for the assessment of impacts. An annex has been added to the IA report to provide full transparency on this aspect (see new annex 6). As the Board suggested, the modelling results have been used to provide an order of magnitude of impacts. They also have been considered, where available, in conjunction with the results of other studies to complement the qualitative analysis of impacts. The assessment of various impacts has been strengthened. Amongst others, the description of environmental impacts has been improved and includes a more thorough assessment of the "rebound effect". Also the impact on employment and their link to the estimated investment needs have been substantiated further. Finally, the revised IA report discusses in more details how the expected policy impacts are likely to be affected by the implementation aspects and by the budgetary constraints faced by Member States.

*(4) The report should be clearer about the differences in expected impacts of policy options*

The revised IA report substantiates and explains in greater detail why the expected positive impacts are likely to be higher in policy Option 2 compared to Option 1. To this end, the comparison of options in section 6 of the report has been further developed.

*(5) Procedure and presentation*

Following the Board's recommendation, the different positions of the stakeholders have been better reflected throughout the report, especially in section 4 of the IA. The revised IA report also makes more clear use of proportionality and subsidiarity as conditions that need to be met by all policy options as part of the process of policy options pre-selection.

The revised IA report addresses also the technical comments transmitted by the IAB to DG MOVE.

A revised version of the IA report has been sent to IAB on 15 June 2011. On 7 July 2011, the IAB issued a positive opinion on the revised IA report, which contained three main recommendations for further improvement:

*(1) Further strengthen the assessment of options*

Following the IAB recommendation, the qualitative assessment of the impact of options has been further improved, particularly by strengthening the argumentation with regard to the expected occurrence of modal shift and the ensuing consequences for air and noise pollution. More examples on the impact of transport infrastructure on employment have been added and short term and long term impacts have been distinctly highlighted.

## *(2) Improve the comparison of options*

The IAB noted that some of the scores assigned to options' effectiveness in addressing the problem drivers were not consistent with the qualitative assessment developed earlier. Consistency has subsequently been ensured.

## *(3) Report the stakeholders' views*

Following the IAB recommendation, the stakeholders' views have been more consistently reported throughout the document.

With regard to *procedure and presentation*, the IAB also recommended that efforts be made to bring the length of the report closer to the recommended 30 pages. Efforts to this end have been made, but giving the wide scope of the policy area covered, the wide ranging changes proposed and the high number of initial policy options that needed to be assessed, the margins for shortening the length of the report were limited.<sup>18</sup>

## **2. PROBLEM DEFINITION: WHY IS THERE A NEED TO ACT?**

As noted earlier, it is through the Maastricht Treaty that the Union has been given the task of contributing to the establishment and development of trans-European infrastructure networks in the area of transport.<sup>19</sup> The goal inscribed in the Treaty is to support the development of the internal market, reinforce economic, social and territorial cohesion, link islands, landlocked and peripheral regions with the central regions of the Union and bring the EU territory within closer reach of its neighbouring states.<sup>20</sup>

### **2.1. The Europe 2020 Strategy: A renewed political context**

The recent economic crisis has wiped out years of economic and social progress and exposed structural weaknesses in Europe's economy. To get the EU economy back on track, the Commission adopted on 3 March 2010 the Europe 2020 strategy (hereinafter 'the EU2020 Strategy') for smart, sustainable and inclusive growth. The strategy, setting out a vision of Europe's new social market economy for the 21<sup>st</sup> century,<sup>21</sup> was endorsed by the European Council on 17 June 2010.

Promoting sustainable transport has been identified as one of the means for achieving one of the three key EU2020 priorities: sustainable growth.<sup>22</sup> The ensuing 'Resource efficient Europe' flagship of the EU2020 Strategy called for the modernisation and decarbonisation of transport through, amongst others, infrastructure measures, and announced the intention of the Commission "*to accelerate the implementation of strategic projects with high European added value to address critical bottlenecks, in particular cross border sections and inter modal nodes (cities, ports, logistic platforms)*".<sup>23</sup> It also called on Member States to "*ensure a coordinated implementation of infrastructure projects, within the EU Core network, that critically contribute to the effectiveness of the overall EU transport system*". Transport infrastructure being considered as the backbone of the internal market, this objective has been

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<sup>18</sup> Tables and figures, which are presented in a high number in the report in order to better illustrate the argument and support the reader in following the wide scope of argumentation, are as a rule not counted within the recommended 30 pages length of a report.

<sup>19</sup> Treaty on the Functioning of the European Union (TFEU), Title XVI, art. 170 – 172.

<sup>20</sup> A Communication on improving transport relations with third countries, which refers also to the importance of connecting the TEN-T with the networks of the neighbouring countries will also be adopted later this summer.

<sup>21</sup> COM(2010) 2020

<sup>22</sup> The conclusions of the Report on the "Consultation on the Future Trans-European Network Policy" also stressed that stakeholders widely agree that the TEN-T network should be developed in a sustainable way with regards to low carbon transport systems.

<sup>23</sup> Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, COM(2011)21.

also retained as one of the "Twelve levers to boost growth and strengthen confidence" in the recently adopted Single Market Act<sup>24</sup>.

*The Transport White Paper: new priorities for TEN-T*

As a follow up of the EU2020 Strategy, the Commission adopted on 28 March 2011 a roadmap towards a competitive and resource efficient transport system<sup>25</sup>. This strategy sets out to remove major barriers and bottlenecks in many key areas across the fields of transport infrastructure and investment, innovation and the internal market. The aim is to create a Single European Transport Area with more competition and a fully integrated transport network which links the different modes and allows for a profound shift in transport patterns for passengers and freight. The White Paper aims at dramatically cutting carbon emissions in transport by 60% by 2050.

More specifically, the White Paper has concluded that no major change in transport will be possible without the support of an adequate network and a smarter approach to using it. Infrastructure planning and adequate development, i.e. defining where transport flows and which (combination of) modes as well as technologies are available for use, are seen as essential components in the process of redefinition of the transport system to inverse its current unsustainable trends.

*The EU Budget Review: new financing framework for TEN-T*

The EU2020 Strategy also urged that all EU policies, instruments and legal acts, as well as financial instruments, be mobilised to pursue the Strategy's objectives. Consequently, in its "EU Budget Review" Communication<sup>26</sup>, the Commission suggested ways to adapt the budget to tomorrow's requirements and set a number of key principles to better target the use of EU funds to secure the Union objectives, and as set out in the EU2020 Strategy: prioritisation - *"directing resources where the rewards can come more quickly, more broadly and more strongly"*; focusing on the EU added value - *"plug gaps left by the dynamics of national policy-making, most obviously addressing cross-border challenges in areas like infrastructure, mobility, territorial cohesion...- gaps which would otherwise damage the interests of the EU as a whole"*.<sup>27</sup>

Cross-border infrastructure is given as "one of the best examples of where the EU can (...) deliver better value results. Transport, communication and energy networks bring enormous benefits to society at large".<sup>28</sup>

## **2.2. Description and scope of the problem: a fragmented network not fit for purpose**

The EU 27, taken as a whole, is well endowed with transport infrastructures. It currently counts 5,000,000 km of paved roads, out of which 61,600 km are motorways, 215,400 km of rail lines, out of which 107,400 km electrified, and 41,000 km of navigable inland waterways. Its maritime ports handled 414 million passengers and 3,934 million tonnes of freight in 2007, while about 14 million tonnes of freight and almost 800 million passengers were carried through its airports.

Whereas most of these transport infrastructures have been developed under national policy premises, the TEN-T policy has helped to complete a large number of projects of common interest, interconnecting national networks and overcoming technological barriers across national borders. Amongst the success stories is the high-speed railway line linking Paris,

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<sup>24</sup> Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions COM(2011) 206/4

<sup>25</sup> White Paper for Competitive and Sustainable Transport, COM(2011) 0144

<sup>26</sup> COM(2010) 700

<sup>27</sup> COM(2010) 700 final, p. 4-6.

<sup>28</sup> Ibid, p. 9.



Brussels, Cologne/Frankfurt, Amsterdam and London. It has not only interconnected national networks and marked a breakthrough of a new generation of railway traffic across borders, but it has also provided citizens and business travellers with a competitive travel option within Europe. Similarly, the fixed rail/road link between Denmark and Sweden, linking up two regions on each side of Øresund, has led to a significant increase in cross-border trade patterns and has served as a powerful lever of economic development, in particular the emergence of a common labour market between Copenhagen and Malmö.

As regards intelligent transport systems, TEN-T policy has helped in particular to prepare the various modal intelligent transport systems (ITS) projects, such as European Railways Traffic Management System (ERTMS), the Single European Sky Air Traffic Management Research (SESAR), Vessel Traffic Management and River Information Services.

Nevertheless, the wide consultation process, the external expertise, the ex-post assessments conducted and the internal analysis used over the last two years have shown that the European Union does not dispose yet of a complete trans-European infrastructure network, and especially not for rail and inland waterways, where essential parts are still missing and constitute important bottlenecks. The infrastructure network in the EU today is indeed fragmented, both from a geographical and a multi-modal perspective. It is also not sufficiently integrated in the international trade flows that feed the European internal market.

Despite important efforts towards improvement<sup>29</sup>, European rail and inland waterway networks are still lacking capacity and efficiency. Only the road network is nearly complete and provides access to intermodal nodes, albeit significant improvements are still needed in EU12. The air and sea transport networks are available, but no priorities have been given to establish a 'hierarchy' within those networks and/or a good interconnection<sup>30</sup>.

#### *2.2.1 The infrastructure network is fragmented between countries*

##### *Missing cross-border sections*

The current fragmentation of EU infrastructure networks can be illustrated by Figure 1 showing the current status of implementation of the Priority Projects. Even if good progress has been achieved (the green sections) many of the planned Priority Projects will not be completed by the deadline agreed and set in the current Guidelines (around 2015 – 2020 in most of the cases). On some sections works will start only after 2013. This is mainly the case for cross-border sections which clearly appear to be the most complex projects<sup>31</sup> on the TEN-T in terms of implementation. This led the 2010 TEN-T Priority Project progress report<sup>32</sup> to conclude that today's TEN-T mainly consists of an assembly of national sections that are not yet or only partially interlinked.<sup>33</sup>

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<sup>29</sup> Eighteen of the current thirty Priority Projects are entirely dedicated to rail and two to inland waterways.

<sup>30</sup> Court of Auditors Report on Ports

<sup>31</sup> By "projects", it is meant here sections that are being allocated funding on the basis of the TEN-T Guidelines. A project is in general a section of a Priority Project.

<sup>32</sup> Progress Report 2010—Implementation of the Priority Projects: <http://ec.europa.eu/transport>

<sup>33</sup> The report gave a list of cross-border bottlenecks that are still left for completion. For instance, the biggest rail freight market at this moment, Germany, is lacking good cross-border connections with works ongoing or still to be started on each of them (with the Netherlands, continuation of the Betuwe Line to Duisburg; with France, works ongoing between Saarbrücken and Mannheim, and between Strasburg and Offenburg; with Denmark, missing access routes to the Fehmarn; with Austria, connection München to Salzburg under works until 2025 at least, with the Czech Republic, the connection between Praha and Dresden is still to be upgraded; with Poland, Berlin – Warsawa needs an improved interconnection, the same for Dresden to Wrocław. In a similar way, Italy has not any flat trajectory to the rest of the EU. The future Swiss Gotthard tunnel will offer the fastest possibility for crossing the Alps with just one locomotive and no obligation to adapt train length in accordance with the physical parameters of the Alpine crossings as of 2019. For Inland Waterways, the barriers are less directly linked to cross-border sections as for rail, but the bottlenecks do have just the same detrimental effect (like Straubing – Vilshofen or missing links such as the Seine-Escaut). This phenomenon can be observed in Figure 1 for almost all cross-border sections.

### *Divergences between eastern and western parts of Europe*

For the time being, a considerable disparity in the quality and availability of infrastructure persists within the EU. The Member States which joined the EU in 2004 and 2007 have a motorway network of a limited extent (about 4.800 km, though they are readily catching up on this), have no high speed rail lines and – more importantly – their conventional railway lines are often in poor condition.<sup>34</sup>

The initial Guidelines and Priority Projects were approved well before the last two rounds of enlargement. While the revision of the Guidelines in 2004 partly addressed this matter, an imbalance between old and new Member States continues to endure, not least due to widely differing starting endowment levels.<sup>35</sup> Figure 1 illustrates that North-South connections are predominant whereas East-West connections are still lacking.

### *Missing connections with neighbouring and overseas countries*

Despite high traffic volumes on many connections between the EU and the neighbouring countries, the Guidelines so far have not included these connections among the priority objectives. Apart from these,<sup>36</sup> the Priority Projects do not include links to the neighbouring countries. Moreover, most of the major Seaports, the connecting points of the EU to overseas countries, are not included in the Priority Projects.

### *2.2.2 The infrastructure network is fragmented between and within transport modes*

#### *Multi-modal "hard" infrastructure is missing*

By functioning mostly separated from each other, the different modes are further fragmenting the network. Currently, important ports and airports remain poorly linked to the rail network, and a large share (>40%) of long distance freight transport (> 300 km) is carried out by road transport in isolation.<sup>37</sup> Inland waterways are also in many cases not connected with logistics centres.

Intermodal nodes, enabling the exchange of passengers and goods across modes, are underdeveloped. Important nodes in cities, such as big railway stations and major airports, do in many cases not have well functioning multimodal links. The lack of intermodal nodes, and therefore of efficient co-modality options, increases infrastructure capacity bottlenecks in all modes, and in particular in road, rail and ports.

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<sup>34</sup> Energy and Transport in Europe – Statistical Pocketbook 2010.

<sup>35</sup> The wide differences in endowment with regard to transport infrastructure across the EU, and in particular between the old and the new Member States are well documented in the Fifth Report on Economic, Social and Territorial Cohesion, November 2010, as well as in DG ELARG's report on transport [http://ec.europa.eu/regional\\_policy/sources/docoffic/official/reports/cohesion5/pdf/5cr\\_en.pdf](http://ec.europa.eu/regional_policy/sources/docoffic/official/reports/cohesion5/pdf/5cr_en.pdf).

<sup>36</sup> Priority Project 12, 'Nordic Triangle', and Priority Project 6, 'Lyon-Trieste-Divaca-Ljubljana-Budapest-Ukrainian border' and PP24 Rotterdam – Genoa via Switzerland

<sup>37</sup> Source: TRANSTOOLS



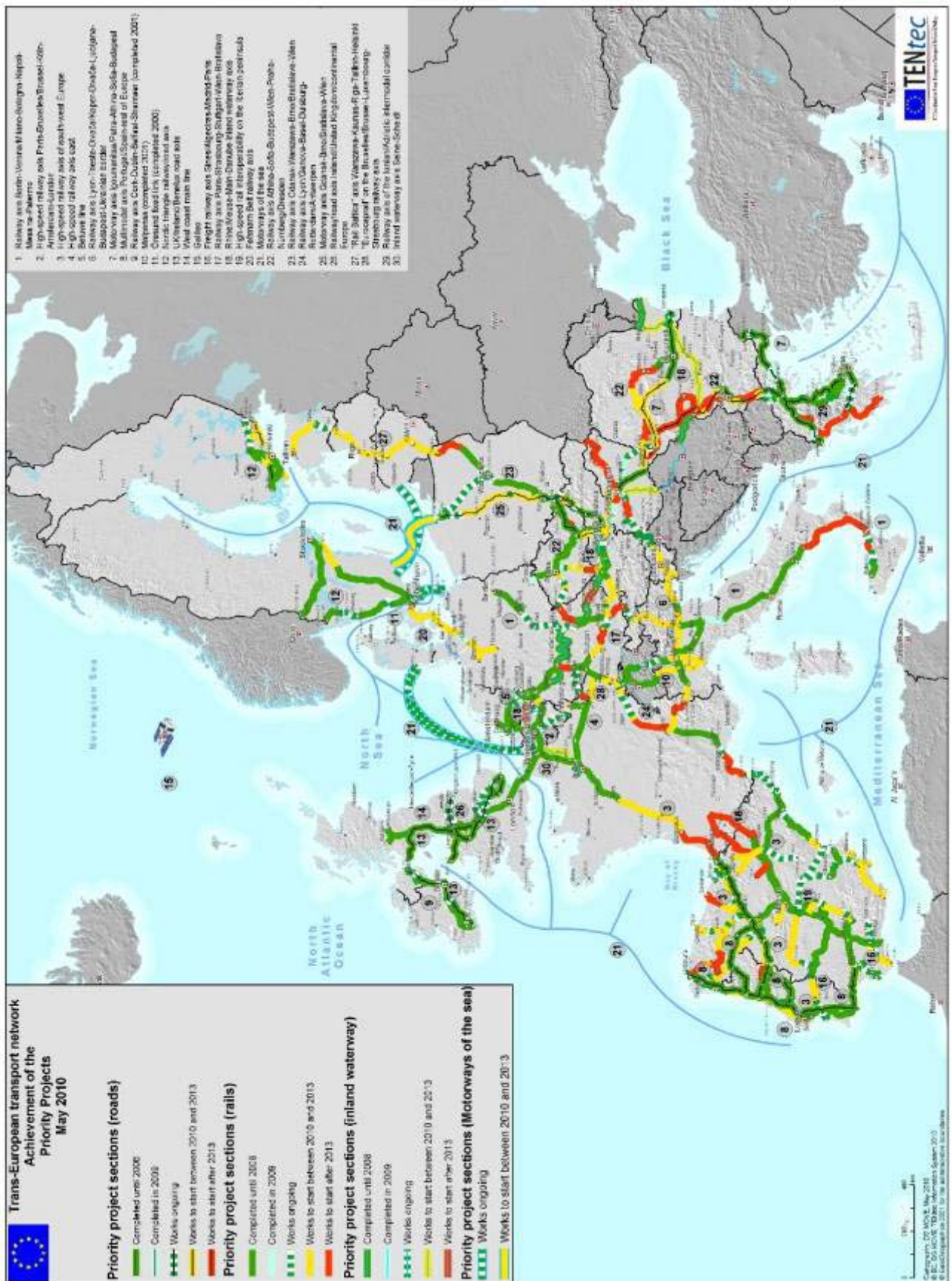


Figure 1: Achievements of the Priority Projects – May 2010

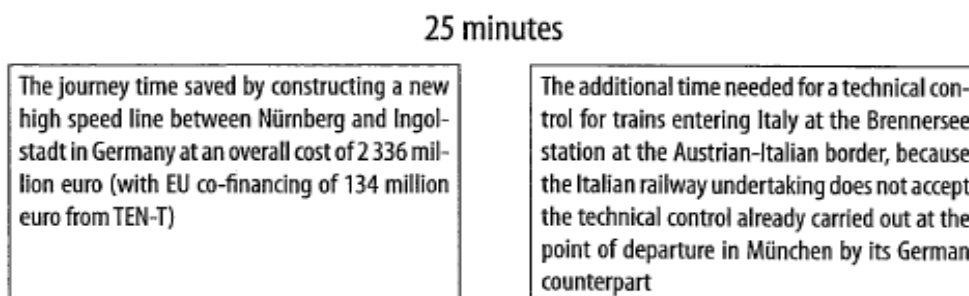
Source: TENtec

### *Interoperability is lacking*

The current TEN-T is further fragmented by a lack of interoperability, i.e. of compatibility among the technical parameters<sup>38</sup>, operational systems<sup>39</sup> and rules<sup>40</sup> that are used on the different Member States' networks. Differing sets of operational rules and standards, based on longstanding traditions and legislation of individual Member States, are multiplying the barriers and bottlenecks in the transport system. The effectiveness of huge investments in infrastructure alone is severely hampered because interoperability problems and operational rules such as train control signalling systems, document handling, language regimes, train crew certifications, composition of trains, tail lights and so forth are not tackled at the same time as the "hard" infrastructure in a traditional sense, comprising of aspects such as rail gauge, train length, axle loads and traction energy supply systems.<sup>41</sup>

As highlighted in the Special Report from the European Court of Auditors,<sup>42</sup> rail transport is the most prominent example where interoperability between and within transport modes is missing. The EU currently uses seven gauge sizes and seven types of electric currents (with different voltages and frequencies, alternating or direct current, etc).<sup>43</sup> In certain cases where efficient solutions have been brought about – for instance multi-current locomotives able to circulate on several networks – then these efforts and investments are hampered in the absence of harmonisation of sometimes tiny details – such as the manual exchange of tail lights marking the end of the train. Figure 2 shows another example of the need to coherently address both infrastructure and the way that infrastructure is used.

#### **25 MINUTES SAVED AND 25 MINUTES DELAY ON PRIORITY PROJECT 1**



**Figure 2: Example from the Special Report from the European Court of Auditors**

Road transport is also hampered by interoperability issues. Today, international hauliers need on-board units that deal with the Eurovignette, five different national vignettes and eight different tags and tolling contracts if they wish to drive on all European tolled roads without stopping at tollbooths.<sup>44</sup>

In addition, the limited penetration of the common European systems such as ERTMS for rail and RIS for inland waterways as well as the lack of compatibility between the various

<sup>38</sup> Concerning traditional ("hard") infrastructure such as the different types of gauges or electrification systems in rail.

<sup>39</sup> For e.g. traffic management systems, signalling and river information systems.

<sup>40</sup> For e.g. train length, axle loads, safety, as well as administrative rules such as document handling, language regimes.

<sup>41</sup> Special Report No 8, European Court of Auditors, "Improving transport performance on trans-European rail axes: have EU rail infrastructure investment been effective?"

<sup>42</sup> Ibid.

<sup>43</sup> <http://www.ertms.com/faq.aspx>

<sup>44</sup> [http://ec.europa.eu/transport/road/road\\_charging/road\\_charging\\_en.htm](http://ec.europa.eu/transport/road/road_charging/road_charging_en.htm)

national river and air traffic management systems are yet other examples of the various factors hindering the integration of the network.<sup>45</sup>

### *Conclusion*

The lack of integration of the TEN-T logically leads to a suboptimal use of the infrastructure, by causing detours in traffic and bottlenecks. It results in economic inefficiencies, disparities in terms of social and territorial cohesion and higher external costs to the society in the form of congestion, accidents, air and noise pollution, and other environmental impacts.<sup>46</sup> The fragmentation of the network is therefore an important obstacle to the free movement of people and goods, an analysis confirmed by the conclusions of the ex-post and mid-term review reports (see annex 2). As a consequence, the existing TEN-T is not adequate to support the major transformation envisaged by the White Paper towards a competitive and resource efficient transport system by 2050.<sup>47</sup>

The subsections below analyse why today's TEN-T is not capable of supporting this transformation.

## **2.3. Why is the TEN-T network fragmented?**

Following the process of internal and external consultation, and on the basis of the various assessment reports cited above, the Commission has identified that the fragmentation is due to 2 main aspects, the conceptual planning of the network configuration and its implementation. This translates into four main drivers, contributing to the problem of a fragmented TEN-T network. These drivers are: the insufficient EU-level planning of network configuration, insufficient adoption of common standards and rules for the interoperability of networks within the TEN-T, the limited cooperation among Member States in project implementation and the lack of sufficient conditionality of EU funding instruments. The first driver relates to the planning aspect, while the three others concern the implementation<sup>48</sup> of the TEN-T policy.

### *2.3.1 Insufficient EU-level planning of network configuration*

#### *Spatial configuration of the network has lacked a genuine European design*

Transport infrastructure has been historically designed to serve national rather than European goals and national infrastructure planning remains to a large extent disconnected from planning at EU level. This is due, not least, to the fact that Member States do support the largest share of the budget with regard to transport infrastructure investments, including TEN-T projects. Quite naturally, national authorities see therefore investment efforts on their respective territories mostly as national investments rather than as contributions to a Union objective<sup>49</sup>. The current methodological approach to TEN-T planning and implementation also reflects and reinforces this tendency to approach transport infrastructure from a primarily Member States' individual interests perspective.

Thus, as regards the TEN-T wider/basic layer, where responsibility for completing the large numbers of projects concerned rests almost entirely with the Member States, "planning" has essentially meant adding together significant parts of national networks and connecting them at the common borders. In practice, that meant Member States submitting national network maps outlining existing and planned infrastructure for the various modes, on the basis of a broad set of characteristics for network configuration presented in the TEN-T Guidelines.

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<sup>45</sup> NAIADES mid-term progress report and Commission Staff working paper on deployment of the Single European Sky technological pillar (SESAR)

<sup>40</sup> See annex 3 of the Impact Assessment accompanying the White Paper (SEC(2011)358)

<sup>47</sup> The Report on the "Consultation on the Future Trans-European Network Policy" explains that some environmental organisations explain that the existing TEN-T policy goals are inadequate to deal with climate change goals and Europe 2020 strategic objectives.

<sup>48</sup> Implementation refers to the means used to realise the network and optimise its use.

<sup>49</sup> €196 bn within the current financial perspective (2007-2013), compared to €8 bn from the TEN-T Programme and €43 bn through ERDF and Cohesion Fund.

These maps are appended in Annex I to the current Guidelines. Projects developing or improving infrastructure along these outline maps are deemed "projects of common interest" and are eligible for funding support from the EU budget.<sup>50</sup>

The selection of the Priority Projects has also been, to an important extent, a primarily bottom-up exercise. As a methodological approach, it has been developed in mid-1990s and endorsed by the European Council in Essen in 1996 when it adopted a first list of (fourteen) Priority Projects. It relies on proposals for development of projects along the (wider/basic) TEN-T outline presented by the individual Member States, which are then examined by the Commission for their compliance with a set of rather broadly formulated criteria for "priority projects", i.e. projects that are to be treated with priority in awarding financial support from the EU budget.<sup>51</sup> Thirty Priority Projects are currently benefitting from EU financial support and their list is appended as Annex III to the current Guidelines.

The list of projects inevitably reflects the Member States' inclination to give priority to transport sections linking up centres of national interest and, as such, the bottom-up bias of the selection process. There are thus Priority Projects without any cross-border dimension (Priority Projects 5, 10 and 29), or with a limited regional/national planning scope that lead to overall network inefficiencies/incongruence. For instance, Priority Projects 11, 12 and 20 rather belong to a single traffic flow, whereas Priority Projects 4, 28 and 17 are overlapping in important segments (See Figure 1).

In addition, a focus mainly at modal level, rather than an integrated approach across different modes of transport has been identified as another consequence of the current Guidelines provisions with regard to project selection. Thus, some Priority Projects address rail, others road or inland waterways, but there is no coherence between them leading to a multi-modal network approach.

*The predominantly bottom-up network development is no longer adapted to new framework conditions*

Mobility has increased over the last decades and has developed in a context of generally cheap oil, expanding infrastructure and loose environmental constraints<sup>52</sup>. Now that those framework conditions have changed, the building of new infrastructure to reduce congestion and accommodate higher levels of traffic is less and less a desirable solution. The impact of infrastructure on the environment also is a growing concern. In addition, the current economic crisis reasserts the importance of putting budget accounts into a long-term sustainable path. This implies reducing public deficit and debt and improving the quality of public finance. More cost-effective solutions have to be found to tackle transport needs than relying on expanding 'hard' infrastructure.

### *2.3.2 Insufficient implementation of common standards and adoption of common rules for the interoperability of networks within the TEN-T*

The TEN-T policy so far has lacked a true perspective of harmonisation through EU legislation to address interoperability issues across both national networks and modes. The Court of Auditors Special Report and the European Coordinators Issues Paper<sup>53</sup> have particularly stressed this issue.

Currently, the TEN-T Guidelines only include target standards in the inland waterway sector. With the absence of links between TEN-T policy and existing EU legislation, Member States

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<sup>50</sup> See art. 7, Union Guidelines for the development of the trans-European transport network.

<sup>51</sup> Ibid., art. 23.

<sup>52</sup> Average mobility per person in the EU, measured in passenger-kilometre per inhabitant, increased by 7% between 2000 and 2008, mainly through higher motorisation levels as well as more high-speed rail and air travel. (Impact Assessment accompanying the White Paper – SEC(2011)358)

<sup>53</sup> Position Paper of the European Transport Coordinators on the Future of the TEN-T Policy Brussels, 6 October 2009

have not sufficiently implemented all EU level technical specifications: ERTMS in the railway sector; implementation of the Single Sky policy and the ATM Master Plan for air transport; ITS for road transport.

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 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.<sup>54</sup>

### *2.3.3 Limited cooperation among Member States in project implementation*

In addition to the lack of Member States planning coordination, TEN-T development so far has been crippled by insufficient Member States cooperation in order to coordinate their projects' implementation. This is particularly true of Priority Projects with a cross-border dimension, where active cooperation between a wide range of stakeholders is necessary. This aspect is highlighted by the conclusions of a number of specific studies, such as the multi-annual Priority Projects portfolio review, the European Coordinators' Issues Paper and the Court of Auditors' Special Report.<sup>55</sup>

This limited cooperation between Member States on cross-border projects has had implications at various levels: the lack of joint traffic forecasts led to differing investment plans; the lack of investment planning coordination led to disconnected or contradictory timelines, capacity planning, alignment, technical and interoperability characteristics, cost-benefit and environmental assessments; the lack of congruent investment decisions coupled with Member States' tendency to give priority to national transport sections linking up centres of national interest particularly affected investments in TEN-T projects, leading to extensive delays.<sup>56</sup>

### *2.3.4 Lack of sufficient conditionality of TEN-T funding instruments*

As indicated above, the TEN-T Guidelines are linked with financial instruments to facilitate the implementation of projects identified as being of common interest. These instruments include: the TEN-T programme, the Cohesion Fund, the European Regional Development Fund (ERDF) and loans from the European Investment Bank. While the TEN-T Guidelines do not specifically deal with financial aspects, they do specify the characteristics of the projects eligible for financial support from the EU budget and, not least, the criteria for identifying the projects that are to be funded with priority. As such, the TEN-T Guidelines constitute an important instrument of conditionality for the allocation of EU funds. So far, the EU financial instruments supporting the TEN-T development have not proved sufficient to deliver complete projects within the timeframe agreed by the Guidelines, nor to ensure a focus of funding on the projects with highest EU added value. And part of the reasons for this lie in the rather loose framework for guiding investment decisions that the TEN-T Guidelines provide.

The TEN-T Guidelines provide a framework of conditionality of TEN-T funding instruments by means of provisions concerning both the planning of the network configuration and the implementation of the projects developing it. As highlighted above, the current bottom-up

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<sup>54</sup> For the most intensively used rail freight corridor, from Rotterdam to Genova, analysis has shown that the freight volume transported could be doubled if, alongside with infrastructural improvement, the operational rules, the slot handling and the interoperability (ERTMS) issues would be addressed.

<sup>55</sup> See Annex 2

<sup>56</sup> Numerous examples are described in detail in the annual activity report of the European Coordinators. For instance, the Barcelona – Nîmes rail sections, where the cross-border tunnel is finished, but not the access routes; the Betuwe Line in the Netherlands is finished but the third rail track from the Dutch border to the German industrial area of the Ruhr will be completed only by 2015 at the earliest.



approach to planning has failed to ensure the development of a TEN-T configuration that constitutes a fully connected network, and in particular of cross-border links and multi-modal connecting points that generate the trans-European and, respectively, multi-modal dimensions of the TEN-T – and, as such, its EU-added value. At the level of implementation, the limited cooperation among Member States, particularly in cross-border projects, means that even when planning did address such high EU-added value links, delivery was significantly delayed. In addition, the lack of provisions for common operational rules and standards adoption along the TEN-T for most modes, as also pointed out earlier, mean that high "hard" infrastructure investments, with important EU funding contribution and EU-added value potential, remain significantly underused.

While the overall situation has improved over the years, especially with regard to the delivery of Priority Projects, thanks to new implementation instruments, such as the TEN-T Executive Agency (TEN-TEA) and the European Coordinators, and improved conditions for disbursing support under the TEN-T programme,<sup>57</sup> the delays in implementation of a number of projects reflect the currently limited capacity at EU level to guide implementation of EU projects, especially for the cross-border sections.

Generally, The Priority Project implementation mid-term reviews and the recent mid-term review made clearly apparent that there is still room for improving the impact of TEN-T co-funding, notably by focusing on the particular issue of cross-border coordination, touching upon issues of technical interoperability and operational rules, and by focusing on the problem that the financial perspectives do not permit to overturn the current 7-year limit of the perspectives.

As regards the structural funds, EU funding has largely supported project implementation, but projects implementation lies with Member States for projects which generally need prior approval by the Commission. The current prioritisation of investment in the TEN-T Guidelines leaves many investments decisions follow rather national than European value added aspects. Moreover, significant capacity problems in design, implementation and management of large infrastructure projects on all modes constrain the progress in a number of countries eligible under the Cohesion Fund. As the Conclusions of the 5<sup>th</sup> Cohesion Report state, the future Cohesion Policy needs to impose stronger conditionalities in order to concentrate resources on European value added. The discussions with Member States show that they are open for stronger ex-ante conditionalities for TEN-T investments.

#### **2.4. How would things evolve, all things being equal?**

The Commission has carried out an analysis of possible future developments for TEN-T policy in a scenario of unchanged policies, the so-called baseline scenario. The baseline scenario is identical with the Reference scenario applied for the Impact Assessment accompanying the White Paper<sup>58</sup>. The Reference scenario<sup>59</sup> is a projection, not a forecast, of

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<sup>57</sup> Until 2007, the TEN-T programme financial support was relatively scattered, with yearly calls for project selection, with a limited funding on cross-border projects. The 2007-2013 financial perspectives brought a significant change by allowing TEN-T co-funding rates up to 30% for cross-border projects. The multi-annual programme accompanying it, managed by the newly established TEN-TEA, ensured that up to 60% of the multi-annual budget was allocated to cross-border projects decisions. The allocations covered the entire financial perspectives, so as to give more long term security to these projects. The mid-term review reports (2010 and 2011, see Annex 2) point out however that the targeted higher maximum co-funding rate of 30% for cross-border sections is, in practice, not higher than 21% in average. The EU Financial Framework is an additional constraint: as these difficult cross-border projects often run across several MFF, the final contribution from the TEN-T budget may be as low as 5 to 10%. This left a picture of limited EU impact for a policy area with high EU added value.

<sup>58</sup> It is presented in more detail in Appendix 3 of the White Paper Impact Assessment as is the inventory of the policy measures included in this scenario.

developments in absence of new policies beyond those adopted by March 2010<sup>60</sup>. It therefore reflects both achievements and deficiencies of the policies already in place. This projection provides a benchmark for evaluating new policy measures against developments under current trends and policies.<sup>61, 62</sup>

The time horizon for the baseline scenario developed below is twofold: 2030 and 2050. 2030 is the target date for the achievement of the trans-European transport infrastructure framework as set in part 3 of this document. The 2050 horizon is required to ensure consistency between long-term impacts of proposed options of the trans-European infrastructure network and the goals of the White Paper.

#### *2.4.1 Specific assumptions for infrastructure developments*

In terms of infrastructure development, the baseline scenario assumes that the current Guidelines will apply, thus continuing the development of the current Priority Projects and the wider TEN-T. Among others, without prejudging the result of the negotiations for the Multiannual Financial Framework, it is assumed that the current financial perspective approach would be pursued for the period 2014-2020, including the availability of a similar TEN-T budget. According to the current forecasts drawn up in cooperation with the Member States, the total investment cost of the 30 TEN-T Priority Projects will be realised by 2025, which would represent an accelerated implementation pace.<sup>63</sup> The National transport plans currently discussed between the Commission and the Member States in the Framework of the Open Method of Coordination have also been taken into account in this forecast.

It is also assumed as part of the baseline scenario that, at European level, the Commission will continue its efforts to encourage Member States to coordinate their infrastructure policies, with a view to exchanging best practices and identifying obstacles to funding and solving cross-border constraints. In particular, the Open Method of Coordination is expected to have a certain impact through fostering transparency and up-to-date monitoring of project planning and implementation across Europe. Moreover, the European Institutions and Member States will continue to rely on the work of the European Coordinators,<sup>64</sup> taking care of 11 of the most difficult Priority Projects of the TEN-T network.

#### *2.4.2 Expected developments*

##### *Impacts on drivers to TEN-T fragmentation*

In the baseline scenario, by definition, the planning of the network will not change since the current Guidelines remain unchanged. The current dual layer with the basic layer and the 30 Priority Projects will be pursued. In 2030, in the baseline scenario, the fragmentation of the infrastructure network in general is not likely to improve, despite the completion of Priority

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<sup>59</sup> The Reference scenario of the IA of White Paper builds on a modelling framework including PRIMES, TRANSTOOLS, PRIMES-TREMOVE transport model, TREMOVE and GEM-E3 models. For the purpose of this IA, and more specifically the TEN-Connect studies, the TRANSTOOLS model was considered as most appropriate due to its infrastructure component. The assumptions used in the studies are identical with the assumptions of the White Paper. In this way, it can be assured that the baselines of TEN-T IA and of the White Paper are identical, and that the impacts are estimated on the same basis in the two IAs.

<sup>60</sup> The cut off date for the policy measures included in the Reference scenario (March 2010) is common to both initiatives. In other words, the Reference scenario does not incorporate policy measures that were adopted by the Commission after March 2010. In particular, the Reference scenario does not cover the Commission Decision of 14 October 2010 re-launching of the CARS 21 High Level Group on the Competitiveness and Sustainable Growth of the Automotive Industry in the European Union. For the same reason, it does not capture the recent initiatives of car manufacturers as regards electric vehicles (hereinafter “EV”).

<sup>61</sup> For a brief presentation of the models used, see Appendix 5 of the White Paper IA

<sup>62</sup> In addition, the oil price projections are the result of world energy modelling with PROMETHEUS stochastic world energy model, developed by the National Technical University of Athens (E3MLab).

<sup>63</sup> Priority Projects 2010 – a detailed analysis.

<sup>64</sup> The Report on the “Consultation on the Future Trans-European Network Policy” mentioned that several contributors highlighted the facilitation role of the European Coordinators for major cross-border projects.

Projects. First of all the absence of a revised *planning* would mean that interconnectivity issues across borders as well as multimodality aspects would remain inadequately addressed. The same would be the case of connections with the neighbouring countries.

Second, as far as the *interoperability* of networks is concerned, a certain progress will be achieved, particularly in the interoperability of traffic management systems (ERTMS, ITS, RIS, SESAR). But overall, the impact on TEN-T efficiency would be too little, too late.

As an example, the introduction of ERTMS on the European interoperable network provides an important indicator of progress towards interoperability. Currently, around 4000 kilometres of lines for commercial services are in service in ten Member States<sup>65</sup>, in particular high speed lines, and by the end of 2015, and 2020, this should grow to 11 500 km and 23 000, respectively.<sup>66</sup> In addition, a binding European Deployment Plan (EDP), adopted on 22 July 2009, aims at a swift and coordinated deployment by 2015 of ERTMS on 6 Corridors.<sup>67</sup>

Nevertheless, even if the above targets are reached by 2020, the interoperable section of the TEN-T will not constitute an interoperable European-wide network (see map below).<sup>68</sup> The six corridors of the EDP represent only 6 % of the Trans-European Network track length, even though they do carry 20% of the rail freight traffic. Moreover, as European Coordinator K. Vinck noted, "from an implementation point of view, delays are noticed on nearly all corridors"<sup>69</sup>.



**Figure 3: ERTMS Corridors**

Source: UIC

<sup>65</sup> From the Annual Activity Report of Coordinator Karel Vinck on ERTMS, Brussels, 20 July 2010

<sup>66</sup> According to the figures in the ERTMS contracts signed recently and the national deployment plans submitted by Member States.

<sup>67</sup> These 6 Corridors fit in the 9 freight Corridors under Regulation COM(2007) 608 of the rail freight corridors.

<sup>68</sup> Commission Staff Working Document accompanying the Communication from the Commission to the Council and the European Parliament Progress report on the implementation of the Railway Safety Directive (Directive 2004/49/EC) and of the Railway Interoperability Directives (Directives 96/48/EC and 2001/16/EC) {COM(2009) 464 final}

<sup>69</sup> Annual Activity Report of Coordinator Karel Vinck on ERTMS, Brussels, 20 July 2010



As regards operational rules, much progress is not to be expected, since the different barriers to interoperability (administrative requirements, cross acceptance of vehicles, certification of vehicles operators, technical and commercial controls) would not be tackled together. Without increased top-down coordination between Member States, the situation is not likely to improve, despite the involvement of the European Coordinators and the use of the Open-Method of Coordination<sup>70</sup>. As indicated in the common report of the Coordinators<sup>71</sup>, interoperability issues need to be addressed in common and alongside the planning and financial issues. In the absence of further legal and political commitments, it is unlikely that large and complex cross-border projects will be implemented and the capacity of current instruments to achieve a better *conditionality of EU funding* will remain limited. The co-funding within the TEN-T budget is likely to be too limited to kick off works on major cross-border sections or important bottlenecks with cross-border effects. Continuing with the current TEN-T policy approach would still leave key aspects of strategic European interest – i.e. solving bottlenecks and filling in missing links, developing multimodal connecting points – inadequately addressed. Some improvements could be achieved by means of the continuous sustained efforts of the European Coordinators, but their intervention will still address mainly the problem, and not its causes.

#### *Impacts of TEN-T fragmentation*

In the baseline scenario, with the continuation of the current Guidelines and current implementation, the free movement of goods will remain constrained by the low level of infrastructural interconnectivity between the European markets, especially as concerns the peripheral areas of Europe.<sup>72</sup> The current market segmentation of the Internal Market will thus endure, limiting the choice for consumers and the size of market for enterprises, especially for small businesses.

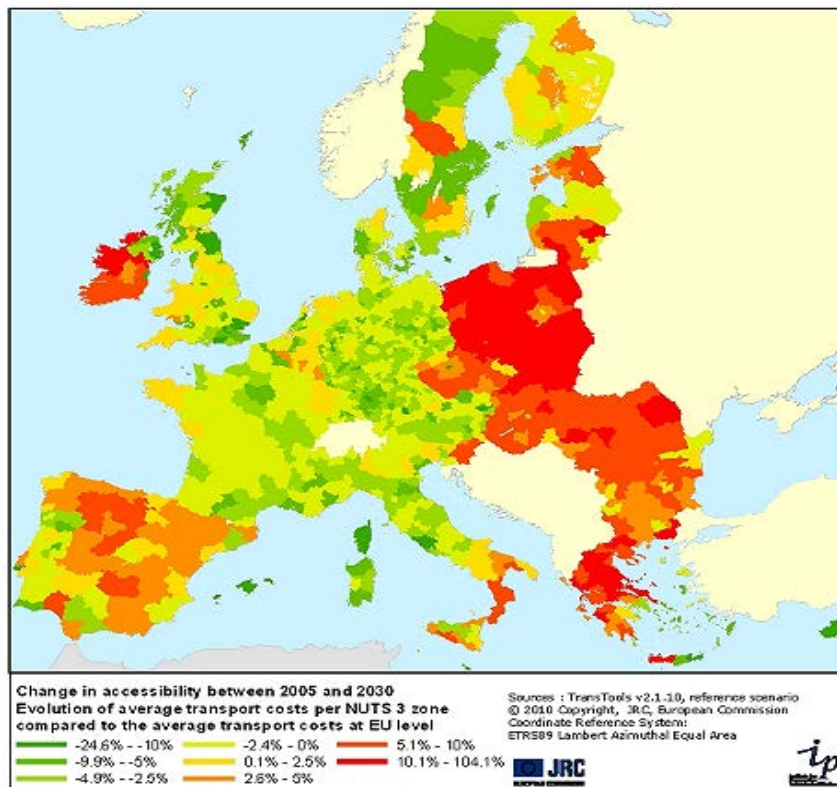


Figure 4: Change in accessibility between 2005 and 2030<sup>73</sup>

<sup>70</sup> See chapter 7

<sup>71</sup> [http://ec.europa.eu/transport/infrastructure/european\\_coordinators/european\\_coordinators\\_en.htm](http://ec.europa.eu/transport/infrastructure/european_coordinators/european_coordinators_en.htm)

<sup>72</sup> See footnote 53

<sup>73</sup> See Impact Assessment White Paper, annex 3.

In addition, the expected rise in fuel costs and congestion levels by 2030 will lead to further divergence in accessibility at regional level. Peripheral areas with a high share of road transport are expected to worsen their situation, facing higher average transport cost increases than central areas. Moreover, with economic activity continuing to demonstrate signs of concentration in central EU regions, transport costs may hamper economic growth and job creation in peripheral regions.<sup>74</sup>

In the baseline scenario, the poor connection with neighbouring and 3<sup>rd</sup> countries and the lack of European-wide corridors providing easier access to EU markets for imports and an easier exporting route for exports, especially towards Eastern Neighbours, will limit the capacity for imports and exports with 3<sup>rd</sup> countries. The lack of adequate hinterland connections for major EU ports will create similar issues, since they would not prove an attractive/cost efficient point of (physical) access into the EU market.

It can be deduced from the above that the baseline scenario would have little if any positive impact on EU competitiveness. Indeed, its impact could be negative, due to the constraints on the free movement of goods, accessibility (see map above) and trade with third countries resulting from the lack of infrastructure. Moreover, the development of intelligent transport systems and management systems will be limited to the development foreseen in the current legislation (see above).

#### *Impact on the transport system*

In the baseline scenario, the Transport system will continue to be made of modes mostly co-existing apart from each other, with modal share following the current trends. Therefore, the potential efficiency gains from co-modality<sup>75</sup> would be limited to the initiatives already in place. Road transport, for which most of the European-wide network is realised, will continue to grow but will be hampered by congestion problems around major nodes. Though its share will be somewhat diminished, road will remain the main long distance transport mode. With transport prices continuing to rise in line with rising oil prices, the overall efficiency of the transport system is therefore likely to further decline as highlighted in the 2011 Transport White Paper. Rail transport efficiency would remain low due to continuing physical fragmentation and interoperability problems of the European network. Maritime transport would be affected by the lack of connection between ports and the other modes (hinterland connections).

Total transport activity is expected to continue to grow in line with economic activity. Total passenger transport activity would increase by 51% between 2005 and 2050 while freight transport activity by 82%.<sup>76</sup> The growth will not however be distributed proportionally among transport modes, nor across EU Member States.

In terms of modal split, the various modes are in general expected to maintain their relative importance at EU level. Passenger cars are expected to remain the largest mode, with almost 70% of total passenger activity, though this would represent a decrease of 3% compared to 2005 levels. Air, on the contrary is expected to grow by 3.4%, reaching 11.8% of total activity and consolidating its position as the second most important passenger mode (in terms of

<sup>74</sup> At present, the Iberian Peninsula is connected by a new rail link to the rest of the EU network in the same gauge. This link was realised with TEN-T support and helped in its implementation by the European Coordinator appointed. Since the recent opening of this line, a frequent shuttle between Barcelona and Lyon is operational. These efforts are being continued to strengthen the rail links on both sides of the Pyrenees, for both freight and passenger transport. Similar efforts are being made for connecting the Baltic (Rail Baltica) and Bulgaria / Greece (via Priority Project 22).

<sup>75</sup> Co-modality refers to a "use of different modes on their own and in combination" in the aim to obtain "an optimal and sustainable utilization of resources".

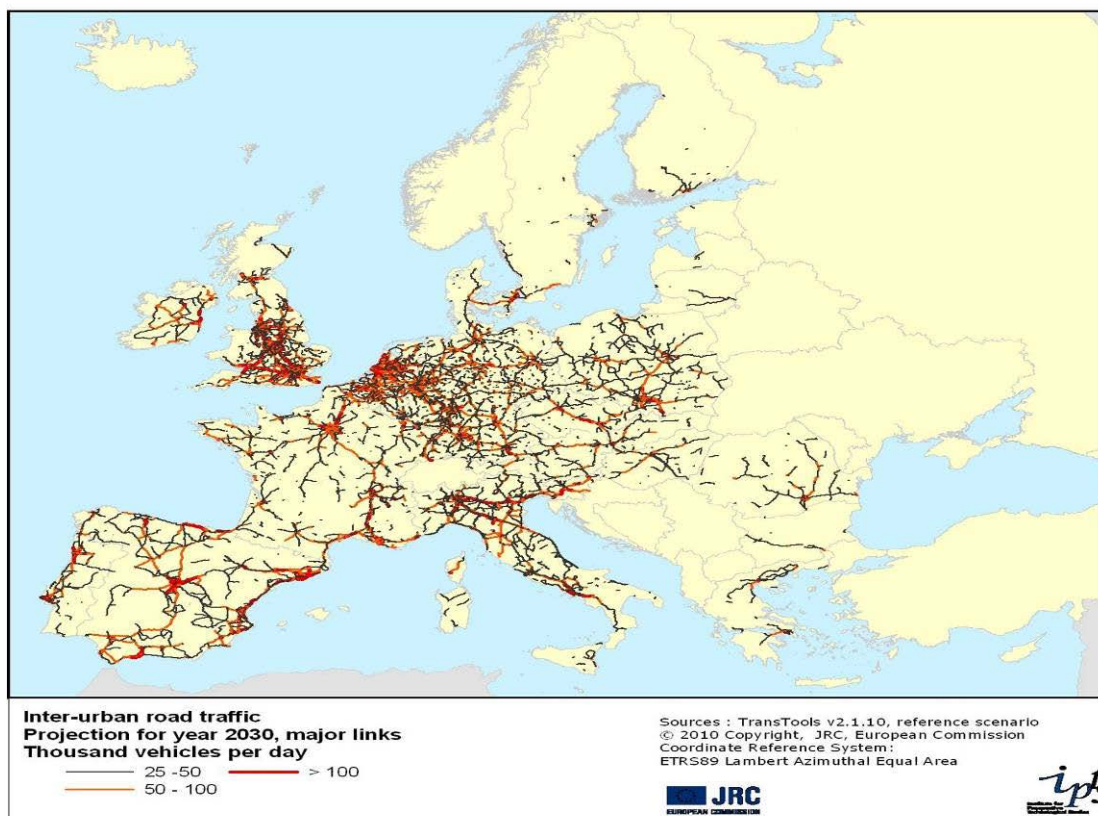
<sup>76</sup> This increase corresponds to an average annual increase of 1.2%, a rate that is slower than the assumed 1.7% annual increase of GDP. Passenger transport activity includes international aviation, while freight transport activity also includes international maritime.

passenger\*kilometres). Railways are expected to gain 0.2% and reach 6.3% of total passenger transport volume. As regards freight, total transport volumes are expected to grow by 42%, with road and maritime transport growing at comparable rates. Rail is expected to grow faster (by almost 50%), aided by an expected slower increase in fuel costs and the positive impacts of the opening of the rail markets.

The geographic distribution of transport growth is not uniform. In absolute terms, road transport in EU-15 will attract most of the growth in demand. EU-10 and EU-2 will increase their transport volumes much faster though in relative terms, by 76% and 96% respectively. Growth is expected to be high for all modes in these member states, with road being the one growing fastest. Inland waterways traffic, especially in the Danube, is also expected to grow by more than 80%.

**Source: Impact Assessment Report accompanying the White Paper on Transport (2011)**

In the baseline scenario, road traffic congestion, expressed as congested versus total driving time, is to increase, according to the White Paper Impact Assessment. Congestion costs are projected to increase by about 50% by 2050, to nearly 200 bn € annually. The lack of new planned infrastructure connecting the peripheral areas would worsen this situation, as would the limited development of intelligent transport systems and interoperability, especially for rail. Cooperation among Member States (and sometimes also between Member States and local authorities) would continue to remain limited, thus failing to leverage the potential of synergic efforts at EU level to address major bottlenecks and inadequate or inexistent cross-border sections and, therefore, to reduce congestion.



**Figure 5: Congestion by 2030 in reference scenario**

**Source: Impact Assessment to the Transport White Paper, Annex 3**

In the baseline scenario, the administrative burden on transport operators will remain the same as far as the implementation of the TEN-T Guidelines is concerned. Still, the administrative

burden will be reduced in line with the existing legislation for rail freight,<sup>77</sup> reporting formalities for ships or the Single European sky

#### *Impact on the environment*

According to projections presented in the White Paper Impact Assessment Report, fuel consumption (Mtoe) and emission of CO<sub>2</sub> (Mio tonnes) are expected to increase by 15 % in 2020 (EU-25) in the baseline scenario. Oil products would still represent 89% of the EU transport sector needs in 2050.<sup>78</sup>

By implementing existing legislation, NO<sub>x</sub> emissions and particulate matter would drop however by about 40% and 50%, respectively, by 2030 and roughly stabilise afterwards.<sup>79</sup> As a result, external costs related to air pollutants would decrease by 60% by 2050. These projections are also supported by TENconnect II study results

The above data, coupled with that concerning the efficiency of the transport system, congestion and innovation presented earlier, indicate that the baseline scenario would have a negative impact on energy use on both a 2030 and 2050 time horizon, due to its negative impacts with regard to the overall efficiency of the transport system, including reducing congestion, encouraging modal shift and promoting innovative technologies development and adoption.

The impact on land-use change would be very limited as far as TEN-T infrastructure is concerned, since no further planning would be made and only the already planned infrastructure may be built. However, it would not prevent Member States from building projects of their own interest. It can be concluded that, if continuing with the current policy approach, the identified problem of infrastructure network fragmentation, in a context of expected increases in transport activities, would lead to increasingly negative economic, social and environmental impacts over time. With no policy change, the EU will not have the necessary infrastructure for addressing the goals inscribed in the Treaty and the priorities set out in the White Paper.

#### *Sensitivity analysis*

Considering the high degree of uncertainty surrounding projections over such a long time horizon, especially for such a complex system as transport network, an evaluation is provided below for the possible impact of external factors on the assumptions underlying the baseline scenario.

First, the high degree of uncertainty regarding budgetary constraints at the level of the Member States and the unknown factors concerning the next EU multi-annual financial framework and the TEN Financial Regulations needs to be taken into consideration<sup>80</sup>. The development of hard and soft infrastructure, being extremely costly, very much depends on the public and private resources available. The situation described above in the baseline Scenario is rather an optimistic scenario (Figure 1 of this document, from the 2010 Progress Report illustrates the existing delays on many sections of the Priority Projects) in terms of infrastructure development since it considers that the EU and the Member States will have sufficient resources available to complete the 30 Priority Projects by 2025. However, if investments in transport infrastructure are seen as a way out the crisis<sup>81</sup>, the development of the TEN-T could be accelerated further.

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<sup>77</sup> Regulation 913/2010 of the European Parliament and of the Council concerning a European rail network for competitive freight

<sup>78</sup> Ibid

<sup>79</sup> According to the Impact assessment of the White Paper, p 74

<sup>80</sup> These questions are developed further in part 5.6.2 of this document.

<sup>81</sup> For instance with a similar approach as for the European Energy Programme for Recovery, with a prioritisation of investments on key energy and Internet broadband infrastructure projects.

## 2.5. Does the Union have the right to act?

Articles 170 – 171 of the Treaty on the Functioning of the Union define the objectives and scope of the TEN-T policy. Article 170 specifies that “To help achieve the objectives referred to in Articles 26 [the completion of the internal market] and 174 [economic, social and territorial cohesion] and to enable citizens of the Union, economic operators and regional and local communities to derive full benefit from setting-up of an area without internal frontiers, the Union shall contribute to the establishment and development of trans-European networks in the areas of transport, telecommunications and energy infrastructures.” It also specifies that “action by the Union shall aim at promoting the interconnection and interoperability of national networks as well as access to such networks.”

Article 171 sets the obligation that “the Union shall establish a series of Guidelines covering the objectives, priorities and broad lines of measures envisaged in the sphere of trans-European networks; these Guidelines shall identify projects of common interest”.

Article 172 sets the Framework for the application of the principle of subsidiarity, by stipulating that “Guidelines and projects of common interest which relate to the territory of a Member State shall require the approval of the Member State concerned.” Moreover, Member States, as well as the regional or local authorities, bear the lion share of the financing related to the construction, maintenance and management of infrastructure. The need for coordination between the Union establishing the Guidelines and the Member States implementing it has led to the setting up of the TEN-T Guidelines Committee, as stipulated in the Article 21 of the current Guidelines. This Committee has been involved at every stage of the revision of the TEN-T Guidelines.

In areas which do not fall within EU exclusive competence, EU action has to be justified. In the present case, it is therefore necessary that the subsidiarity principle set out in Article 5 (3) of the Treaty on the European Union is respected. This involves assessing two aspects.

### Necessity test

Firstly, it is important to be sure that the objectives of the proposed action could not be achieved sufficiently by Member States in the framework of their national constitutional system, the so-called necessity test. Given the fact that the overall concept is to create an EU-wide integrated transport network, the Member States per se are not able to meet these challenges individually for the following reasons:

As pointed out in the problem definition, Member States primarily consider transport flows of national importance when planning future infrastructure. Infrastructure planning to cater for long distance transport flows of European importance is, conversely not sufficiently considered by Member States. For the same reason, even when planning is cross border, they tend to allocate less importance and resources to the building of the cross border sections, as has been the experience with the current Priority Projects<sup>82</sup>. In some cases, the countries of both sides of a border are interested in the corresponding project to a different extent<sup>83</sup>. Regarding implementation, the lack of coordination between Member States leads to the development of different standards and operational rules hindering the coherence of the functioning of the TEN-T network and the Internal Market as a whole<sup>84</sup>.

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<sup>82</sup> Priority Project Progress report 2010

<sup>83</sup> In some cases the more central states are less interested in the project than the more peripheral ones. While the internal profitability of a project is the same on both sides of the border, there might be considerable differences in its socio-economic value: for the more peripheral country, the project would improve its accessibility and therefore may be very important; however for the more central country it would have little impact on its accessibility and therefore not have the same importance.

<sup>84</sup> See Position Paper of the European Transport Coordinators on the Future of TEN-T Policy, 6 October 2009

Therefore, the coordinated development – both in terms of planning and implementation – of TEN-T infrastructure to support long distance transport flows of European interest and economic, social and territorial cohesion needs to be undertaken at Union level.

The proposed policy options for renewed TEN-T Guidelines will focus on addressing trans-national aspects that cannot be satisfactorily taken into account by Member States, such as filling the missing links that could facilitate cross-border transport, the interoperability of equipment and establishing an internal market for Intelligent Transport Systems (ITS) and services. EU coordination would have thus also a clear added value with respect to setting of standards and increasing the quality of services as well as the management of cross-border infrastructure links and international traffic flows.

### **Test of EU added value**

Secondly, it has to be considered whether and how the objectives could be better achieved by action on the part of the EU, the so-called “test of European added value”. The rationale for a European action in the field of TEN-T stems from the trans-national nature of the identified problem. However, it has to take into account that a ‘one size fits all’ approach would not be an adequate response. Therefore, an action at EU level coupled with actions at all administrative levels would yield significant added value.

For these reasons, the policy objectives set out in section 3 of the present Impact Assessment report cannot be sufficiently achieved by actions of the Member States alone, but can rather, by reason or scale of the proposed action, be better achieved with high involvement of the EU.

## **3. POLICY OBJECTIVES**

Section 2 has shown that the TEN-T today is not sufficiently integrated to the extent of supporting the major transformation towards a competitive and resource efficient transport system by 2050. More specifically, it has been explained that the current fragmentation of the TEN-T network at all levels is a major obstacle to a smooth and resource efficient functioning of the internal market and to economic, social and territorial cohesion.

This section defines the general, specific and operational objectives of the proposed initiative, discusses possible trade-offs and synergies between objectives and verifies their consistency with other EU horizontal objectives.

### **3.1. Policy Objectives**

#### *3.1.1 General Objectives*

The overall aim of this initiative is to provide by 2030 for the establishment of a complete and integrated TEN-T that would maximise the value added for Europe of the network. This optimal network would cover and link all EU Member States in an intermodal and interoperable manner. This network would also provide links to neighbouring and third countries, as well as all transport modes and systems that would support the move towards a competitive and resource-efficient transport system by 2050.

This aim is consistent with the 'Inclusion Growth' initiative of Europe 2020, the Single Market Act and with the general goal of the TEN-T policy; to improve the competitiveness of the EU economy as a whole, to support the completion of the internal market, and to contribute to a balanced territorial development of the Union.

In addition, as stipulated in the Europe 2020 Strategy, and further detailed in the White Paper, the TEN-T shall contribute to the 'Sustainable Growth' initiative, and in particular the 'Resource Efficiency' flagship, by facilitating a reduction of GHG emissions by 60% for

transport. It will also be in line with the renewed Sustainable Development Strategy<sup>85</sup> by contributing to more sustainable mobility.<sup>86</sup>

### 3.1.2 Specific Objectives

The general objective of establishing a complete and integrated TEN-T that would maximise the value added for Europe of the network can be translated into more specific goals. Each of these 4 specific objectives intends to address one of the 4 drivers leading to the problem of fragmentation.

The first specific objective shall enhance the EU **planning** that will enable to define the optimal network as defined above and to identify "the missing links" in the current TEN-T:

- Define a coherent & transparent approach to maximise the EU added value of the TEN-T, addressing aspects of network fragmentation linked to missing links, multimodality, and adequate connections to neighbouring and 3<sup>rd</sup> countries, as well as ensure adequate geographical coverage.

The next three specific objectives shall design a sound governance structure to secure the **implementation** of the optimal network and of the "missing links" identified. This governance structure would foster the implementation of European standards for management systems and push for the development of the harmonisation of operational rules and enhance MS cooperation. This will ensure that EU funds are allocated to the identified "missing links" and to the implementation efforts of these missing links. These specific objectives for implementation are:

- Foster the implementation of European *standards* for management systems and push for the development of harmonised operational *rules* on the TEN-T projects of common interest. This objective however does not aim at imposing new specific standards and rules, but rather at ensuring the effective adoption and implementation of common European standards already developed, both in the field of traffic management and information systems<sup>87</sup> and in the field of operational rules and technical specifications of physical infrastructure.<sup>88</sup>
- Enhance Member States cooperation in order to coordinate investments, timing, choice of routes, environmental and cost-benefit assessments for projects of common interest.
- Ensure that the optimal network configuration is a key element in the allocation of EU funding enabling the focus on cross-border sections, missing-links and bottlenecks.

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<sup>85</sup> European Council, June 2006

<sup>86</sup> This goal is supported by some environmental organisations which want to focus on the reduction of unsustainable emissions, costly congestion and less road accidents for a more energy efficient and cleaner transport as shown in the Report on the "Consultation on the Future Trans-European Network Policy".

<sup>87</sup> ERTMS, SESAR etc., see the list detailed in the "operational objectives" sub-section.

<sup>88</sup> Such as train length, axle weight and the like.



**Table 2: Mapping problem, drivers and objectives**

<i>Problem</i>	<i>General objective</i>
<b>Fragmentation of TEN-T network</b>	Establish a complete and integrated TEN-T network that would maximise the value added for Europe of a network
<i>Drivers to the problem</i>	<i>Specific objectives</i>
<b>Planning</b>	<b>Planning</b>
<b>Dr.1</b> Lack of a genuine European design in the spatial configuration of the network	<b>SO1</b> Define a coherent & transparent approach to maximise the EU added value of the TEN-T network
<b>Implementation</b>	<b>Implementation</b>
<b>Dr.2</b> Insufficient implementation of common standards and adoption of common rules for the interoperability of networks within the TEN-T	<b>SO2</b> Foster the implementation of European standards for management systems and push for the development of the harmonisation of operational rules on the TEN-T project of common interest.
<b>Dr.3</b> Limited cooperation among Member States in project implementation	<b>SO3</b> Enhance Member States cooperation in order to coordinate investments, timing, choice of the routes, environmental and cost-benefit assessments for projects of common interest
<b>Dr.4</b> Lack of sufficient conditionality of TEN-T funding instruments	<b>SO4</b> Ensure that the optimal network configuration is a key element in the allocation of EU funding allowing to focus on cross-border sections, missing-links and bottlenecks

### 3.1.3 Operational objectives

In addition, the specific objectives have been further detailed in the following operational objectives, with two operational objectives for each of the specific objectives.

The methodology to define the network configuration should allow to:

- connect all main airports and seaports to other modes, especially (High-Speed) railways and inland waterway systems by 2050<sup>89</sup>;
- and to shift 30% of road freight over 300 km to other modes such as rail or waterborne transport by 2030, and more than 50% by 2050.<sup>90</sup>

The implementation of European standards and adoption of common rules should be realised by:

- ensuring by 2030 the deployment of European transport management systems (ERTMS, SESAR, ITS, RIS, SSN and LRIT) on the projects of common interest<sup>91</sup>
- and ensuring the commitments of Member States to agree on common operational rules in order have fully functional projects of common interest by 2030.
- The enhancement of Member States cooperation will be realised by:
- Obtaining binding commitments by Member States for the implementation of essential cross-border projects with a binding timetable;
- and obtaining binding commitments by Member States for the implementation of bottlenecks and missing-links on their territory that have cross-border effects.

<sup>89</sup> This is also goal 6 of the Transport White Paper

<sup>90</sup> This is also goal 3 of the Transport White Paper

<sup>91</sup> This is in line with goal 7 of the Transport White Paper.

<sup>92</sup> As noted in The Report on the “Consultation on the Future Trans-European Network Policy”, stakeholders agree that ITS and ICT could be a good supplement to classical infrastructure investment, to boost energy efficiency and environmental sustainability.



The optimal network configuration shall allow:

- ensuring priority for cross-border projects, bottlenecks and missing-links, interoperability and intermodality;
- and ensuring conditionality of EU funding upon compliance with EU environmental legislation (SEA, EIA & Natura 2000).<sup>93</sup>

### **3.2. Possible trade offs and synergies between the objectives**

The overall goal in developing the TEN-T, and of the current revision process, is to maximise EU added value of the TEN-T network. Efficiency, from the point of view of the EU, could be seen as fulfilment of the whole set of objectives laid down in the Treaty in a balanced way, against the corresponding costs and efforts. Achieving a sound balance between traffic demand in central regions and accessibility in peripheral ones is therefore in this context, efficient.

The approach to planning the network configuration, as set out in the first specific objective, will be aimed at identifying the optimal network configuration from an EU-added value perspective. This methodology shall therefore find the right balance between a large coverage of the Union by the network and the need to take into account the main traffic flows, in order to solve the potential conflict between territorial cohesion and economic competitiveness. A geographical approach for strategic network planning does not necessarily contradict a purely traffic driven/competitiveness approach, as the geographical distribution of main nodes (major cities and economic centres) is the main driver of major long-distance traffic flows.

As set out in the fourth specific objective, an optimal network configuration shall be a key element in optimising the conditionality for the use of EU funds. As such, there should be no trade off between a network configuration that adequately covers the entire territory of the Union and an efficient allocation of EU funding. On the contrary, ensuring that EU funds are allocated only to projects aimed to develop parts of the optimised network configuration, coupled with stronger measures as concerns implementation requirements (as ensured by specific objectives 2, 3 and 4), will ensure that EU funds are allocated primarily to projects that ensure a high EU-added value. Moreover, the approach to define and implement the network shall be flexible, based on traffic needs: a four-line motorway, multi-modal connections or a high-speed rail line will not be needed on each connection of the network. Therefore, costs shall be in line with the needs, allowing for the maximisation of the EU added value by a smart approach for the allocation of EU funds.

Another possible trade off would be between the objectives of "Inclusive Growth" and "Sustainable Growth". Building new infrastructure can lead to an increase in traffic and so to increased emissions of pollutants and greenhouse gasses. The TEN-T policy aims at addressing this trade off first of all by enhancing modal shift, as set out in the 1<sup>st</sup> and 2<sup>nd</sup> operational objectives. Nevertheless, infrastructure planning measures alone would not be sufficient. They would need to be combined with a strong implementation approach and other transport policy measures (such as pricing, cleaner technologies ...) in order to make transport more efficient and cleaner. Some of these measures are included in the operational objectives of the TEN-T Guidelines and some of them are part of the general transport policy, as set out in the Transport White Paper. In this way, transport infrastructure planning and implementation can serve both general objectives of inclusive and sustainable growth by being a main implementation tool of multiple initiatives of transport policy.

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<sup>93</sup> The Report on the "Consultation on the Future Trans-European Network Policy" states that "EU funding should be made fully conditional upon maximum effort to avoid areas of high nature and biodiversity value."

## 4. POLICY OPTIONS FOR TEN-T DEVELOPMENT

This section will explore alternative policy options aimed at establishing a complete and integrated TEN-T network by 2030 as described in section 3 above.

### 4.1. Two-pronged process leading to identification of policy options

As described in the first section of this report, the input of the process of internal and external consultation, together with the findings of external studies and assessments, has allowed the Commission to identify more precisely the problem to be solved, the four main underlying drivers and the corresponding fields for action, namely the conceptual planning and the means for implementation as explained in part 2.4 above, and possible actions that would be appropriate to address those issues. On this basis, the two-pronged process described below was applied for generating a range of possible policy options that could address the drivers identified earlier as leading to TEN-T's current fragmentation and help thus achieve the objectives set out in section 3 of this report.

#### 4.1.1. Identification of generic scenarios for planning and implementation

The Commission has first identified a range of possible generic policy scenarios in each field for action (planning and implementation). The scenarios are presented in Table 3 below.

Coherence with the overall EU Treaty objective of economic, social and territorial cohesion, with the Europe 2020 Strategy and its main priorities, with the priorities set in the White Paper for transport and the budgetary principles set out in the EU Budget Review Communication (as outlined in part 2.1 of this report), has provided the main conceptual grid that guided the Commission in considering the generic scenarios in the first place.

Five "**planning scenarios**" have been envisaged: business-as-usual, guidelines discarded, selection of new PPs (or Essen), Core Network and dense comprehensive network. The "planning scenarios" have been developed starting from the three policy options proposed for consideration in the first stage of the public consultation (Green Paper, February 2009), and taking into consideration the subsequent stakeholders' input.<sup>94</sup> The possible planning scenarios submitted to public consultation in February 2009 included one scenario, namely "Priority Projects" only, which was later not retained as part of the planning scenarios considered for the present IA. A majority of stakeholders considered this scenario as forfeiting the Treaty objectives of ensuring overall internal market accessibility and support for economic, social and territorial cohesion, as it diverts EU focus and funding away from the development of the overall/comprehensive TEN-T. The lack of coherence of this possible planning scenario with the overall Treaty objectives is therefore the reason why this scenario has not been eventually retained among the planning scenarios considered for policy options development.<sup>95</sup>

Five "**implementation scenarios**" (i.e. addressing issues such as standards allowing interoperability, cooperation among Member States and conditionality of funding) have been elaborated: business-as-usual, guidelines discarded, regulatory approach only, reinforced coordination and EU full operational management.<sup>96</sup> These alternative "implementation

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<sup>94</sup> The Report on the "Consultation on the Future Trans-European Network Policy" mentioned while most Member States clearly point out that planning and implementation has to be done by them, some associations and European organisations preferred a centralised approach led by the EU level.

<sup>95</sup> It was subsequently substituted with a "dense comprehensive network" planning approach that, intuitively, was deemed to better ensure such coherence.

<sup>96</sup> These scenarios were developed following the recommendations of the expert groups set up to develop further the TEN-T policy revision options following the input of the stakeholders during the February – April 2009 public consultation process. The recommendations of "Expert group 3 – intelligent transport systems and new technologies within the framework of the TEN-T", "Expert group 5 – TEN-T financing" and "Expert group 6 – legal issues and non-financial instruments for TEN-T implementation", in particular, made apparent the need for coordinated intervention also at TEN-T implementation level.

scenarios" had not been distinctly considered in the first stage of public consultation. Rather, the need for tackling, at the same time, both planning and implementation aspects of the TEN-T policy became apparent following the public consultation process.

<i>Scenarios envisaged in the field of planning</i>	
<i>Name</i>	<i>Content</i>
<b>A1 - Business as usual</b>	<ul style="list-style-type: none"> <li>- Same framework as in baseline, including the currently designated 30 PPs;</li> <li>- No identification of further PPs.</li> </ul>
<b>A2 - Guidelines discarded</b>	<ul style="list-style-type: none"> <li>- No EU guidance towards identification of projects of common interest following the end of the current MFF;</li> <li>- No “European interest” priority status as well as any eventual further EU support towards covering financial needs for current PPs.</li> </ul>
<b>A3 - Selection of new PPs (or Essen 2)</b>	<ul style="list-style-type: none"> <li>- Identification of new priority projects following the current, primarily bottom-up approach to project selection, as endorsed by the Essen European Council in 1994;</li> <li>- Largely unchanged process with respect to wider TEN-T identification and PP selection;</li> <li>- Upgrade of the wider TEN-T (based on projects completed and/or abandoned by Member States);</li> <li>- Revision of criteria for Priority Project identification to better specify the elements that would constitute the European added-value of priority projects<sup>97</sup>.</li> </ul>
<b>A4 - Core Network</b>	<ul style="list-style-type: none"> <li>- Enhanced top-down and multi-modal approach to TEN-T planning;</li> <li>- Two planning layers: basic layer (comprehensive network resulting from an updating and adjustment of the current wider TEN-T) and top layer (core network, overlaying the comprehensive network and constituted of the EU strategically most important parts of the TEN-T);</li> <li>- Definition of methodologies for transparently and coherently identifying the network components for both layers across the territory of all Member States, and insuring their multi-modality;</li> <li>- Continued consultation throughout the process of application of the methodology, ensuring ownership of the process (and results) of TEN-T configuration identification by the Member States.</li> </ul>
<b>A5 – Dense TEN-T network</b>	Same as in A4, but criteria and standards that in A4 would be applied to entire/comprehensive TEN-T network

**Table 3a: Planning scenarios**

<sup>97</sup> I.e., as identified based on current, accumulated, experience: mainly cross-border links, multimodal connecting links, links alleviating bottlenecks, links to neighbouring and third countries.

<i>Scenarios envisaged in the field of implementation</i>	
<i>Name</i>	<i>Content</i>
<b><i>B1 – Business-as-usual</i></b>	<ul style="list-style-type: none"> <li>- Same as in baseline, including the current implementation instruments<sup>98</sup>;</li> <li>- Continuation of initiatives currently under way with regard to interoperability standards<sup>99</sup> and TEN-T projects.</li> </ul>
<b><i>B2 – Guidelines discarded</i></b>	<ul style="list-style-type: none"> <li>- No TEN-T implementation support activities foreseen or financed at the end of the current MFF at EU level.</li> </ul>
<b><i>B3 – Regulatory approach only</i></b>	<ul style="list-style-type: none"> <li>- Discontinuation of current coordination instruments, limiting EU action to a TEN-T Regulation that will strictly define the priority projects/network map to be funded, the interoperability standards to be applied and the timetables for completion;</li> <li>- Funding strictly conditional upon all criteria and standards being met.</li> </ul>
<b><i>B4 – Reinforced coordination</i></b>	<ul style="list-style-type: none"> <li>- Reinforced coordination at PP level or at Corridor level<sup>100101</sup>;</li> <li>- Coordinated approach ensured by individual PPs or Corridor Decisions at PP/Corridor level in the undertaking of infrastructural investments, the management of PP/corridor capacity, the deployment of interoperability standards and traffic management systems; the Decisions will place the overall management authority under the aegis of the European/Corridor Coordinators, while the TEN-T EA will continue in its role of support towards project preparation and implementation.</li> </ul>
<b><i>B5 – EU full operational management (through a Regulation)</i></b>	<ul style="list-style-type: none"> <li>- Complete centralised management of the planned network via the EU agencies<sup>102</sup> under the coordination of the Commission and the European Coordinators;</li> <li>- EU level responsibilities including management of project proposal development and accompanying cost-benefit analyses and environmental impact assessments, management of funding and implementation of all TEN-T projects, establishment and deployment of interoperability standards and systems across the network.</li> </ul>

**Table 3b: Implementation scenarios**

<sup>98</sup> Both the financial (TEN-T Programme and Cohesion Fund and EIB loans and grants) and the coordination (TEN-T EA, European Coordinators, TENtec) instruments.

<sup>99</sup> Such as the implementation of the ERTMS corridors, the ITS Directives, the Single European Sky etc.

<sup>100</sup> At PP level, in the case of A1 and A3 planning scenarios, and at corridor level (or "corridor approach") if combined with a network approach to TEN-T planning, as in the case of A4 and A5 scenarios.

<sup>101</sup> As noted in the Report on the "Consultation on the Future Trans-European Network Policy", the corridor approach including high-speed rail, ERTMS, green and freight corridors into the Core Network and a joint management involving infrastructure managers is seen as key for the development of TEN-T by some contributors.

<sup>102</sup> ERA, EASA, TEN-T EA

#### 4.1.2. Identification of possible policy options

As pointed out earlier, the consultation process made apparent that only intervention covering both fields (planning and implementation) would be capable of tackling at the same time and in a satisfactory way all the various problem drivers and addressing all the specific policy objectives.

In light of this, the interaction between each of the five scenario envisaged for action at the level of planning with each of the five scenario envisaged for action at the level of implementation (including the respective planning and implementation scenarios pertaining to the baseline) has been considered within alternative policy options. 25 (theoretically) possible alternative policy options, constituting potentially viable policy alternatives for achieving the objectives identified in section 3 above, were thus initially generated.

Nevertheless, for reasons of compatibility between scenarios, five theoretical combinations involving the A2/"Guidelines discarded" scenario were discarded from the beginning, as this planning scenario is not compatible with any implementation scenario. "Guidelines discarded" was considered subsequently as a policy option in its own, without an implementation dimension.

Following this second phase of policy options generation, a total of 21 possible policy options<sup>103</sup>, as briefly presented in the table below, have been identified.

	<i>B1</i>	<i>B2</i>	<i>B3</i>	<i>B4</i>	<i>B5</i>
<i>A1</i>	Business as usual / Continuation with current 30 PPs and current implementation approach	Continuation of current 30 PPs but with no further EU implementation support	Continuation of current 30 PPs with a purely regulatory approach to implementation	Continuation of current 30 PPs with reinforced coordination	Continuation of current 30 PPs with full EU operational management
<i>A2</i>	Guidelines discarded	Guidelines discarded	Guidelines discarded	Guidelines discarded	Guidelines discarded
<i>A3</i>	MS selection of new PPs (Essen 2) with current implementation approach	MS selection of new PPs (Essen 2) with no further EU implementation support	MS selection of new PPs (Essen 2) with purely regulatory approach to implementation	MS selection of new PPs (Essen 2) with reinforced coordination	MS selection of new PPs (Essen 2) with full EU operational management
<i>A4</i>	Dual layer (core and comprehensive) network with current implementation approach	Dual layer (core and comprehensive) network with no EU implementation support	Dual layer (core and comprehensive) network with purely regulatory approach to implementation	Dual layer (core and comprehensive) TEN-T with Reinforced coordination	Dual layer (core and comprehensive) network with full EU operational management
<i>A5</i>	Dense TEN-T with current implementation approach	Dense TEN-T with no further EU implementation support	Dense TEN-T Purely regulatory approach to implementation	Dense TEN-T with reinforced coordination	Dense TEN-T with full EU operational management

**Table 4: Identification of possible Policy Options**

#### 4.2. Pre-screening of envisaged alternative policy options

The high number and complexity of the resulting possible policy options raised issues of feasibility and efficiency of an in-depth assessment for all of them, making a preliminary assessment and the discarding of policy options necessary.

<sup>103</sup> See annex 3 of the present report.

The Commission performed therefore a preliminary assessment of the 21 possible policy options on the basis of their effectiveness in addressing current problem drivers (and, as such, towards attaining the policy objectives of the TEN-T Guidelines revision) and of their efficiency. In parallel, the coherence of the possible policy options with the principles of subsidiarity and proportionality has been assessed.

As regards the **effectiveness** criterion, each planning and, respectively, implementation scenario has been assessed with regard to its capacity to have a significant impact on the problem driver(s) it was designed to address. This preliminary analysis has proved an effective approach to reducing the range of policy options to those that promised to promote a sufficient departure from the current approach (business-as-usual/baseline scenario) in terms of achievement of the overall TEN-T policy objective.

The selection rule was given by the presumption that only those scenario combinations that would ensure a significant (positive) impact (i.e. rated medium [++] or high [+++]) on *all* problem drivers would be worthwhile considering as viable alternative policy options, capable of ensuring the achievement of the overall TEN-T policy goals. Conversely, any combination of scenarios for which the assessment included insufficient (i.e. negative [ - ] or none [ 0 ]) impacts on any of the drivers was discarded for further consideration as a policy option.

- i. Insufficiently addressing the "planning" driver, that underpins aspects of TEN-T fragmentation due to the absence of a genuine European design, will mean perpetuating current physical – geographical and modal – fragmentation problems (missing cross-border links, missing or insufficiently developed inter-modal nodes/platforms, traffic bottlenecks) and failing to ensure "the establishment of a complete and integrated TEN-T that would maximise the value added for Europe of the network".
- ii. Insufficiently addressing the "interoperability" driver, even in a scenario where the physical fragmentation aspects are addressed, will lead to a situation where, due to limited interoperability, the TEN-T will still fail to function as an "integrated" network.<sup>104</sup>
- iii. Insufficiently addressing the "limited cooperation among Member States in project implementation" driver would mean failing to fully leverage the efforts towards improved European planning coordination and interoperability. Continuing incongruence and delays in building cross-border links (see p. 13 in this report) would lead to an undesirable scenario where the impact of high investments of EU and Member States resources (financial but not only) would be importantly diluted, as sections on the TEN-T with significant EU-added value will fail to be timely delivered.
- iv. Finally, insufficiently addressing the "conditionality of EU funding instruments" would mean risking that the efficiency of (limited) EU and Member States funds would remain suboptimal. They would continue to be dispersed towards favourite (i.e. highly politically rewarding) Member States projects, rather than being focused towards projects that would make most EU added value sense (i.e. from an enhancing overall EU competitiveness and balanced territorial development perspective).

The outcome of this selection process is summarised in the table 5 below. A more detailed assessment of each scenario's impacts on the problem drivers is presented in Annex 3 to this report.

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<sup>104</sup> For example, what would be the added value of a fully integrated high-speed rail connecting the North and the South of the Continent or the East and the West, if the train had to stop at each border crossing to change drivers, or switch power adaptor or even locomotive, not to mention the number of fire extinguishers as would be the case with today's conventional rail transport?

**Table 5: Effectiveness in addressing current problem drivers**

<b>Impacts on Options</b>	<b>Planning coordination</b>	<b>Interoperability (adoption of common standards &amp; systems)</b>	<b>Member States cooperation in project implementation</b>	<b>Conditionality of EU funding</b>
<b>A1B1</b> Business as usual / Continuation with current 30 PPs and current implementation approach	[0] Continued limited coordination in a bottom-up process	[0] Slow but not sufficient progress	[+] Improvements due to continued European Coordinators' support	[0] Current provisions are maintained
<b>A1B2</b> Continuation of current 30 PPs but with no further EU implementation support	[0] Continued limited coordination in a bottom-up process	[0/-] Rhythm of adoption likely to slow down	[-] Likely deterioration due to removal of European Coordinators and TEN-TEA support	[-] Likely shift towards projects of primarily MS rather than EU interest
<b>A1B3</b> Continuation of current 30 PPs with a purely regulatory approach to implementation	[0] Continued limited coordination in a bottom-up process	[0/+] Progress but in a likely slow rhythm	[+] Improvements but likely not to the extent aimed for	[0/+] High on paper but likely limited in practice due to implementation inefficiencies
<b>A1B4</b> Continuation of current 30 PPs with reinforced coordination	[0] Continued limited coordination in a bottom-up process	[++] Sustained progress due to specifically targeted support	[+++] Substantial increase due to strong emphasis on binding coordination commitments	[+++] High due to strong focus on both binding commitments and measures to support implementation
<b>A1B5</b> Continuation of current 30 PPs with full EU operational management	[0] Continued limited coordination in a bottom-up process	[++] Strong EU-level coordination but likely strained implementation capacity	[-] Likely resistance by MS to shifting project implementation responsibilities at EU agencies level	[+] High in principle but likely much less effective in practice due to inefficiencies in implementation in an overly top-down approach
<b>A2</b> Guidelines discarded	[-] MS are left to choose new projects for development in complete freedom	n/a	n/a	n/a
<b>A3B1</b> MS selection of new PPs (Essen 2) with current implementation approach	[+] Better criteria leading to better EU steering of PP selection process	[0] Slow but not sufficient progress	[+] Improvements due to continued European Coordinators' support	[0] Current provisions are maintained



<b>A3B2</b> MS selection of new PPs (Essen 2) with no further EU implementation support	[+] Better criteria leading to better EU steering of PP selection process	[0/-] Rhythm of adoption likely to slow down	[-] Likely deterioration due to removal of European Coordinators and TEN-TEA support	[-] Likely shift towards projects of primarily MS rather than EU interest
<b>A3B3</b> MS selection of new PPs (Essen 2) with purely regulatory approach to implementation	[+] Better criteria leading to better EU steering of PP selection process	[0/+] Progress but in a likely slow rhythm	[+] Improvements but likely not to the extent aimed for	[0/+] High on paper but likely limited in practice due to implementation inefficiencies
<b>A3B4</b> MS selection of new PPs (Essen 2) with reinforced coordination	[+] Better criteria leading to better EU steering of PP selection process	[++] Sustained progress due to specifically targeted support	[+++] Substantial increase due to strong emphasis on binding coordination commitments	[++] Strong focus on both binding commitments and measures to support implementation but diluted by lower levels of coordination in planning
<b>A3B5</b> MS selection of new PPs (Essen 2) with full EU operational management	[+] Better criteria leading to better EU steering of PP selection process	[++] Strong EU-level coordination but likely strained implementation capacity	[-] Likely resistance by MS to shifting project implementation responsibilities at EU agencies level	[+] High in principle but likely much less effective in practice due to inefficiencies in implementation in an overly top-down approach
<b>A4B1</b> Dual layer (core and comprehensive) network with current implementation approach	[++] Enhanced coordination due to clear methodology for network configuration applied consistently across all MS	[0] Slow but not sufficient progress	[+] Improvements due to continued European Coordinators' support	[0] Current provisions are maintained
<b>A4B2</b> Dual layer (core and comprehensive) network with no EU implementation support	[++] Enhanced coordination due to clear methodology for core network configuration applied consistently across all MS	[0/-] Rhythm of adoption likely to slow down	[-] Likely deterioration due to removal of European Coordinators and TEN-TEA support	[-] Likely shift towards projects of primarily MS rather than EU interest
<b>A4B3</b> with purely regulatory approach to implementation	[++] Enhanced coordination due to clear methodology for core network configuration applied consistently across all MS	[0/+] Progress but in a likely slow rhythm	[+] Improvements but likely not to the extent aimed for	[0/+] High on paper but likely limited in practice due to implementation inefficiencies

<b>A4B4</b> <b>Dual layer (core and comprehensive) TEN-T Reinforced coordination</b>	<b>[++]</b> Enhanced coordination due to clear methodology for core network configuration applied consistently across all MS	<b>[++]</b> Sustained progress due to specifically targeted support	<b>[+++]</b> Substantial increase due to strong emphasis on binding coordination commitments	<b>[+++]</b> High due to strong focus on both binding commitments and measures to support implementation and strong planning coordination
<b>A4B5</b> <b>Dual layer (core and comprehensive) network with full EU operational management</b>	<b>[++]</b> Enhanced coordination due to clear methodology for core network configuration applied consistently across all MS	<b>[++]</b> Strong EU-level coordination but likely strained implementation capacity	<b>[-]</b> Likely resistance by MS to shifting project implementation responsibilities at EU agencies level	<b>[+]</b> High in principle but likely much less effective in practice due to inefficiencies in implementation in an overly top-down approach
<b>A5B1</b> <b>Dense TEN-T with current implementation approach</b>	<b>[+++]</b> Strong planning coordination for entire TEN-T (and not just a selected core)	<b>[0]</b> Slow but not sufficient	<b>[+]</b> Improvements due to continued European Coordinators' support	<b>[0]</b> Current provisions are maintained
<b>A5B2</b> <b>Dense TEN-T with no further EU implementation support</b>	<b>[+++]</b> Strong planning coordination for entire TEN-T (and not just a selected core)	<b>[0/-]</b> Rhythm of adoption likely to slow down	<b>[-]</b> Likely deterioration due to removal of European Coordinators and TEN-TEA support	<b>[-]</b> Likely shift towards projects of primarily MS rather than EU interest
<b>A5B3</b> <b>Dense TEN-T Purely regulatory approach to implementation</b>	<b>[+++]</b> Strong planning coordination for entire TEN-T (and not just a selected core)	<b>[0/+]</b> Progress but in a likely slow rhythm	<b>[+]</b> Improvements but likely not to the extent aimed for	<b>[0/+]</b> High on paper but likely limited in practice due to implementation inefficiencies
<b>A5B4</b> <b>Dense TEN-T with reinforced coordination</b>	<b>[+++]</b> Strong planning coordination for entire TEN-T (and not just a selected core)	<b>[++]</b> Sustained progress due to specifically targeted support	<b>[+++]</b> Substantial increase due to strong emphasis on binding coordination commitments	<b>[+++]</b> High due to strong focus on both binding commitments and measures to support implementation and high planning coordination
<b>A5B5</b> <b>Dense TEN-T with full EU operational management</b>	<b>[+++]</b> Strong planning coordination for entire TEN-T (and not just a selected core)	<b>[++]</b> Strong EU-level coordination but likely strained implementation capacity	<b>[-]</b> Likely resistance by MS to shifting project implementation responsibilities at EU agencies level	<b>[+]</b> High in principle but likely much less effective in practice due to inefficiencies in implementation in an overly top-down approach

Legend: [-] negative; [0] none; [+] low; [++] medium; [+++] high.

As the table above makes apparent, following this preliminary assessment three scenario combinations came out as clearly viable policy options – A3B4, A4B4, A5B4 (in green), with a forth at the limit – A1B4 (in yellow). The latter combination scores high in terms of positive impacts on all but one of the drivers, rendering it potentially relevant for further consideration. Nevertheless, when approached as a policy option, it became apparent that it would not make a viable alternative. A reinforced approach to coordination (B4) could importantly improve the rhythm and consequently possibly the cost-effectiveness of the current 30 priority projects, but would not solve the central issue of network fragmentation due to current planning (A1). As argued in part 2 of this report, the currently planned priority projects simply do not add-up into, nor support, a geographically coherent, well-integrated, multi-modal network, that adequately covers the territory of all the EU Member States.

The **efficiency** of each scenario in attaining the specific policy objectives set out was also initially considered as part of the preliminary assessment process. However, it became apparent that, although an important information, cost estimates would not help discriminate among the options for the purpose of discarding them. Nevertheless, the preliminary estimates showed that a dense comprehensive network approach (A5) rendered any option including this planning scenario far too costly (as compared to the others<sup>105</sup>) and difficult, if not impossible to implement within the envisaged 2030 horizon. Moreover, if fully implemented, the result would be a dense, high standard, abundantly multi-modal network that would likely be under-used (hence little cost-efficient) on many of its parts.

In parallel, the Commission has also assessed the coherence of each policy option with the principles of **subsidiarity and proportionality**. As compliance with these principles is a *sine qua non* condition for any Union policy initiative, any policy option that did not fulfil this condition could not therefore constitute a viable alternative for action. The results of this screening are presented in the table below (for the detailed considerations, see Annex 3).

<b>Planning</b>	<b>A1</b> Business as usual/ Continuation with current 30 PPs	<b>A2</b> <b>Guidelines discarded</b>	<b>A3</b> MS selection of new PPs (Essen 2)	<b>A4</b> Dual layer (core and comprehensive) network	<b>A5</b> <b>Dense TEN-T</b>
<b>Subsidiarity and Proportionality Compliance</b>	Yes	No	Yes	Yes	No
<b>Implementation</b>	<b>B1</b> Current implementation approach	<b>B2</b> no further EU implementation support	<b>B3</b> <b>Purely regulatory approach</b>	<b>B4</b> Reinforced coordination	<b>B5</b> <b>Full EU operational management</b>
<b>Subsidiarity and Proportionality Compliance</b>	Yes	Yes	No	Yes	No

**Table 6 : Compliance with subsidiarity and proportionality principle**

It became thus apparent that any policy option that included, at the level of planning, the "A2/Guidelines discarded" or the "A5/Dense network approach" scenarios, and/or at the level of implementation, the "B3/Regulatory approach only" or the "B5/EU full operational management", could not constitute viable policy options, due to their contravening of the principles of subsidiarity and/or proportionality. Following this assessment, option A5B4 was discarded for further consideration as a viable policy option, in spite of the fact that,

<sup>105</sup> It is estimated that the Core Network represents about 25% of the Comprehensive network. Therefore, by simply extrapolating the investments needs of €215 Bln for the Core Network by 2020, it gives a figure of € 860 Bln for investments needs on the Comprehensive Network for the period 2014 – 2020.

according to the effectiveness criteria, would have been most promising in terms of addressing current drivers and thus achieving the TEN-T policy objectives.<sup>106</sup>

### **4.3. Description of the policy options retained for in-depth assessment**

In light of the above pre-screening process and taking into account that the pre-screened policy options should also respect the proportionality and subsidiarity principle, the two alternative policy options retained for in-depth impact assessment are the scenario combinations "A3B4/Selection of new priority projects with reinforced coordination" – labelled "Option 1", and "A4B4/Core network approach with reinforced coordination" – labelled "Option 2". The "A1B1/Business as usual" policy option, described extensively above in section 2.4 of this report, has featured in the subsequent impact assessment process as the reference/baseline scenario; for convenience, it has been labelled "Option 0".

#### *4.3.1. Content of Policy Options*

##### **Policy Option 0: Baseline scenario**

Policy Option 0, which has been presented in section 2 above, represents the future without any additional policy intervention to change current trends.

##### **Policy Option 1: "Essen 2" with reinforced corridor coordination<sup>107</sup>**

Under this option, the approach to planning the TEN-T remains unchanged, relying on the predominantly bottom-up selection process as endorsed by the Essen European Council in 1994.<sup>108</sup> The Member States will thus continue to be responsible for developing project proposals, while the Commission will select and prioritise projects that will be financially supported from the EU budget based on the extent to which the projects fulfil the criteria set out in the Guidelines. The 30 Priority Projects included on the current list will continue to be developed and funded according to the current Guidelines.

The current Guidelines' criteria for TEN-T identification and selection of projects of European interests will remain largely unchanged. The current TEN-T map will be however updated, to reflect evolutions in Member States' developed and planned infrastructure. In addition, drawing on the experience so far, and taking into account the expert and stakeholder recommendations, criteria will be revised in order to better specify the elements that would constitute the European added-value of the Priority Projects that will be subsequently selected. In particular, references to multi-modality aspects and links to third countries will be added. This should ensure that new Priority Project proposals will more effectively address current fragmentation aspects resulting from a limited coordination in TEN-T configuration planning.

As far as implementation is concerned, the individual Priority Project Decisions will provide for a coordinated approach to infrastructural investments, management of Priority Project axis capacity and building and coordinating transshipment facilities, the optimisation of the use of each transport mode (or co-modality), the comprehensive deployment of interoperable traffic management systems and the harmonisation of operational rules along the Priority Project.

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<sup>106</sup> Another argument that played against its retention was also that of cost-efficiency. As pointed out above, due to its dense comprehensive approach to planning, this option would have involved particularly high costs that, at a first look, would not have been justifiable in terms of its marginal benefits – i.e. as compared with the other two retained options – and, given the amount of works that it presupposed, would have long exceeded the 2030 timeline.

<sup>107</sup> This is the combination of A3 planning scenario and B4 implementing scenario, see Annex 3 of the present report

<sup>108</sup> In Essen, in 1994, the European Council adopted the first list of 14 transport projects of common interest, included in the 1996 TEN-T Guidelines. The selection of the projects was largely based on national priorities (bottom-up approach) rather than European ones (top-down approach). The same approach was used in the selection of the renewed list of 30 Priority Projects annexed to the 2004 Guidelines.

Both EU and Member States funding would be committed through the individual Priority Project Decisions, which would also establish binding timelines for completion. The European Coordinators will continue their activity with mandates similar to the current ones and relatively enhanced powers, grounded in the Priority Project Decisions. The mandate of the TEN-T EA will be maintained and extended to help ensure, alongside the Coordinators, added effectiveness in implementation, not least by supporting the development of Priority Project proposals with high EU added-value.

### **Policy Option 2: "Core network" with reinforced corridor coordination<sup>109</sup>**

Under this policy option, the approach to developing the TEN-T configuration is importantly revised. The Commission would no longer seek to steer Members States' choices towards developing a European network by setting a number of (better) defined criteria, and offering support for project proposal development, but by taking a stronger, pro-active coordination role. It proposes and works with the Member States to agree upon an a priori configuration of the TEN-T, optimised at planning level to address major traffic flows needs, multimodality, cohesion and accessibility objectives.

A dual-layer approach to TEN-T development will also be proposed. A basic layer, or the "comprehensive network", will be constituted of the current wider TEN-T, as comprised in the maps and outline plans annexed to the current Guidelines, updated and adjusted following a number of clear and coherently applied rules. A second layer, constituted of the strategically most important parts of the comprehensive TEN-T, identified according to a specific methodology, transparently and coherently applied, will constitute the "core" of the network, on which project development and implementation will be supported with priority.<sup>110</sup> This will later allow the identification of key projects of European interest on an idealised network configuration that already includes current missing links (including multi-modal connection nodes and routes) and bottlenecks, and identifies needs for multi-modal connecting platforms development.

### **EU transparent and coherent planning methodology<sup>111</sup>**

The TEN-T planning methodology envisaged in Option 2 would provide a coherent and transparent pan-European basis for the identification of the configuration of both the comprehensive TEN-T and its strategic core. It was developed by the Commission with the support of an expert group, and drawing on the stakeholder (including Member States) input and recommendations.<sup>112</sup> The methodology provides distinct rules and criteria for the identification of the comprehensive network and the core network respectively.

#### *Comprehensive network*

The methodology concerns the updating/adjusting of the current TEN-T maps, rather than a new process of TEN-T outline identification, following a number of principles: updating with

<sup>109</sup> This is the combination of A4 planning scenario and B4 implementing scenario, see Annex 3 of the present report.

<sup>110</sup> The comprehensive/basic layer of the TEN-T will constitute the object of general support at EU level (including financially, especially in the less endowed regions in the East of the Union), but the main focus will be placed on the development, with priority, of the multimodal core layer, as the latter will carry the main concentration of trans-national traffic flows, both for freight and passengers.

<sup>111</sup> "The New Trans-European Transport Network Policy: Planning and implementation issues", SEC(2011) 101

<sup>112</sup> The Commission established the expert group in autumn 2009, following the results of the first public consultation process (February – April 2009), which showed a clear majority support for the dual-layer network option. The expert group, chaired by Mr. Jonathan Scheele, former Director of directorate B in DG TREN, met four times between October 2009 and March 2010. It developed a recommendation for a Core Network planning methodology, of which a summary was included in a Commission Working Document of 4 May 2010 COM(2010) 212 final, as a basis for a subsequent public consultation. Taking into consideration the results of this second public consultation exercise, the discussions at the TEN-T Days in Zaragoza (June 2010), the input from Member States, mainly received at the Gödöllő Informal Council, as well as the practical experience gained in its effective application, the methodology has been fine-tuned in the following months.

projects completed/abandoned and changes in national planning; addition of selected and well-defined missing links and nodes, especially in new MS; elimination of dead-ends and isolated links in current TEN-T if not justified by geographical particularities; implementation of minimum standards for infrastructure and equipment in accordance with relevant legislation currently in place; revision of the selection of seaports and airports according to a number of specific criteria (concerning mainly traffic volumes and accessibility conditions). As a result, the comprehensive network will directly reflect the relevant existing and planned infrastructure in Member States, while ensuring at the same time the accessibility of all regions of the Union. It will include road, rail, inland waterways, maritime and air infrastructure network components, as well as the connecting points between the modes. It will feature minimum infrastructure standards, and aim at interoperability wherever necessary for seamless traffic flows across the network. All European citizens and economic operators should be able to access the Core Network, via the Comprehensive Network, on comparable terms.

#### *Core network*

The aim was to develop a coherent and transparent methodology that could be applied consistently across all Member States and which comprises elements to enhance cohesion, economic efficiency and environmental sustainability simultaneously.

In addition to infrastructure interconnectivity and traffic related goals, the methodology was crafted to take into account a sound balance between these planning objectives and larger treaty mandated goals such as geographical coverage and cohesion, accessibility and competitiveness. Thus, all "primary city nodes" – corresponding to the capitals of all MS and large cities and conurbations across the EU – are linked within the Core Network. Large cities and conurbations include the MEGAs ("MEtropolitan growth areas") according to ESPON atlas 2006 and conurbations or city clusters with more than 1 million inhabitants, on the base of "Larger Urban Zones" ("LUZ") according to "Urban Audit" (EUROSTAT).

Adequate connections with neighbouring and other third countries have also been taken into account. For this reason, all major seaports of the Union are also considered primary nodes. Moreover, in order to connect the Core Network with corresponding infrastructure in neighbouring countries, the points where the multimodal axes cross the external border of the Union are considered primary nodes. As a result, the main existing connecting points with bordering countries, including rail or road platforms in the East of Europe and the seaports would become connected to the main economic centres of the EU.

In order to ensure the Member States' ownership of the process (and of the results) of core and comprehensive network identification, continued consultation with the Member States representatives would be ensured throughout the process of application of the methodology.

The current Priority Projects will be included in the core TEN-T, but whether in their entirety or partially will depend on their meeting the methodology criteria.<sup>113</sup>

As far as implementation is concerned, the establishment of multi-modal corridors along the core network, governed by specific binding legal instruments in the form of "Corridor Decisions" are envisaged to provide the basis for modal integration, interoperability and coordinated development and management of infrastructure. A specific methodology for corridor identification will ensure that each corridor links a number of multimodal nodes, supports co-modal transport solutions and involve at least three Member States. The specific Corridor Decisions will provide for a coordinated approach in the undertaking of infrastructural investments, in the management of corridor capacity, in building (wherever needed) and coordinating transshipment facilities (particularly for freight) that optimise the use

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<sup>113</sup> This should not however affect the continuity of current Priority Projects because inclusion on the core network outlay plan will concern the prioritisation of *future* funding decisions.

of each transport mode, as well as for the comprehensive deployment of interoperable traffic management systems and the harmonisation of operational rules.

#### *Core network corridors*

Corridors are identified on the core network, following a number of criteria/benchmarks that need to be fulfilled. Corridors should:

- concern the most important cross-border long distance traffic flows of the core network;
- cross at least two borders between three Member States;
- respond to high quality standards, increasing energy efficiency, enhancing security and safety, and deploying new technologies, notably aiming at improving information management and e-administration procedures;
- serve as the main instrument for modal integration, interoperability, resource efficiency, as well as a coordinated development and management of infrastructure, along the core network.

Both EU and Member States funding would be committed through the individual "Corridor Decisions ", that would also establish binding timelines for completion. Corridor Coordinators will replace the current European Coordinators, but with a similar mandate, grounded in the Corridor Decisions. The TEN-T EA, whose mandate will be maintained and extended beyond 2015, will work together with the Coordinators in order to ensure added effectiveness in the development of project proposals along the corridor and in their implementation.

#### *4.3.2. Comparison of content*

As highlighted above, the two alternative (to the current approach) policy options are the result of a rigorous process of options generation and pre-selection. The aim was to identify those options that would, on stand-alone basis, be able to address with a significant degree of effectiveness all drivers to the current TEN-T fragmentation.

This effort to identify the most viable (and real) alternatives for TEN-T policy development has lead to options that share a number of characteristics. However, the options also differ in important respects, differences that lead to significantly distinct performance.

Thus, Option 1 shares with the current policy approach (Option 0) the same "soft" approach to coordination at EU level in planning the TEN-T, by means of a set of criteria for project content land-marking a primarily bottom-up approach to project development. Nevertheless, in policy Option 1, planning coordination is sought to be improved as much as the (shared) bottom-up approach allows it, i.e. by strengthened criteria for priority project selection that include more elements generating EU-value added. At the same time, the coordination in implementation is significantly strengthened at the level of PP through individual PP decisions compared to Option 0.

Whereas Options 1 and 2 share the same reinforced coordination approach to implementation, they substantially differ as far as their approach to planning is concerned. Coordination of planning at EU level is substantially strengthened, by pre-identifying the TEN-T configuration, and in particular of its strategic "core", by means of a coherent methodology to be consistently and transparently applied across the territory of all Member States.

The main content characteristics of the three alternative policy options are summarised in the table below, in order to better highlight their shared and, respectively, distinctive elements.

Content		Option 0	Option 1	Option 2
Planning	Implementation	<p><i>Business as usual:</i></p> <ul style="list-style-type: none"> <li>- wider TEN-T configuration as currently annexed to the Guidelines (maps and outline plans dating since 1996)</li> <li>- 30 PPs as specified in the list currently annexed to the Guidelines (PP proposals as approved in 2004).</li> </ul>	<p><i>"Essen 2" approach:</i></p> <ul style="list-style-type: none"> <li>- wider TEN-T map will be updated, to reflect evolutions in the developed and planned infrastructure in the MS;</li> <li>- new PPs will be identified;</li> <li>- revised criteria for PP selection will better specify the elements that would constitute the European added-value of priority projects (cross-border links, multimodal connecting links, links alleviating bottlenecks, links to neighbouring and third countries).</li> </ul>	<p><i>"Core network" approach:</i></p> <ul style="list-style-type: none"> <li>- wider TEN-T map will be updated to reflect evolutions in the developed and planned infrastructure and adjusted according to a specific methodology to ensure consistency across all MS; it will constitute the "comprehensive" network</li> <li>- a "core" network, overlaying the "comprehensive" network, will be identified, on the basis of a specific methodology, to: include the strategically most important parts of the TEN-T, cross all missing links, alleviate all major bottlenecks and ensure optimal multi-modal connections;</li> <li>- projects of key European interest will be situated on the pre-identified strategic network configuration thus optimised at the level of planning.</li> </ul>
		<p><i>Business as usual:</i></p> <ul style="list-style-type: none"> <li>- continuation of current range of implementation instruments</li> <li>(a) financial – the TEN-T Programme, the Cohesion Fund, EIB loans and grants);</li> <li>(b) coordination - TEN-T EA, European Coordinators, TENtec;</li> <li>- continuation of initiatives currently under way with regard to interoperability standards - the ERTMS corridors, the ITS Directives, the Single European Sky etc.<sup>114</sup></li> </ul>	<p><i>Reinforced coordination at PP level:</i></p> <ul style="list-style-type: none"> <li>- individual PP Decisions will ensure a coordinated approach at PP level in the undertaking of infrastructural investments, the management of PP capacity, the deployment of interoperability standards and traffic management systems;</li> <li>- PP Decisions will place the overall management authority under the aegis of the European Coordinators;<sup>115</sup></li> <li>- the TEN-T EA will continue in its role of support towards project preparation and implementation.</li> </ul>	<p><i>Reinforced coordination at corridor level;</i></p> <ul style="list-style-type: none"> <li>- individual Corridor Decisions will ensure a coordinated approach at Corridor level in the undertaking of infrastructural investments, the management of corridor capacity, the deployment of interoperability standards and traffic management systems;</li> <li>- Corridor Decisions will place the overall management authority under the aegis of the Corridor Coordinators;</li> <li>- the TEN-T EA will continue in its role of support towards project preparation and implementation.</li> </ul>

**Table 7: Comparison of Policy Options**

<sup>114</sup> Should be noted that these standards are not specific to the TEN-T, nor is their implementation mandatory on all TEN-T projects of common interest (including the PPs).

<sup>115</sup> This would extend the scope of the European coordinators mandate over an entire PP, and all PPs will have a European Coordinator. Currently (i.e. and in a business-as-usual scenario), there are only 9 European Coordinators for 11 PPs.



## 5. IMPACT ANALYSIS OF POLICY OPTIONS

This section provides an assessment of the economic, social and environmental impacts that is proportionate to the nature and purpose of this Impact Assessment. The analysis of these impacts is mostly derived from a qualitative analysis of the policy options which is supported where possible by the conclusions of the qualitative assessment (see annex 6 for more details). The overall results of the analysis of impacts are summarised in the table 16 at the end of section 6.

### *Preliminary remarks on use of quantitative data<sup>116</sup>*

Quantification of impacts, derived from modelling results of the TENconnect II study, commissioned by DG MOVE, and compared and contrasted, where available, with the results of relevant internal and external studies, are used to give an order of magnitude of the expected impacts of planning scenarios.

The results of the TENconnect II study represent the outcome of more than three years of modelling efforts undertaken by two groups of experts under the coordination of DG MOVE. Although a series of recalibration and other fine-tuning exercises have improved the accuracy of modelling results<sup>117</sup>, the latter remain rather indicative due to the numerous uncertainties inherent to the modelling exercise (the uncertainties of some influential parameters being magnified given the long time horizon), undertaken over a long time horizon and with a large number of parameters that were difficult, when not impossible, to integrate in the model. Furthermore, the study focussed only on evolutions directly linked to infrastructure policy measures. Other transport-sector specific policy measures likely to have an important impact on how infrastructure will be used in the future (for instance pricing and other demand management measures), envisaged by the Commission in the White Paper on the future of transport as key to delivering an expected paradigm shift, have not been included in the model parameters either.

In addition, the policy options simulated in TENconnect II are not directly comparable to the policy options assessed in the Impact Assessment exercise, for two main reasons. First, TENconnect simulated the impacts of planning scenarios only, i.e. without an implementation dimension<sup>118</sup>. In other words, the modelling results do not take account of the effects of the different implementation strategies, of 'soft' measures such as the application of ITS and of the application of 'best practice'.<sup>119</sup>

Moreover, as explained in the Annex 6, the scenarios of the TENconnect II study are not directly comparable with the Options used for the purpose of this document. Though some limited differences exist between the routes chosen, the scenarios of the TENconnect II study can be related to the planning scenarios discussed in part 4: the BAU scenario is comparable to scenario A1, the CORE scenario is comparable to scenario A4 and the COMP being comparable to scenario A5. For reasons of clarity, when referring to the TENconnect II study,

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<sup>116</sup> Annex 6 gives the in-depth quantitative evaluation of the planning scenario A4 that forms part of Option 2, the core network. It also quantifies the effect of planning scenarios A1(BAU) and, as an outlier, A5, the fully comprehensive network.

<sup>117</sup> Modelling results show 19 % deviation from real count values in the road network.

<sup>118</sup> The TENconnect simulation was not in fact intended to take into account the implementation dimension of the proposed TEN-T Guidelines policy revision. This was due to the fact that mathematic models could not readily translate in figures for instance the role of a European Coordinator, the level of Member States coordination or a Corridor agreement on train drivers licensing or signalling systems on the successful implementation of ITS on the TEN-T.

<sup>119</sup> See appendix 7.

the scenarios will be mentioned with their TENconnect II names, i.e. BAU, CORE, and COMP<sup>120</sup>.

Second, the impacts of the planning scenario A3 (Essen II), which is one component of Policy Option 1 of the present IA report, could not be simulated given the high uncertainty surrounding the selection of Priority Projects by the Member States in a continuing bottom-up approach to planning of the TEN-T.

For these reasons, the modelling results could not be used as conclusive evidence to support the preferred option, but rather as orders of magnitude illustrating logical reasoning in a primarily qualitative assessment of policy alternatives. A number of empirical studies and theoretical research available in the field of transport have provided sufficient material to allow extrapolation for the assessment of impacts of the proposed Options and complement modelling results where necessary.

Given that Option 0 has been analysed in many studies and internal evaluations conducted or commissioned by the Commission (as quoted in section 2.4. of this report and listed in Annex 1), more data has been available for this Option than for the two other Options.

## **5.1. Economic impacts of the options**

The economic impacts of the proposed options will be analysed in two parts. Firstly, the impacts on the Transport sector will be analysed. In a second step, the impact on the general EU economy will be assessed, focusing on the support to the Single Market, GDP growth and trade with neighbouring and 3<sup>rd</sup> countries.

### *5.1.1. Impact on transport sector*

#### *Modality and efficiency of the transport system*

In Option 1, new Priority Projects proposals are likely to follow the tendency observed under the current policy approach (Option 0), i.e. a predominantly uni-modal focus. While revised criteria for priority projects selection will help foster more proposals that take into account the multi-modality dimension, co-modality is not likely to figure high among Member States' priorities and would therefore not develop significantly further. Nevertheless, as the road network is, by and large, already in place, the majority of the selected Projects will likely focus on rail or inland waterways development, favouring a certain modal shift: from road to rail for passenger transport, and from road to rail and inland navigation for freight. This is likely to alleviate congestion on the road network and improve its efficiency. The development of new infrastructure for rail and inland waterways is also likely to favour the efficiency of those modes across countries. This efficiency will be increased by the application of the reinforced coordination approach to the implementation of the selected Priority Projects, fostering the development of common rules and standards for interoperability along the individual projects. The improved governance of the reinforced coordination approach to implementation should also accelerate the realisation of complex cross-border infrastructure and therefore help complete the network by 2030.

In Option 2, the methodology used to define the core network would favour more adequate transport infrastructure coverage of the Union, modal-shift and co-modality. It should thus support a concentration of trans-national traffic and long-distance flows – both for freight and passengers – and, as a result, a higher resource efficiency of infrastructure use. Innovative information and management systems, that will form part of the network, would provide support for logistic functions, inter-modal integration and sustainable operation in order to

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<sup>120</sup> The results for the COMP scenario are sometimes given as a basis for comparison

establish competitive door-to-door (or, at least, terminal-to-terminal) transport chains, according to the needs of the users.

The efficiency of the whole transport system would be, as a result, improved. The reinforced coordination approach to implementation, as in Option 1, would further enhance overall efficiency. Moreover, as it would be applied on corridors selected according to the methodology of the core network, the positive effect would likely concern a larger share of traffic flows than in Option 1.

#### *Administrative burden*

In Option 1, the reinforced coordination approach to implementation on the selected Priority Projects should foster the reduction of administrative burden. This should prove to be especially the case for rail Projects, for which cooperation between national authorities and infrastructure managers would likely increase. However, with no coordination between Priority Projects and modes, the impact will not be optimal.

The reinforced coordination approach to implementation in Option 2 ensure common operational procedures (or at least compatible procedures) and similar quality standards of operation over the core. This will include smart information and communication technologies such as eFreight<sup>121</sup>, a system designed to facilitate common communication along and across the freight supply chain. However, as the methodology used for selection in Option 2 is likely to ensure that more traffic flows would be tackled in the selected Corridors as compared to Priority Projects in Option 1, lower administrative costs per unit would ensure in Option 2 than in Option 1. Essentially, Option 2 would provide the integrated infrastructure that would enable all businesses to benefit from good operational logistics, as well as for the travelling public, more effectively than Option 1.

#### *TENconnect results on Transport activity*

The following table from TENconnect II report gives an evolution of traffic activity and its modal organisation.<sup>122</sup>

		BAU	CORE	COMP
<b>Passenger car vehicle KM (billion PKM)</b>	Zone external	2,779	<b>2,814</b>	2,892
	Zone internal	3,034	<b>3,060</b>	3,086
Total passenger car PKM		5,813	5,874	5,978
<b>Passenger rail KM (billion PKM)</b>	Zone external	404	<b>398</b>	394
	Zone internal	119	<b>117</b>	115
<b>Air PKM (billion PKM)</b>	All	1,158	<b>1,137</b>	1,118
<b>Freight truck VKM (billion HGV VKM)</b>	All	266	<b>272</b>	277
<b>Freight rail TONKM (billion TONKM)</b>	All	690	<b>649</b>	638

<sup>121</sup> [www.eFreightproject.eu](http://www.eFreightproject.eu)

<sup>122</sup> These results are further explained and qualified in the Annex 6

**Table 10: TENConnect II Traffic flows impacts/ modal split (horizon 2030)**

These figures show a slight increase of road traffic and a limited decrease of rail and air traffic. Since most of the road network already exists while a large share of the European rail network remains to be built, the results are counter-intuitive. This is due mainly to the particularities of the model parameters. Due to the assumed absence of congestion on the road network, the CORE road network becomes highly efficient, attracting increased traffic. . In addition, car ownership propensity and thereby car driving (especially outside the core where the saturation level is currently lower) are assumptions directly and iteratively linked in the model to levels of income growth. Hence, as the results concerning increased income growth were fed back into the model, passenger car traffic grew proportionally. . Finally, as pointed out earlier, assumptions concerning pricing and other measures of demand management, strongly envisaged to be promoted at EU level in the coming decades, have not been taken into account.

Indeed, the results are different in the case of the modelling tool used for the assessment of impacts in the IA report accompanying the Transport White Paper, which included among its parameters the entire array of policy measures envisaged at EU level to induce the needed transport system paradigm shift. A significant modal shift, particularly from road to (freight) rail, is expected. In particular, the preferred policy option, which later informed the proposals put forward by the Commission in the White Paper, indicates the "greatest changes...due to very intensive policies with the objective of managing demand and encouraging a shift in modal choices."<sup>123</sup>

#### *Congestion & travel times*

Traffic congestion emerges when transport infrastructure capacity approaches saturation. Congestion brings about an increase in travel times as well as increased unreliability of travel times. The impact on congestion levels is measured as the reduction of time losses for both passenger and freight transport caused by road congestion (in hours).<sup>124</sup>

In Option 1, the expected modal shift – from road to rail for passenger transport and from road to rail and inland navigation for freight – would have a positive effect on congestion levels and is likely to reduce societal costs compared to Policy Option 0. The implementation of the reinforced coordination approach to implementation and the related improvement in interoperability are likely to further reduce congestion on roads, as well as on railways, inland waterways, ports and at cross-border sections. However, as already pointed out above, the extent of congestion reduction would largely depend on the list of Projects selected and their relevance for traffic flows.

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<sup>123</sup> SEC(2011) 358, pp. 58 -59.

<sup>124</sup> As explained in the OECD 2002 report on the Impact of Transport Infrastructure Investment on Regional development, the principle underlying the assessment of benefits associated with travel time is that transport system users' economic decisions regarding the location of their homes, businesses, mode choice or route followed to get to a specific destination and behaviour in traffic, reflect their valuation of travel time. In other words, users' willingness to pay in order to save time or the amount they would accept in compensation for losing time could be inferred from their behaviour. Time savings are benefits resulting from an improvement in the efficiency of the transport system (shortened routes, increased traffic fluidity, better access to connection services, etc.). For freight carriers, time savings will take the form of money savings given that reductions in travel time reduce hourly costs of transport services (e.g. drivers' wages, insurance, etc.) for shippers. For consignees, travel time savings may be converted into reduced inventory costs. Some analysts argue that the common practice in CBA of valuing commercial vehicle time savings on the basis on drivers' wage produces estimates for value of travel time that are too low, thus capturing only part of the true potential cost savings of freight carriers. The concern is that costs of capital equipment, benefits from accrued reliability and reduced delivery time of shipments are not explicitly accounted for. On the other hand, for passenger transportation, travel time savings normally bring no direct monetary reward.

Option 2 should have a greater positive impact on congestion than Option 1. As highlighted earlier, the multimodal dimension and the methodology to define the network and the corridors should lead to increased network use efficiency and interoperability in Option 2 as compared to Option 1, and therefore to higher positive effects on congestion.

The following table from the TENConnectII study gives the modelling results regarding time-saving, along two aspects, time-savings at local level (referred to as "Zone internal") and outside this zone (i.e. for medium to long distance transport, "Zone external").

Impact type	Type	BAU	CORE
Travel time car driver (billion hours)	Zone external	30.3	29.9
	Zone internal	39.0	37.6
Travel time car passenger (billion hours)	Zone external	18.1	17.8
	Zone internal	23.8	23.0
Travel time rail pass (billion hours)	Zone external	4.8	4.7
	Zone internal	2.2	2.2

**Table 9: TENconnect II Travel time impacts** (Figures are an estimate for the whole traffic in Europe, not only for the vehicles running on the TEN-T network defined, horizon 2030.)

The above data shows that, in the CORE scenario, European car drivers would save 0.4 billion hours when driving outside their region (30.3 – 29.9). In the same scenario, rail passengers would save 0.1 billion hours. In relative terms (taking into account their respective volume), the results indicate a 1.32% increase in time saving for car drivers and 2.08% time saving for rail passengers as opposed to a BAU scenario.

As a general comment, the TENconnect II study shows the positive economic impact of the CORE planning scenario compared to the Business-as-Usual. However, these results are based on a limited number of parameters (saving in time/increased road traffic) and do not take into account other measures such as the application of management and control measures facilitated through the application of ITS.

#### *TENconnect II Consumer surplus as a derivation of time-saving*

Economic growth and consumer surplus are closely related in the TENconnect II results. Consumer surplus is here understood as the summation of the benefit of time saved minus the total costs for the freight and passengers (tolls, fares, price of fuels...). The results give the following outcome regarding consumer surplus for the CORE network scenario and, by way of comparison, the COMP network scenario, both compared to the BAU scenario:

Impact type (billion euros)		CORE vs BAU	COMP vs BAU
Consumer surplus - passenger	Zone internal	44.8	130.7
Consumer surplus – freight	Zone internal	0.3	0.9
Consumer surplus - passenger	Zone external	25.5	94.1
Consumer surplus – freight	Zone external	7.1	18.4

<b>Subtotal – direct benefits</b>		<b>77.7</b>	<b>243.8</b>
<b>Subtotal – 2<sup>nd</sup> order GDP effects<sup>125</sup></b>		<b>30.7</b>	<b>75.6</b>
<b>Total</b>		<b>108.4</b>	<b>319.4</b>

**Table 8: TENconnect II Total socio-economic benefits (horizon 2030)**

According to the study, compared to the BAU, the CORE brings by 2030 €77.7 bln of direct benefits to the European Consumer. The COMP option triples this amount (including second order GDP effects adds some 40% benefit to the core and 31% benefit to the Comprehensive networks).

However, consumer surplus is calculated from the saving in time/increased road traffic caused by the network. It is therefore related to the numbers of billions of passenger car/km calculated by the model. This means in the end that each car/km generated by the network gives a benefit to the European economy. The benefits are calculated by distinguishing between business travel and various categories of leisure travel activities, hence acknowledge the difference in added value to the society.

### *5.1.2. General economic impacts*

#### *Support to the Single Market*

The development of the wider TEN-T will have positive effects on the free movement of goods, market segmentation, accessibility, and territorial cohesion, especially at the level of NUTS2 regions in all the three options considered here.

Compared to Policy option 0, the development of new Priority Projects in Option 1 is likely to increase the level of interconnectivity between the European markets. However, the extent to which expected higher interconnectivity would be achieved would depend on the list of Priority Projects chosen. As highlighted earlier, experience so far has shown that the list of projects is more likely to reflect political choices rather than decisions based on economic assessments. The problem of fragmentation of the network, and therefore of the internal market, would not be adequately addressed.

Given that the core network is the top-layer of the wider/comprehensive network, Option 2 is likely to generate enhanced positive impacts as compared to Option 1, due to the synergic effects of the two networks. In Option 1, the positive impacts of the comprehensive network could be hampered due to continuing limited interconnectivity among the Priority Projects.

The implementation of the planned infrastructure could be however easier in some cases for Option 1 than for Option 2. Member States may be more willing in some cases to implement Projects that they have selected themselves rather than Projects that have been selected on the basis of a methodology, even if the latter is agreed at EU level and has been largely discussed and reviewed with Member States and stakeholders.

#### *Economic growth*

According to economic literature, investment in network infrastructure can boost long-term economic growth<sup>126</sup>. However, it has to be borne in mind that not all studies converged

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<sup>125</sup> 2nd order GDP includes:

- lower goods prices through lower generalized freight costs (substitution effect)
- higher factor income because of higher demand from other regions for local goods (income effect)
- variety effect (utility from richer availability of goods)

towards this conclusion, since some are inconclusive<sup>127</sup>. This Impact Assessment assumed that infrastructure investment can have a positive effect on growth that goes beyond the effect of the capital stock, due to economies of scale, the existence of network externalities and competition enhancing effects.<sup>128</sup> Studies have shown that relatively large improvements in infrastructure (and accessibility) can translate into gains in economic performance, though limited.<sup>129</sup>

A more integrated and efficient transport system enabling the free movement of people and goods across the EU and with its neighbours is expected to contribute to economic growth, as it would allow for a more efficient use of resources. The EU economy should also benefit from the increase in the capacity and performance of the infrastructure resulting from the elimination of bottlenecks and addition of missing links. Moreover, the building of new infrastructure would have an important impact on the construction sector; some infrastructure projects like high-speed rail provide several years of works for building companies and related businesses. In addition, the promotion of intelligent transport systems and traffic management systems should foster research and innovation for new technologies and create new business cases. Finally, the improvement of the efficiency of the transport system and the reduction of related obstacles would improve the economic conditions for both transport businesses and enterprises heavily depending on transport for their activity.

Option 1 is likely to have a certain positive impact on EU economic performance thanks to increased connectivity, accessibility and connections with the neighbouring countries, as a consequence of building additional infrastructures. However, as argued earlier, the impact would depend on the list of Priority Projects to be adopted and may have an unbalanced effect between countries. The reinforced coordination approach in the implementation of the Priority Projects is likely to enable an increased deployment of intelligent transport systems. It is also likely to improve the efficiency of the transport system (see analysis below). It will accelerate the realisation of complex cross-border infrastructure and help thus complete the network by 2030. It will accelerate, as a consequence, also the cumulative effect of GDP growth. As a whole, Option 1 could have a positive effect on EU economic growth, but will risk being unbalanced.

Option 2 is likely to have an increased positive impact on EU growth compared to Options 0 and 1, due to its strong positive impact on interconnectivity and accessibility throughout Europe and consequently on the free movement of goods in the EU and with trading partners. Moreover, the reinforced coordination approach applied to core network planning should prove more efficient in implementing intelligent transport systems and in making transport systems more efficient than in Option 1. Option 2 is thus likely to be the option with highest positive impact for economic competitiveness.

#### *GDP results of the TENconnect II study*

The TENConnect II study gave comparisons (with business-as-usual/BAU) of GDP performance of both CORE network and COMP network at the planning level.<sup>130</sup>

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<sup>126</sup> See for example the World Bank Report—Connecting to Compete 2010 Trade Logistics in the Global Economy -The Logistical Performance Index and its Indicators

<sup>127</sup> See for instance the following summary of studies:

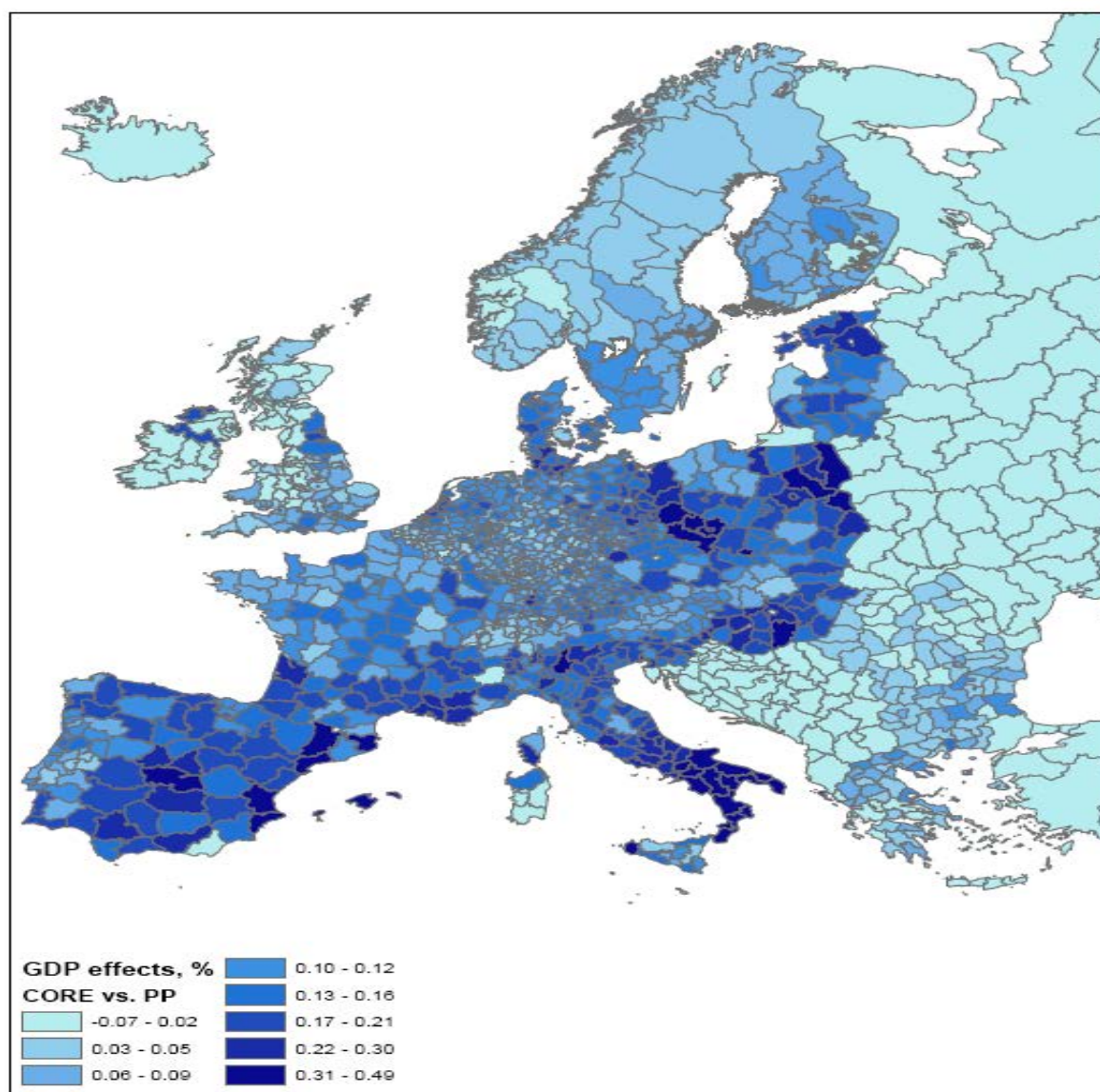
[http://www.dtu.dk/upload/institutter/dtu%20transport/rapporter/rap\\_7\\_2010\\_infrastruktur%20og%20danmarks%20internationale%20konkurrenceevne.pdf](http://www.dtu.dk/upload/institutter/dtu%20transport/rapporter/rap_7_2010_infrastruktur%20og%20danmarks%20internationale%20konkurrenceevne.pdf)

<sup>128</sup> Infrastructure and Growth: Empirical Evidence , OECD Economics Department Working Paper No. 685, March 2009

<sup>129</sup> As shown by the ECORYS report, using the SASI model.

<sup>130</sup> See Annex 6. for a more detailed critical analysis of the TENconnect results

In TENconnect II, the Economic growth (measured in induced GDP Growth) is related to traffic growth. Based on the 2<sup>nd</sup> GDP effects mentioned in table 8, the map below shows the growth induced by the Core Network in 2030 compared to the growth of the Business-as-usual scenario (with the completion of the current Priority Projects). This map the positive benefits of the CORE for regions situated along the eastern and southern shores of the EU. Regions that are already well connected (or that should be thanks to the completion of the current Priority Projects) do not gain much from the CORE, unlike regions that were not connected because of the political choices made when selecting the Priority Projects; this seems logical. However, while the general results seem coherent, results are sometimes incoherent for a limited number of regions.<sup>131</sup>



**Figure 6: TENConnect II GDP effects (horizon 2030)**

### *Trade with neighbouring and third countries*

The lack of appropriate connections with neighbouring countries (mostly via cross-border connections) and third countries (via ports) is one of the obstacles to the development of trade, both for imports and exports. The impact of transport infrastructure and the related

<sup>131</sup> Ibid.



costs of transport on trade have been studied in the academic literature<sup>132</sup>. Studies by the World Bank on countries logistics performance show the correlation between economic growth and freight transport logistics effectiveness and efficiency.<sup>133</sup> This correlation is also supported by other studies<sup>134</sup>.

In Option 1, it is likely that the political process leading to the selection of the new Priority Projects will limit the number of connections towards neighbours. In a bottom-up approach, Member States are more likely to propose projects providing for connections between themselves rather than connections with non-EU neighbours in order to get more immediate results. However, it is likely that Member States with a maritime interface will seek to connect their main ports in order to develop their hinterland and foster their competitiveness. Member States with existing important connecting platforms with neighbouring countries might also seek to connect those hubs.

Option 1 is therefore likely to improve connections with 3<sup>rd</sup> countries compared to the baseline scenario. Yet, this improvement would be highly dependent on the bottom-up selection of Priority Projects, which may result in omissions or inappropriate connections compared to the actual needs (as it is currently the case and has been pointed out in the problem definition).

In Option 2, the connection with neighbouring countries is included in the methodology that will help define the Core Network (see section 4 above).

#### Innovation<sup>135</sup>

Innovation in technology can improve the sustainability of transport without restricting economic growth. Innovation can reduce the adverse environmental impacts of transport operations by reducing emissions, noise levels, etc., and can improve their quality in terms of speed, comfort, as well as their safety. Similarly, by increasing the competitiveness of certain modes of transport, it can present them with new opportunities and can strengthen their position in relation to the other modes (for instance the TGV high-speed trains).

The ECORYS study explains that much of the technological innovation is undertaken by the private sector. The FREIGHTVISION study gives an inventory of probable technological developments and their likely contribution to reducing transports various 'externalities'. Also the Super Green<sup>136</sup>, PROMIT and FREIGHTVISION Projects, give details of 'best practice' in rail freight transport—see annex 7. The main role of the EU is to regulate and stimulate innovation. Regulation consists in establishing interoperability and in promoting the introduction of useful technology which, although it is already fully developed, requires the imposition of more stringent rules to make it economically justifiable.

Many drivers can affect the level of innovation. For the purpose of this document, the impact of the Options on innovation will be considered through the level of implementation of horizontal activities, i.e. the implementation of traffic management systems and Information and Communication Technologies (ICT). Traffic management systems, by simplifying and speeding up the technical interoperability of cross-border transport, provide innovation

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<sup>132</sup> See for example Limao and Venables (2001) and Radelet and Sachs (1998).

<sup>133</sup> World Bank Report—Connecting to Compete 2010 Trade Logistics in the Global Economy -The Logistical Performance Index and its Indicators

<sup>134</sup> Such as Limao and Venables (2001): studying the case of African countries for example they have shown that having an infrastructure in the top standards raises trade volumes by 68 percent, equivalent to being 2005 km closer to other countries. The deterioration of the infrastructure on the contrary reduces trade volumes by 28 percent, equivalent to being 1627 km further away from trading partners.

<sup>135</sup> Defined in the ECORYS study as the use of new ideas, processes, goods, services and practices in a more or less commercial way, based on any (new) application of science and/or technology.

<sup>136</sup> SuperGreen is a 7FP project that will define criterion for Green Corridors

opportunities, stimulating cross-border knowledge transfer on effective deployment, cross-fertilisation and novel add-on services. In addition, the ITS market itself will benefit from harmonisation and standardisation efforts, while synchronised actions will lead to coordinated deployment and shortening of time to market for new services (reducing the need for venture capital).<sup>137</sup> Moreover, the development of these systems in Europe thanks to the expanded deployment in the TEN-T would favour economies of scale and demonstration that can also turn them into innovative export successes for the European industry.

In the Baseline scenario interoperability will develop through enforcing the existing legislation on ERTMS<sup>138</sup> and Intelligent Transport Systems<sup>139</sup>. However, this development is likely to be hampered by the cooperation problems shown in part 2.4.2. Also the ITS Action Plan will attempt a role out of appropriate ITS and ICT technologies, but without certainty as to when such systems will be universally applied. The reinforced coordination approach to implementation in Options 1 and 2 is likely to accelerate the development of traffic management systems by improving governance and by potentially widening its use on new corridors. On the basis of the above, all three Options will have a positive effect on innovation, though in varying degrees - the impact is likely to be stronger for Options 1 and 2 than for Option 0.

### *Conclusion*

Both Options 1 and 2 would have an overall positive economic impact, both at macroeconomic level and for the transport business. Option 2 should have a deeper positive impact than Option 1 due to the specific methodology for selection of the Core Network and Corridors, which should result in more traffic flows being affected by the improvements in infrastructure and soft measures.

## **5.2. Social impacts of the options**

### *5.2.1. Employment and Jobs*

Jobs related to infrastructure investments

Within the TENconnectII methodology, employment and jobs effects are integrated in the economic/GDP growth calculations above. Hence, as there are positive effects on GDP growth from a CORE network, then it is assumed that there will be positive effects on jobs, not just short term through construction, but long term through the enhanced efficiency that a true network would bring. This assumption comes with the caveat that it is possible to have growth without job creation.

According to the economic literature, infrastructure investments help boost economic growth, enhance trade and mobility of people and constitute a highly effective engine of job creation. One recent study in the US showed that infrastructure investment spending creates about 18,000 total jobs for every \$1 billion in new investment spending, including direct, indirect

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<sup>137</sup> From the Impact Assessment accompanying the Communication from the Commission, Action Plan for the Deployment of Intelligent Transport Systems in Europe and the Proposal for a Directive of the European Parliament and of the Council laying down the framework for the deployment of Intelligent Transport Systems in the field of road transport and for interfaces with other transport modes

<sup>138</sup> Commission Decision of 22 July 2009 amending Decision 2006/679/EC as regards the implementation of the technical specification for interoperability relating to the control-command and signalling subsystem of the trans-European conventional rail system [C(2009) 5607 final] (also referred to as "the European Deployment Plan")

<sup>139</sup> Directive 2010/40/EU of the European Parliament and of the Council of 7 July 2010 on the framework for the deployment of Intelligent Transport Systems in the field of road transport and for interfaces with other modes of transport

and induced jobs<sup>140</sup>. Job creation is mainly related to infrastructure works, but it is also induced by the indirect economic effect of the use of the new infrastructure. According to an impact assessment comparing different infrastructure investments scenarios in the U.S.A.<sup>141</sup> the highest proportion of new jobs would be in construction. For their baseline scenario (\$54 billion baseline increase in public infrastructure investment), about 641,000 new construction jobs would be generated. Their high-end investment scenario (\$93 billion high-end increase in public infrastructure investment) would generate about 1 million new construction jobs. Overall, about 40 percent of all new job creation through either investment programme—including direct, indirect, and induced jobs—would be in construction.

As pointed out in an ECORYS study,<sup>142</sup> construction jobs created by infrastructure investments are mostly temporary jobs. However, permanent indirect impacts on employment are related to the improved accessibility of a given region by reduced travel time and costs, thereby possibly attracting new enterprises and related socio-economic activities resulting in the creation of new jobs. The U.S. investments scenarios study shows that about 146,000 new manufacturing jobs will result through the baseline investment scenario and the high-end investment scenario will generate about 252,000 new jobs. About 10 percent of the overall new job creation will be in manufacturing.

Extrapolating the above calculation to the case of the European Union and taking into consideration the investments needs necessary for the chosen options, it can be estimated that the following number of jobs could be created by 2020 if the investments to implement the infrastructure needs identified are concretised:

	<i>Investments needs estimates by 2020<sup>143</sup></i>	<i>Job creation estimates by 2020<sup>144</sup></i>
<b>Option 0</b>	€150 billions	2.03 million jobs
<b>Option 1</b>	€200	2.72 million jobs
<b>Option 2</b>	€215	2.92 million jobs

It has to be noted here that this calculation assumes that all the investment needs identified (in cooperation with Member States via the TENtec system and the DG MOVE services) will be realised by 2030. However, this depends on the amount of budget allocated by the EU and Member States to infrastructure investments in the next decade. This question will be addressed in the Impact Assessment on the Financial Instruments in support of Transport Infrastructure and the Impact Assessment of the TEN-T Financial Regulation<sup>145</sup>.

Moreover, a comprehensive OECD 2002 report<sup>146</sup> on transport infrastructure investment<sup>147</sup> analysed employment impacts and distinguished between first, second and third round effects. First round effects concern direct employment in construction and materials supplying

<sup>140</sup>How Infrastructure Investments Support the U.S. Economy: Employment, Productivity and Growth, Political Economy Research Institute, January 2009.

<sup>141</sup>Ibid.

<sup>142</sup>ECORYS, *ibid*, p102.

<sup>143</sup> Estimates based on Member States Infrastructure Investment plans (2014 – 2020) established by DG MOVE in cooperation with Member states via TENtec database and bilateral meetings in April 201. These figures have also been used for the White Paper.

<sup>144</sup> Euro on 2011 basis, 18,000 total jobs for every \$1 billion investment, average exchange rate euro – dollar of January 2009 (date of the above mentioned study)

<sup>145</sup> N° Agenda planning : 2011/MOVE/019

<sup>146</sup> Impact of Transport Infrastructure Investment on Regional Development, OECD report, 2002:

<http://www.internationaltransportforum.org/Pub/pdf/02RTRinvestE.pdf>

<sup>147</sup> This study is presented in more details in annex 7

industries. The study concluded that for \$ 1 Bln investment, 572 million employment income has been calculated, resulting in almost 20 000 person-year of work.<sup>148</sup> A second round of employment and income effects occurs in the production sector in response to the demand for additional inputs required by construction materials supplying industries. The value of these first and second round of effects have a total multiplier effect of 2.34, meaning that \$1 Bln investment results in 2.34 Bln output in goods and services. The same report presents a similar exercise for France. As shown in the table below, the ratio of direct and indirect jobs compared to investment is smaller but still significant.<sup>149</sup> A third round employment and income benefits occur in the guise of what is termed “induced” employment and reflects producers’ response to an increase in the demand for all goods and services.<sup>150</sup> These are generally *short-term employment effects*, i.e. linked to the duration of the effective project infrastructure building.

	<i>United States</i>	<i>France</i>
<i>Direct jobs</i>	11 059	7 940
<i>Indirect jobs</i>	12 493	8 070
<i>Induced jobs</i>	18 694	5 250
<i>Total</i>	42 246	21 260

**Table 11: Direct and indirect employment effect for the USA and France for EUR 1 billion (FRF 6.56 billion or USD 1.11 billion -at 2002 prices) (OECD 2002 Report)**

With the projections for the annual cost of the TEN-T given as ranging from €21.4 billion for BAU, through € 28.6 billion for the CORE and € 30.7 billion, based on the more conservative French data, the annual job creation would vary from 455000 for BAU to 608000 for the CORE. Based on the more conservative French data, the total cumulated job creation to implement the infrastructure needs would be the following for 2014 -2020:

	<i>Investments needs estimates by 2020<sup>151</sup></i>	<i>Job creation in worker years estimates by 2020<sup>152</sup></i>
<i>Option 0</i>	€150 billions	3.2 million
<i>Option 1</i>	€200	4.3 million
<i>Option 2</i>	€215	4.6 million

<sup>148</sup> As the report was written in 2002 the values should be seen as giving a general correlation and not an accurate representation of employment levels over the period to 2030.

<sup>149</sup> For example, the high-speed line Viller-les-Pots to Petit-Croix, counting 140 km and €2.312 billion investments, has generated about 6500 direct and indirect jobs during the five years of construction. <http://est.lgvrhinrhone.com/medias/pdf/medias1177.pdf>

<sup>150</sup> The OECD report explains that "it should be made very clear that the employment impacts considered here are not related to employment opportunities resulting from industrial restructuring or other types of economic spillover benefits due to highway investment. The income and employment effects considered here result from construction expenditures working their way through the economy, much as in the case of other types of exogenous spending. In fact, because the employment estimates considered here are based on fixed relationships describing the use of human resources, the possible productivity benefits of transportation improvements on the construction industry, materials supplying industries, or other sectors of the economy are not considered."

<sup>151</sup> Estimates based on Member States Infrastructure Investment plans (2014 – 2020) established by DG MOVE in cooperation with Member states via TENtec database and bilateral meetings in April 201. These figures have also been used for the White Paper.

<sup>152</sup> Explanation for the calculations: the ratio of direct and indirect employment compared to cost is 42246/billion Euro in the USA and 21260/billion in France. With the projections for the annual cost of the TEN-T given as ranging from €21.4 billion for Option 0, through €28.6 billion for Option 1 and €30.7 billion for Option 2, the results give the following table. Given that the construction programme would last from 2013 until 2030, i.e. for a total period of 17 years, then the expected job creation could be as high as: BAU=7.74 million workers over 17 years; CORE=10.3 million worker years; COMP=11.1 million worker years

The two studies mentioned above therefore conclude with comparable results, showing an important impact of infrastructure investment on job creation, applying to a large category of jobs. Since the impact is correlated to the level of investments, Option 2 will have a slightly more important impact than Option 1.

*Long-term employment effects* of infrastructure development are not easy to calculate. However, studies have highlighted the long-term impacts of infrastructure development can have on the regional economy. For instance, the Severn Crossing bridge was opened in Wales in the 1966 with the view to improve communications between London and South-West Wales, towards Ireland. The ex-post assessment done by the Cambridge Economic Consultants' (CEC) in 1987 gave the following results in term of long-term job creation for the regional economy:

Table IV.4. The impact of operation on the regional economy of South Wales

	Number of jobs	
	Short-term impact (4-5 years)	Maximum impact (15-20 years)
Direct jobs in operation and maintenance of infrastructure	105	105
Jobs in local producers and suppliers	46	46
Displacement of other infrastructure projects and jobs	-50	-50
Net additional jobs in manufacturing industry (including linkages)	8 000 – 10 000	12 000 – 18 000
Net additional jobs in tourism	3 000 – 4 000	6 000 – 7 000
Changes in location of wholesale and retail distribution and other consumer services (net employment change)	-2 000 to -3 000	-4 000 to -5 000
Sub total (1+2+3+4+5+6)	9 100 to 11 100	18 300 to 26 100
Total after application of local income multiplier	11 800 to 14 400	18 300 to 26 100
Longer term impact on employment in house-building, public services and infrastructure and its local income multiplier effects		5 640 to 8 040
Total employment generated		23 940 to 34 140
Total additional houses built per annum (over 10 years)		6 128 to 8 739
Total additional population (all ages)		17 000 to 24 275
Total additional employment <sup>1</sup>		23 940 to 34 140

1. This represents an increase in economic activity and employment in industrial South Wales of about 4%.  
Source: Cambridge Economic Consultants (1987).

Similar case studies are mentioned in the OECD report, showing the positive results of infrastructure development on long-term job creation. However, in the absence of clear parameters explaining these results, the impact of the proposed policy options on long-term employment effect cannot be compared for the purpose of this document.

#### *Effects on employment in the transport sector*

As demonstrated by the Impact Assessment accompanying the White Paper<sup>153</sup>, in a no policy change scenario total employment in transport services is projected to roughly maintain its relative share by 2050, resulting in a lower level of absolute employment by the sector. With growing transport activity demand, this may negatively affect the workload and working conditions. Furthermore, scarcity of labour and skills due to ageing could further aggravate the shortage of labour already experienced in many segments of the transport sector before the crisis. In absence of innovative alternatives, this may also result in higher transport costs for society.

However, total employment in transport services is expected to grow if modal shift occurs, as the Impact Assessment of the White Paper shows, in light of the conclusions of various

<sup>153</sup> Annex 3

economic studies.<sup>154</sup> Employment effects from induced modal shift depend on the labour intensity of each mode: road transport and inland waterways are more labour intensive than maritime transport, railways or aviation. Amongst the labour-intensive modes, the largest employer is road freight transport, whose job losses due to modal shift may, in part be compensated by new jobs in multimodal transport services and logistics. It should be born in mind that prior to the recession there was a chronic shortage of jobs in road freight and so providing alternative transport in a more streamlined network should be seen as facilitating effective employment in all sectors.

It can also be noted that the maintenance and operation of the newly created infrastructure create jobs. The OECD report referred to earlier explains that for instance, a "motorway, analysed as a "company", "sells a service" and thus brings in revenue, provides jobs, generates substantial intermediary consumption (which may benefit the region served)". The Report explains that for the Motorway section Poitiers Bordeaux, more than 1200 jobs were created for the maintenance and operation of this 220 km-section. Most of these jobs are new jobs corresponding to a new service.

The effect of employment of the baseline scenario will be linked to the construction of the current TEN-T Priority Projects. The European parliament Report on Accessibility and Cohesion (Annex 2) does not prescribe much overall employment benefit, with winners and losers in equal measure.

The effects of Option 1 should be positive, regarding the economy overall, and there will be jobs facilitating co-modal transport and modal shift. More substantial, would be the overall economy employment gains that Option 2 would bring through facilitating effective transport operation.

### 5.2.2. Public Health and Safety

#### *Safety & accidents*

According to the TEN Connect I study, a business as usual (BAU) scenario would increase the external costs of accidents (road, rail and inland waterways combined) from €128.6 billion in 2007 to €144.3 billion in 2020—the increase mainly resulting in new Member States.

The TENConnect II study revisited the BAU scenario and compared it with the CORE network scenario.

Impact type (billion euro)	BAU	CORE	CORE vs BAU
Road safety	136.0	137.1	+1.1

**Table 12: TENconnect II results for Road Safety impacts (External costs) (horizon 2030).**

TENconnect simulation indicates a growth in total costs of accidents in the Core network planning scenario (Option 2) as opposed to the traffic forecast on the TEN-T in a continuing BAU scenario (Option 0). The growth of accident related costs in a CORE network planning scenario is a consequence of increased traffic thanks to improved system efficiency (i.e. the

<sup>154</sup> See for instance, "Climate Change and employment – Impact on employment in the European Union-25 of climate change and CO2 emission reduction measures by 2030", European Trade Union Confederation (ETUC), Instituto Sindical de Trabajo, Ambiente y Salud (ISTAS), Social Development Agency (SDA), Syndex, Wuppertal Institute (2007).

rebound<sup>155</sup> effect) as opposed to the BAU scenario. The data needs however to be read with the following two qualifications:

1) The relative overall increase in road safety costs (0.8%) that the TENconnectII modelling shows in a CORE network planning scenario should be seen in the overall context in the increase of traffic.

2) As a consequence of its exclusively planning starting point, as highlighted earlier, the TENconnectII model did not take into account a series of other implementation related factors that would contribute to mitigating the negative effects in two ways:

a) a likely increased modal shift in the actual Option 2 scenario, due to a series of non-infrastructure measures to be promoted in the context of the reinforced corridor coordination approach, that would lead to a shift away from road traffic, resulting in less traffic on road than estimated by the model and therefore less accidents;

b) a series of other measures that would contribute to increased safety on road, reducing thus the ratio of accidents/gravity of per unit of traffic volume (as opposed to the ratio used in the model), such as the use of intelligent traffic management systems and services and higher standards with regard to the construction of roads. (Notably, for example, the experience and results of Commission's Action Plan for road safety have not been taken into account in the TENconnectII simulation.)

Furthermore, as demonstrated by the evaluation of the EasyWay project<sup>156</sup>, the coordinated deployment of ITS services on the trans-European road network) can have significant positive impacts. Thus, within the frame of EasyWay I, this has lead to injury accident savings of between 10% and 20%, depending on the particular application, rising to approximately 60% on some safety critical roads sections.

The results of the deployment of dynamic traffic and network management services in particular, successfully deployed by European road operators to tackle disrupted traffic flows on strategic and critical sections of the TEN-T, have proved significant on those parts of the network that suffer greater congestion and accident rates. Positive impacts include increased capacity rates of up to 9% and a reduction in accidents of typically between 20% and 30%, but as high as 63% on particular safety critical sections of the TEN-T.

Implementation of both ITS and state of the art technological standards on the physical infrastructure is envisaged in all three retained TEN-T policy options but, as argued in the IA Report, these are likely to be most effectively and widely deployed in Option 2 as opposed to BAU/Option 0 as well as Option 1, due to better and coordinated implementation and wider traffic volumes affected.

### 5.2.3 Accessibility and territorial cohesion

As with Option 0, Option 1 is likely to have an unbalanced effect on peripheral areas. As demonstrated in the ECORYS report<sup>157</sup>, the Priority Projects approach is likely to give more weight to countries which are net-contributors to the EU Budget. The result might be a lower increase of accessibility for EU12 countries compared to EU15. While the level of accessibility for EU12 is already significantly lower than for EU15, differences will be further accentuated by the expected rise in fuel costs. Therefore, Option 1 is not expected to bring

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<sup>155</sup> Rebound effects are indirect, second order effects of policy instruments, which are often unintended and have the potential to undermine the ultimate objective of the primary policy instrument.

<sup>156</sup> EasyWay – Synthesis of Project Evaluation Results 2007-2009, 15 February 2011.

<sup>157</sup> Ex ante evaluation of the TEN-T Multi Annual Programme 2007-2013, ECORYS, October 2007. Accessibility is measured in average speed of interregional road and rail trips (see Annex 2 of the present report)

general improvement to territorial cohesion, except for those few regions that are part of the new Priority Projects.<sup>158</sup>

In Option 2, the impact will be much higher since the network to be financed will be made up primarily of selected corridors on a Core Network identified on the basis of a transparent and coherent European planning methodology, purposely designed to ensure a balance geographical coverage. As a result, interconnectivity between national networks will be improved where it is necessary, as the planning methodology will allow for the identification of network development on the basis of traffic flows<sup>159</sup>, transport demand as well as objectives of territorial cohesion and economic development.

It should be remembered that the Core Network will constitute the strategically most important parts of the TEN-T, as identified (on the basis of the above mentioned planning methodology) of the Comprehensive Network –the basic layer of the TEN-T. While the Core Network is specific to Option 2, 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. It should ensure the 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 would feature minimum infrastructure standards, and aim at interoperability wherever necessary for seamless traffic flows across the network. All European citizens and economic operators should be able to access the Core Network, via the Comprehensive Network, on comparable terms.

In the TENconnect II study, the comparison of the Business-As-Usual scenario (seen on map as PP) with the proposed CORE network for Accessibility is given in the following map—hence the 'added value' of the CORE over-and-above the currently programmed, fragmented network is shown. The map is similar to that for GDP.

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<sup>158</sup> According to the TENconnect I study, a policy is normally classified as pro-cohesive if it helps economically lagging regions grow faster than economically more advanced regions. The implications of European transport policy for the regional cohesion were analysed in a series of research projects funded by the EC, for example, ESPON 2.1.17, IASON8, and ASSESS9.

<sup>159</sup> The traffic flows were identified by the Member States via the TENtec system, used as a monitoring tool by DG MOVE, see Annex 5 of the present report.



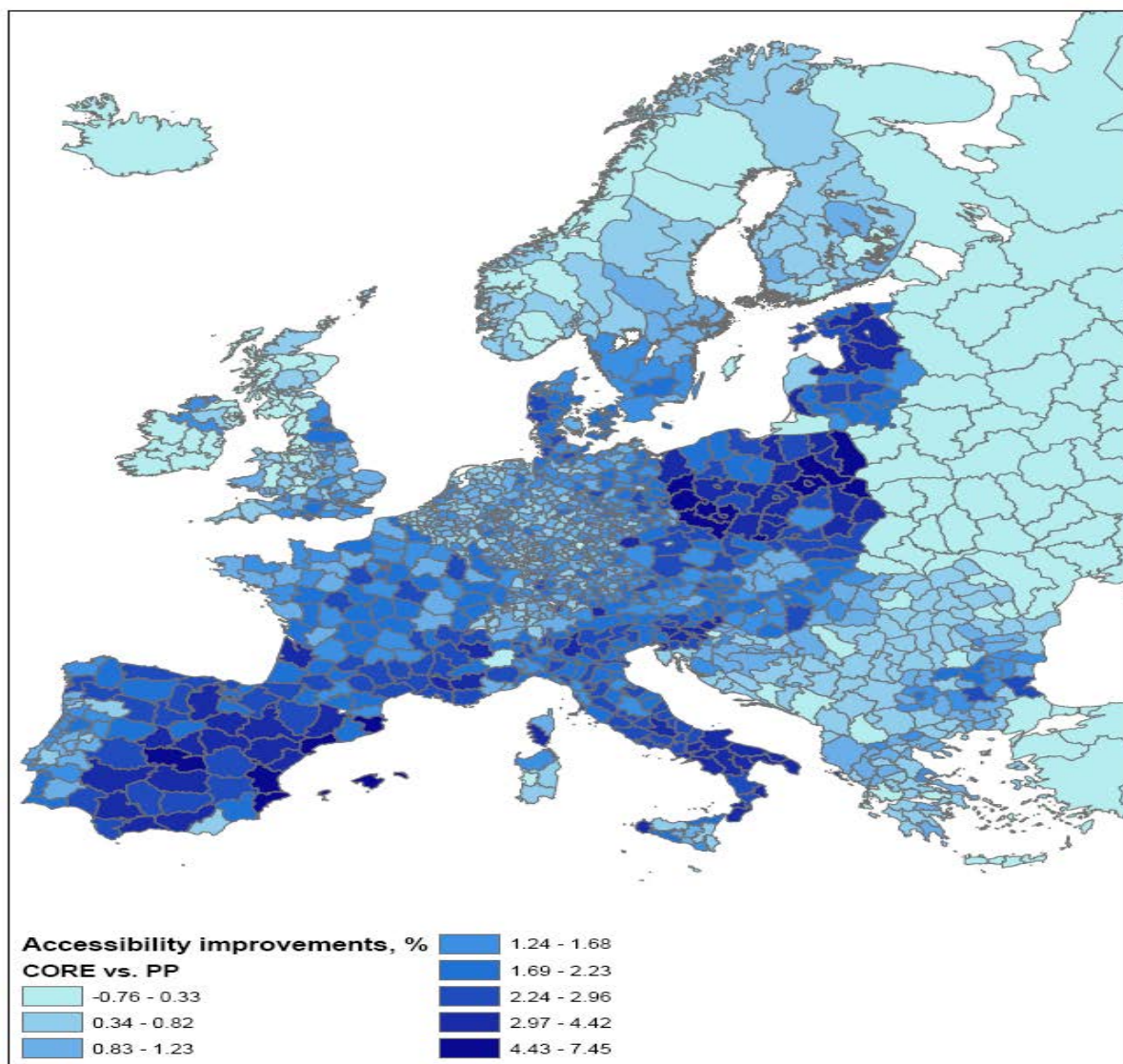


Figure 7: Comparison of BAU with the proposed CORE network for accessibility (horizon 2030)

### 5.3. Environmental impacts: Climate effects, Air pollution, Noise

The 'rebound effect' seen in increases in road and a decrease in rail traffic is the result of the assumption of an absence of congestion on the CORE network (see explanation in annex 6)—hence the CORE not only increases traffic on itself but alleviates congestion on the rest of the network and this creates demand. Again, it is the implementation measures that need to be applied hand-in-hand with network planning, so as to achieve significant sustainability improvements—see case studies report at annex 7.

#### 5.3.1. Climate change

According to the business-as-usual scenario of the Commission Communication "A Roadmap for moving to a competitive low carbon economy in 2050", EU transport's GHG emissions will increase by 60% to 70% in 2050 in comparison to the 1990 levels. In addition, a 50% reduction of emissions in other sectors compared to 1990 would increase transport's share in total emissions from 20% (current state) to 50% by 2050.

The reinforced coordination approach to implementation of Options 1 and 2 would improve the efficiency of the transport system and promote more sustainable transports through the deployment of intelligent transport systems improving the efficiency of transport operations, innovative solutions to promote low carbon transport and other forms of "green" transport solutions, as well as through stimulating technological innovation in transport and infrastructure development. Again, due to the specific methodology selection of network and corridors, based on a multimodal and traffic-flow approach, the positive effects of Option 2 are likely to be significantly higher than those of Option 1.

#### 5.3.2. Air pollution (*NOx*, *PM*, *SOX*, *HCS*)

Air pollution levels, as defined by the Directive 2008/50/EC of the European Parliament and the Council on ambient air quality and cleaner air for Europe, mostly depend on the vehicles' (including ship's) pollutant emissions performance and road traffic congestion in urban areas. To a large extent, the reduction of air pollution depends on the enforcement of the legislation concerning vehicles emissions<sup>160</sup>.

Options 1 and 2 would contribute to further reduction in emissions thanks to their positive impact on congestion reduction, and as a result of induced modal shift. On the other hand, Options 1 and 2 would facilitate larger volumes of transport traffic flows, leading to an increase of energy and fuel consumption, the so-called rebound effect. Hence, whether on balance the overall impact will be positive or negative will depend on the extent to which cleaner vehicle technology is introduced. The reinforced coordination approach to implementation would further contribute to the reduction of vehicles emissions in both Options, as it enables better promotion of greener transport solutions, for example by fostering the replacement of diesel locomotives by electric ones and promoting cleaner road transport through technological innovation for both vehicles and the infrastructure. Due to its multi-modal and traffic flow based approach, the positive impact of Option 2 would be higher than that of Option 1.

#### 5.3.3. Noise

According to one study,<sup>161</sup> road generally accounts for approximately 70% of total noise emissions by transportation, rail for 10% and air transport for 20%.

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<sup>160</sup> Such as Regulation (EC) No 715/2007 of the European Parliament and of the Council of 20 June 2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information (Text with EEA relevance)

<sup>161</sup> Noise Pollution Emitted by Transportation Systems, Dr. Jean-Paul Rodrigue 2009

The reference scenario of the Impact assessment of the White Paper highlights that the forecasted increase in traffic would lead to roughly 20 bn € increase of noise related external costs by 2050. Option 0 would thus have a negative impact on noise emissions.

Option 1 and 2 are not likely to limit traffic growth. However, they will influence modal shift: mainly from road to rail and inland waterways for freight transport, and from road and aviation to rail for passenger traffic. In relative terms, road and air transport noise will decrease while rail transport will increase overall therefore, noise emissions should decrease.

Moreover, with the reinforced coordination approach to implementation, higher quality infrastructure will be promoted, therefore reducing noise emissions, particularly for rail, road, and multimodal platforms (for instance, the promotion of rail electrification will foster the replacement of heavy diesel locomotives by lighter electrified ones). In addition, as noise emissions reduction is likely to come mainly from changes in the motorisation of vehicles/rolling-stock, the promotion of more silent vehicles through the reinforced coordination approach to implementation will likely strengthen the overall positive impact on the reduction of noise emissions of Options 1 and 2. Option 2 is likely, however, to have a higher positive impact than Option 1, due to the overall higher volumes of traffic affected (as highlighted earlier).

Since the implementation of Priority Projects in Option 1 and of Corridors in Option 2 will be ensured under the legal format of Decisions, the social impacts of these PPs/Corridors will be studied in detail in the subsequent Impact Assessments necessary for the adoption of the Decisions.

#### *Results of the TENConnect II on environmental impacts*

For Noise, Air pollution and Climate effects the TENconnect II study gave the following results comparing the CORE & COMPREHENSIVE (For information) with the Business-as-usual:

	<b>Scenario</b>			
<b>Impact type (€billion)</b>	<b>BAU</b>	<b>CORE</b>	<b>CORE vs BAU</b>	<b>COMP vs BAU</b>
<b>Traffic noise</b>	15.1	15.2	<b>+0.1</b>	+0.2
Air pollution (NOx, PM, SOX, HCs)	60.5	55.0	<b>-5.5</b>	-5.5
Climate effects (CO <sub>2</sub> )	94.4	95.5	<b>+1.1</b>	+1.6

**Table 13: TENConnect II results on environmental impacts (External costs, horizon 2030)**

The results of the TENconnectII simulation show a relative increase in the estimated costs of noise and CO<sub>2</sub> emissions, but a decrease in those related to air pollution, in a policy scenario where the TEN-T is the result of coordinated EU-level planning (core network) as opposed to continuing with the current 30 Priority Projects (the result of a bottom-up approach) in a business-as-usual scenario. The increase in the costs related to noise and CO<sub>2</sub> emissions reflect, as in the case of road safety data, the rebound effect of improved efficiency of traffic flows on an effective TEN-T network, most apparent in the COMPREHENSIVE Network scenario.

Yet, just as in the case of the road safety, the TENconnect II simulation does NOT reflect: a network where effects of multimodality (an in-built dimension of network planning and

implementation in Option 2) have been taken into account - i.e. a shift away from road to rail and air for passenger traffic, and to rail and inland waterways for freight; or the impact of coordinated infrastructural development that envisages the use of highest technological standards with regard to, for example, the motorisation of road vehicles, or the sources of electricity used in the power grids of rail on the CORE network;

A number of studies have however shown that the negative impacts of the rebound effect of traffic can be mitigated when measures to improve efficiency are taken in conjunction with a series of other measures meant to reduce the environmental impact of the transport sector.

Thus, the European Environmental Agency report on 2009 (TERN) for example starts from the premise that more efficient vehicles using less fuel may in the long run be cheaper to operate, lowering the general transport costs and leading, in turn, to more transport, as tasks that were earlier too costly to undertake could then be done at a reasonable price. While this entails added choice for consumers and thus added welfare, it also means that significant parts of the environmental benefits disappear in growing transport volumes. Nevertheless, the report shows, a set of measures including adoption of technological improvements (improved engine and vehicle design, use of electric cars, low carbon fuels, technologies encouraging behavioural change) and demand control can combine to support the achievement of a 60% reduction in CO<sub>2</sub> emissions from transport by 2050.

The evaluation of the EasyWayI impacts provides another, though more limited in scope, example in this sense. Results have thus shown that the coordinated deployment of ITS on the TEN-T only has led to CO<sub>2</sub> savings of up to 4% (between 2007 and 2009), as a consequence of reduced congestion (due to increased capacity throughputs by up to 20% where lanes are managed dynamically) and reduced accidents.<sup>162</sup>

Last, but not least, the Transport White Paper IA Report shows that measures to modernise and increase the efficiency of transport infrastructures are essential for any efforts to achieve the 60% CO<sub>2</sub> reduction target, but that a more comprehensive and combined set of measures is needed to insure the sustainability of the transport system. In particular, the projected modal shift to non-road modes will be relying on several measures. Firstly and very essentially, the capacity and quality of transport infrastructure of non-road modes will have to be increased with a view to carrying higher volumes with high degree of efficiency. However, as shown by the TEN-Connect II modelling results (see Table 10), building of infrastructure in isolation will not produce any noteworthy modal shift. Therefore - secondly, as foreseen in the preferred option of the White Paper, other measures such as internalisation of external costs for all modes, taxation of fuels and vehicles, internal market measures to fully open markets and to widely deploy ITS systems, and research and innovation. Combining these measures is expected to lead to significant reduction in air and noise pollutants by 2050. Nitrogen oxides emissions would decline by about 50% relative to the baseline scenario, while particulate matter emissions by about 55%. Moreover, there will be a reduction in vehicle related noise pollution due to a decrease in the number of vehicles used and to a limited extent due to the gradual substitution of internal combustion engines for electric vehicles. External costs related to noise would decrease by as much as 46% relative to the baseline scenario by 2050.<sup>163</sup>

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<sup>162</sup> Measures facilitated through a high ITS content that might be considered as ready for widespread deployment, include: cross border traffic management; dynamic lane management; variable speed limits / speed limit enforcement; co-ordinated data exchange / real time traffic information provision. A number of other measures show potential and after further evaluation by the EasyWay II programme should be reviewed and considered for mainstreaming. These include: co-modal information / journey planning; freight specific information / parking guidance.

<sup>163</sup> SEC (2011) 358, p. 74. See also the reference to the WP IA report in subsection 5.1.1 above.

#### 5.3.4. Energy use

The energy use of the transport sector mostly depends on the source of energy used by transport operators to cover their needs, on the one hand, and on the energy efficiency of the vehicles used, on the other. Increased use of renewable energy sources to power vehicles would be facilitated by the development of supporting infrastructure, such as electrified railways and power supply stations (e.g. electricity/battery and hydrogen) along the road infrastructure. Increased use of biofuels is also important for the further decarbonisation of transport, mostly in aviation and waterborne transport, where electrification is not really an option.<sup>164</sup>

Energy efficiency is the other major contributor to the decarbonisation of transport, as the technology scenario from the Impact Assessment on “Low-carbon economy 2050 roadmap” shows.<sup>165</sup> Transport infrastructure can contribute to increased energy efficiency of the transport system by reducing congestion, encouraging modal shift and co-modality towards more energy efficient transport modes/solutions<sup>166</sup> as well as supporting the development of innovative transport solutions. Nevertheless, as pointed out above, the impact of greener/more efficient infrastructure development depends to an important extent also on external factors, such as the growth of the share of renewable energy used to produce electricity<sup>167</sup> and the rhythm of development and adoption of new technologies.<sup>168</sup>

Option 1 and 2 should have an overall positive impact, due to their positive impact on the energy efficiency and through facilitating the deployment of alternative fuels by the provision of recharging and refuelling infrastructure. Option 2 should lead to a higher positive impact as compared to Option 1, due to its enhanced planning aspects.

#### 5.3.5. Land-use & biodiversity

As explained in the Impact Assessment of the White Paper, the greatest impact on other environmental resources would be caused by an increase in land use for infrastructure, generating increased pressure on biodiversity and ecosystem services, due to direct damage linked to construction, habitat fragmentation and degradation, and disturbance.

It must be noted here that, according to relevant Union legislation,<sup>169</sup> all three Options would include the assessment of the strategic environmental impact at the level of relevant plans and programmes by MS, as well as the assessment of environmental effects at the level of individual projects of common interest (see Annex 4).

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<sup>164</sup> Impact Assessment accompanying the “Low-carbon economy 2050 roadmap”, SEC(2011) 288 final.

<sup>165</sup> SEC(2011) 288 final

<sup>166</sup> For instance by promoting electrified high-speed rail for passenger transport instead of aviation or by promoting electrified rail freight transport instead of road transport.

<sup>167</sup> The pathways for the decarbonisation of power generation will be analysed in the forthcoming Energy Roadmap 2050.

<sup>168</sup> For instance, the average energy efficiency of passenger cars in 1990 was 43.9 toe/Mpkm. By 2050, this improves to 23.9 in the reference scenario and it is further reduced to 13.6 toe/Mpkm in the Effective Technology scenario. This is achieved through gradual efficiency improvements of internal combustion engines and subsequently gradual hybridisation leading eventually to high penetration rates for electric propulsion vehicles (such as for example plug-in hybrids and electric vehicles).

<sup>169</sup> Pursuant to Council Directive 85/337/EEC, environmental impact assessments of projects of common interest which are to be implemented and by applying Council Directives 79/409/EEC (Birds Directive) and 92/43/EEC (Habitats Directive). Moreover as from 21 July 2004 an environmental assessment of the plans and programmes leading to such projects, especially where they concern new routes or other important nodal infrastructure development, shall be carried out by MS pursuant to Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive). MS shall take the results of this environmental assessment into account in the preparation of the plans and programmes concerned, in accordance with Article 8 of that Directive.

TEN-T projects may pose serious threats to biodiversity and Natura 2000 areas which were designated to protect the most endangered European species and habitat types. The negative impacts from transport projects might result from physical reduction of natural habitats, landscape fragmentation, migration barriers, collision of vehicles with animals, emissions of noise and air pollutants, changes to the water regime and others. It is therefore necessary that all projects undertaken as part of the TEN-Ts prove full compliance with EU environmental legislation, including Birds and Habitats Directives, before they are given a green light for implementation.

In addition, a multi-NGO study<sup>170</sup> on the potential conflicts between the TEN-T Priority Projects and the EU's Natura 2000 network of protected areas found that 379 sites that should be protected by the EU Birds Directive and 935 protected under the Habitats Directive are likely to be affected by the 21 TEN-T Priority Projects analysed. Watercourses and maritime areas merit particular attention (see Annex 4).

In Option 1, the impact on land-use and biodiversity is likely to be very negative since the selection of new Priority Projects would lead to the building of new infrastructure.

In Option 2, the impact will remain limited by the fact that the Core Network would be established mostly on 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, would be built. Therefore, Option 2 would have a negative, though limited, impact.

#### **5.4. The positive impact of implementation measures**

The case studies of Annex 7 show how the application of today's 'best practice' will reduce transport externalities, to more than compensate for any increase in traffic volume resulting from the operation of an efficient CORE network (the rebound effect). These case studies show the needs for adequate implementation strategies in order to complement transport planning approaches

The rail freight studies show a selection of current 'best practice' and how they have managed to gain significant improvement in utilisation and modal shift from road to rail. For instance, the BRAVO project along the Brenner Corridor saw an increase in traffic volumes of about 57 percent over the last three years. The other studies focus on proposed networks, from the central network of NEWOPERA to the 'red banana' of FERRMED. The benefits of the corridors are given in terms of modal shift (up to a doubling of 'long distance' freight transport volume by rail) and CO2 reduction and the costs are a similar order of magnitude to that estimated in the IA for the freight orientated rail network regulation. All conclude that the cost of developing an entire network with a total length of about 25 000 km amounts to around €170 billion. NEWOPERA estimated that a quadrupling of the rail freight trains on the New Opera corridor would expand rail freight's market share from 6% (2006) to 16%. FERRMED gives estimates of 17% of all inland freight and 24% (more than 500 km) - 28% (more than 1,000km). But for these gains to be realised then all studies conclude for EU Railway Corridors Management.

The Ports study shows the likely future bottlenecks and congestion hotspots and the necessity for hinterland connections that shift freight from the ports as quickly and as cleanly as possible, especially so for the north-range ports. The study reinforces the growing need for effective and sufficient rail (and IWW) freight transport.

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<sup>170</sup> TEN-T and Natura 2000: the way forward, an assessment of the potential impact of the TEN-T Priority Projects on Natura 2000, Final report – May 2008

The EASYWAY study on the application of ITS best practice shows how the 'rebound effect' resulting from the operation of an efficient CORE network does not need to lead to higher external costs. Their work has shown road accident savings of between 10% and 20%, depending on the particular application, rising to approximately 60% on some safety critical roads sections. Congestion is improved with capacity throughputs increased by up to 20% where lanes are managed dynamically; and for the environment, reduced congestion, along with reduced accidents, have resulted in CO<sub>2</sub> savings of up to 4%.

Finally, the EEA TERN study, FREIGHTVISION and the IA for the Climate Change Roadmap all support the notion of the Transport White Paper, that future sustainable mobility can only be achieved by the *Cumulative effect of a combination of 'improve', 'avoid' and 'shift' measures*.

## **5.5. Sensitivity analysis of the policy options**

The sensitivity analysis of the underlying assumptions has been studied in part 2.4.3 and in the Impact Assessment accompanying the White Paper.

As concerns the main factors inherent to the policy options and affecting the options' impacts, they have been identified as:

- a) possible changes regarding the network configuration, since the revised Guidelines will be adopted in the ordinary (co-decision) legislative procedure;
- b) the impact of budgetary decisions at Union, Member States and regional level on the availability of funds for development of TEN-T projects.

Moreover, with Member States in charge of the majority of infrastructure investments, the impact of political cooperation and the impact of local political changes on the realisation of infrastructure could prove critical. The reinforced coordination approach to implementation in Options 1 and 2 should lead to better addressing cooperation issues, through binding commitments inscribed in corridor Decisions. Nevertheless, implementation will ultimately depend on Member States and regional and local authorities and, enforcement action at EU level would always be limited, in respect of Union procedures and the principles of subsidiarity and proportionality.

### *5.5.1 On the possible changes regarding the network configuration*

In undertaking Option 2, the Commission would be in possession of a robust instrument for designing the network. As pointed out earlier, a methodology has been elaborated by a high-level group of external experts, which has been published in a report and submitted to a wide stakeholder consultation in 2010, and thereafter consolidated and submitted again to the Member States and the European Parliament. Bilateral discussions with the Member States have focused on fine-tuning certain alignments.

In the same discussions it became apparent that the Member States were interested in a number of projects that were rather political wishes than viable, EU-added value projects. Whereas in Option 2, on the basis of the methodology, these projects have been refused, the least exceptions would turn the coherent methodology application into cherry picking, in Option 1 that would not be possible. Such projects, in most cases, do not have a significant EU-added value, as these projects do not correspond to the economical reality, nor to traffic needs.

It is therefore unlikely that the Core Network of Option 2 will be prone to greater variations in the final lead up to the Commission proposal. This would not be however the case of Option 1, even if DG MOVE had a good knowledge of the projects intended to be proposed by the Member States.

As a consequence, impact and investment estimates are unlikely to vary to a large extent in Option 2. But they are likely to vary in Option 1, according to final Member States decision during discussions in the Council on the adoption of the new Priority Projects, as well as the amendments of the European Parliament.

With regard to the core network corridors in Option 2, these will be established along the core network configuration, based upon the criteria highlighted in chapter 4.2. As they correspond largely to parts of the Priority Projects and to the rail freight corridors, continuity of major investments and efforts made so far will be ensured, and at the same time bringing in the methodology and thus linking up the different transport modes, connecting ports, nodes and terminals.

#### *5.5.2 On the consequences of decisions on the Multi-annual Financial Framework after 2013 and the budgetary constraints on Member states' budgets*

The investments estimates for both Option 1 and Option 2 take into account the financial difficulties of the Member States, since the investments figures up to 2020 have been discussed with them. As regards Option 2, the sections included in the Core Network are based on the reality of investments capacities up to 2030. Some costly and unrealistic projects (such as the Odra-Elbe-Danube Canal) have been deleted from the map.

The Multi-annual Financial Framework (MFF) discussions and the future European budget available for transport investment will have an impact on both options with regard to the timing and the capacity of the EU to trigger the realisation of projects. The next MFF will cover only a period up to around 2020, while the Guidelines target a complete and integrated TEN-T by 2030. The higher the budget available for the next period, the more projects to be completed in the next 10 years, the earlier the positive impacts of the network effect will be. A reduced budget for transport infrastructure might lead to later implementation dates and hence delayed effects of the TEN-T positive impact. But it should not influence decisions as to whether projects are part of the network and would be implemented or not. Due to two decades of TEN-T policy and the decisions taken under the present MFF, the maturity of most projects still to be realised is generally high and the likelihood of them being realised until 2030 is good.

The Commission adopted its Multi-Annual Financial Framework proposal (COM 2011) 500 final) on 29 June 2011. This proposal includes a "Connecting Europe Facility" with the view to accelerate the infrastructure development that the EU needs. It covers infrastructures in the field of transport, energy, information and telecommunication technologies. € 21.7 bn are allocated to transport, with an additional €10 bn ring-fenced for related transport investment inside the Cohesion fund. These €31.7 bn should fund pre-identified transport infrastructures of EU interest, for which a preliminary list is proposed. This list covers 10 European Mobility Corridors and Transport Core Network projects, and is thereby fully in line with Option 2 proposing a Core Network with a reinforced approach to implementation by means of corridors. Should this Commission Proposal be agreed upon by the European Parliament and Member States, it would help accelerating the completion of EU added-value projects in the next 10 years, accelerating the expected positive impact presented in this document.

It should be also noted that the Guidelines are prescriptive, meaning that once adopted, they represent a commitment on the part of the Member States to complete the new Priority Projects, or their part of the Core Network respectively, before 2030.

## **5.6. Choice of the appropriate legal act**

The current TEN-T Guidelines have been proposed and adopted as a Decision of the European Parliament and of the Council. The Decision is specifically addressed to the Member States, rendering the Guidelines binding in their entirety for all the Member States.



While the Member States have traditionally constituted the main actors involved in transport infrastructure development and management, developments suggest that the situation will be progressively changing within the coming decades. Attracting private capital in various forms of public-private partnerships is an increasingly sought for option, in particular in contexts such as the current one of increased strains put on public budgets (both of the Member States and of the Union).

The Commission has already undertaken in its 2010 Budget Review Communication to leverage investments from the EU budget by providing a framework to enable partnerships with banks and other private sector actors in using EU funds, by means of an increasing array of innovative financial instruments. Transport infrastructure is one of the areas where innovative financial instruments have been pioneered by the Commission, and for the next MFF the Commission intends to propose that a significant part of its transport infrastructure budget be managed by innovative financial instruments.<sup>171</sup>

With more actors besides the Member States becoming involved in TEN-T infrastructure development, it is important to ensure that the Guidelines be binding for all.<sup>172</sup> While a **decision**, as a legal instrument, may address also other actors than the Member States, these actors need to be clearly specified. As stipulated in Article 288 of the TFEU, a decision is binding only on those to whom it specifies that it will be addressed. However, given that the revised Guidelines are intended to cover the period up to 2030, it is difficult to anticipate at this point in time all the categories of actors that would become involved in TEN-T implementation projects over the next two decades.

The alternative available legal instruments are a regulation or a directive. According to Article 288 of the TFEU, a **regulation** shall have a general application, meaning it shall address all physical and legal persons concerned, and it shall be binding in its entirety and directly applicable in all Member States. As such, a regulation appears a more appropriate legal instrument, as it is more comprehensive, without having to be specific, and hence discriminating, in its coverage.

A **directive** shall be binding, as to the result to be achieved, upon each Member State to which it is addressed. However, Member States are free to decide on the choice of form and methods to achieve the prescribed results. This renders a directive an unsuitable choice as a legal instrument for the TEN-T Guidelines, since higher coordination among Member States, not least at implementation level, is one of the main objectives of the TEN-T policy revision initiative.

## **6. COMPARISON OF THE OPTIONS**

### **6.1. Effectiveness**

#### *6.1.1. Improving EU-level coordination in planning the TEN-T configuration*

Compared to the baseline scenario (Option 0), Option 1 should ensure, in a first place, better interconnectivity of networks across countries. Though it shares with Option 0 the current, predominantly bottom-up approach to planning, and hence could potentially inherit its predominantly uni-modal focus, a better definition of criteria for priority projects identification, drawing on current experience and assessment results, should support the development of project proposals with higher EU added-value on the TEN-T. The

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<sup>171</sup> According to proposals currently discussed within the Commission in the context of developing the next MFF proposal.

<sup>172</sup> The Report on the “Consultation on the Future Trans-European Network Policy” mentioned that some contributors explained that the legal instrument framing the future TEN-T policy should be binding.

identification of new Priority Projects should thus allow building new/connecting infrastructure to fill in critical missing links, including improving East-West connections and connections with third countries. Nevertheless, insofar as at the level of planning a primarily bottom-up approach will prevail, experience suggests that the resulting configuration will remain suboptimal.<sup>173</sup>

Compared to Option 0, Option 2 is also likely to prove more effective in ensuring a coordinated approach to developing the TEN-T while addressing, at the same time, aspects such as missing cross-border links, multi-modal connecting infrastructure, links to third countries.

The difference between Options 1 and 2 lies primarily in the degree of coordination opted for in planning the TEN-T, where Option 2 will propose a stronger top-down coordination at EU level. This is particularly true with regard to the identification of the projects of key European interest:

- In Option 2, projects of key European interest will be situated on a pre-identified strategic network configuration (the "core network"), optimised at the level of planning by including missing cross-border links (including links with neighbouring states), multi-modal connection nodes and infrastructure to alleviate critical bottlenecks along major trans-European routes. – In Option 1, TEN-T configuration will continue to stem from Member States' project proposals. Even though better defined criteria for priority projects identification are expected to ensure higher converge in Option 1, as opposed to Option 0, towards achievement of EU-level strategic interests, insofar as at the level of planning a primarily bottom-up approach will prevail, as pointed out earlier, the resulting configuration is expected to remain suboptimal.

At the level of the wider (or "comprehensive") TEN-T, the difference is less marked, but still worth noting. While in Option 1 Member States will be asked to provide updated maps to take into account changes in completed and planned projects, in Option 2 the maps will also be adjusted according to a number of common principles/rules, ensuring thus a more coordinated approach also to the wider/comprehensive network identification.

#### *6.1.2. Fostering the interoperability of national networks*

The reinforced coordination approach to implementation, shared by both Option 1 and Option 2, provides for binding commitments on all actors involved (both public and private) to implement common technical and service standards along the selected Priority Projects or, respectively, Corridors. Interoperability issues are therefore likely to be addressed in a direct and comprehensive manner by means of Priority Project/Corridor Decisions in both Option 1 and Option 2 as compared to Option 0. Nevertheless, due to the higher degree of coordination at planning level in Option 2 than in Option 1, effectiveness in ensuring the objective of higher levels of interoperability on the TEN-T is expected to be higher in the former than in the latter.

In Option 2, it is worth recalling, projects will be financed with priority along multimodal Corridors that concern the most important cross-border traffic flows along the (core) network,

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<sup>173</sup> Merely providing a better definition of priority projects criteria will not, in itself, lead to significantly improved coordination at EU level in planning the development of the TEN-T. It should provide a better EU level-steered approach to planning, by setting clearer defined and better focused landmarks *but* to what will remain nevertheless an essentially bottom-up process. Member States would still continue to consider and fund with priority achieving national objectives, whereby certain cross-border links or multi-modal network connections do not necessarily figure among the top of the list. At the other end, Member States are likely to promote cross-border projects with high political profile but less economic efficiency, such as the Via Carpathica or the Central Pyrenean crossing. (See also assessment of planning scenario A3 in Annex 3.)

cross at least two borders between three Member States, and involve at least three transport modes for at least half of the traffic volume along the Corridor. By committing all potential actors involved in the various projects along the Corridor to common technical and operational standards, interoperability among at least three national networks, inter-modal connection among at least three modes and a high threshold for traffic volumes concerned are thus ensured from the start.

In Option 1 however, interoperability standards are only effectively ensured along individual Priority Projects. Strengthened EU-added value criteria for Priority Projects should ensure that more projects are proposed that develop cross-border links, following most important traffic flows, or that involve development of multi-modal sections. Yet these criteria, it should be recalled, are not cumulative, lest the bar is set too high to be met by individual project consortia.<sup>174</sup> Hence, on average, less national networks, less modes and less traffic volumes are likely to be concerned by common interoperability standards along a Priority Project than along a Corridor. Consequently, it can be concluded, lower levels of interoperability are to be expected along a TEN-T of which core develops as the sum of Priority Projects, i.e. Option 1, than along a TEN-T that is developed by means of (priority) multimodal Corridors on an optimised network configuration, i.e. Option 2.

#### *6.1.3. Enhancing Member States cooperation*

With the reinforced coordination approach to implementation in both Option 1 and Option 2, Member States cooperation in developing projects along the TEN-T in both Option 1 and Option 2 is likely to be significantly enhanced as opposed to Option 0. The Priority Projects/Corridor Decisions in Option 1 and Option 2, respectively, provide for a coordinated approach to infrastructural investments by all actors involved. Both EU and Member States funding would be committed through the individual Priority Project/Corridor Decisions, which would also establish binding timelines for completion. Infrastructure improvements and transport policy measures would closely interact, and their realisation will be brought forward by appropriate coordination structures, under the aegis of a Priority Project /Corridor Coordinator.

Nevertheless, the overall impact of reinforced coordination is likely to be relatively higher in Option 2 than in Option 1, for the same reasons as argued in the case of the interoperability objective, achievement. More specifically, though specific effectiveness in improving Member States coordination is likely to be similar, insofar as more cross-border missing links and higher volumes of traffic are expected to be covered by individual Corridor Decisions than by individual Priority Project Decisions, the overall impact on improving TEN-T delivery is expected to be higher in Option 2 than in Option 1.

#### *6.1.4. Ensuring highest EU added-value for the use of EU funds*

As argued in section 2.3.4 above, the TEN-T Guidelines provide a framework for conditionality in allocating funds for TEN-T development by means of policy action at both planning and implementation level. At the level of planning, conditionality is indirect, but no less effective: the higher the coordination of planning towards meeting EU-wide priority objectives, the higher the percentage of funds that support EU-added value projects. In that respect, conditionality of use of EU funding is likely to be higher in both Option 1 and Option 2 as opposed to Option 0, due to expected higher coordination in TEN-T planning. By the same token, the effectiveness of policy measures in Option 2 is likely to be higher than in Option 1.

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<sup>174</sup> Whereas, it might be worth underscoring, these criteria can be applied cumulatively at Corridor level, as they do not necessarily concern, cumulatively, single projects. Projects may develop only a single cross-border section, or an inter-modal connecting point, while respecting the common operability standards prescribed.

At implementation level, conditionality can be prescribed more directly. This is primarily done by means of the rules for awarding financial grants. Yet, as the financial rules for TEN-T funding will be dealt with in a separate legal document, accompanied by a distinct impact analysis, this aspect has not been dealt with here. Nevertheless, other implementation measures can also help ensure that funding is channelled towards projects with highest EU added value. It is the case for example of the TEN-T EA, which has an important support role in the development of project proposals "pipeline". When its work is supported by better planning coordination guidelines, as is the case in both Option 1 and Option 2, its effectiveness in steering Member States proposals towards higher EU added value projects is likely to be higher than in an Option 0 scenario. By the same token, Agency's activity is likely to be more effective in steering Member States' proposals towards higher EU-added value under Option 2 than under Option 1.

At the same time, by providing for a coordinated approach to investments and bindingly committing EU and Member States funds as well as agreed timelines for completion within the individual Priority Project/Corridor Decisions, the reinforced coordination approach to implementation in both Option 1 and Option 2 is likely to lead to higher effectiveness in delivering EU-funded projects than in Option 0, contributing thus to enhanced effectiveness of the use of EU funds. As argued earlier, increased effectiveness in implementation in a reinforced coordination approach is likely to concern TEN-T sections with higher volumes of traffic, and linking more national and modal networks in Option 2 than in Option 1. Consequently, effectiveness in increasing the efficiency of the use of EU funds supporting higher EU-added value projects is expected to also be higher in Option 2 than in Option 1.

	Option 0	Option 1	Option 2
<i>Improve planning coordination by means of a coherent &amp; transparent approach to define the network configuration, addressing aspects of network fragmentation linked to missing links, multimodal connections and connections to neighbouring and 3<sup>rd</sup> countries; adequate geographical coverage.</i>	No	Low	Medium
<i>Address the lack of interoperability by fostering the implementation of European standards for management systems and the development of harmonised operational rules on the TEN-T project of common interests</i>	No	Medium	Medium
<i>Enhance Member States cooperation in order to coordinate investments, timing, choice of the routes, environmental and cost-benefit assessments for projects of common interests.</i>	Low	High	High
<i>Ensure that the optimal network configuration is a key element in the allocation of EU funding allowing to focus on cross-border sections, missing-links and bottlenecks, in order to address the lack of sufficient conditionality of the TEN-T funding instruments.</i>	No	Medium	High

**Table 14: Effectiveness of envisaged policy options in light of objectives**

Overall, it can be thus be concluded that Option 1 would ensure improved effectiveness, as compared to Option 0, in achieving the objectives of physical interconnectivity and interoperability of networks, Member States coordination in implementation of cross-border sections, timely delivery and, generally, in delivering Priority Projects with increased EU added-value. It would not however bring significant improvements in ensuring the multi-modality of the TEN-T, and the investments in enhancing effectiveness of implementation at Priority Project level will be diluted due to suboptimal coordination at the level of planning.

Compared to Option 0, Option 2 is also likely to better address interconnectivity and interoperability aspects as well as provide for improved Member States coordination in implementation of projects along the TEN-T. Compared to both baseline scenario and Option 1, it would also better ensure effective multimodality by *a priori* including multimodal nodes and providing for co-modal links on the TEN-T. Moreover, the application of the reinforced coordination approach to implementation at corridor rather than priority project level should leverage the value added of this approach, as a corridor will include a number of current as well as future priority/key projects of European interest, ensuring, at the same time, their multimodal and cross-border connectivity (and thus the EU added-value). Among the three options, it appears therefore as the one that is likely to ensure the highest degree of achievement of the specific objectives of the future TEN-T policy.

## 6.2. Efficiency

The argument in part 5 of this report has highlighted that the expected positive benefits on economic and social issues, as well as environmental aspects, are likely to be higher in both Option 1 and Option 2 when compared to a business-as-usual scenario in Option 0, and higher in Option 2 than in Option 1. In this section, an indicative assessment of costs of policy implementation in all options is provided.

Two types of costs can be considered for the assessment of the cost of each policy option: investments costs in infrastructure and administrative costs to implement the European TEN-T policy. The infrastructure investment needs can be estimated from the investments needed to complete the targeted network.

For the purpose of this document, in order to give an order of magnitude of the related costs of the policy options on the infrastructure side, the estimated costs of the policy options during the period 2014 – 2020 are provided. The figures in the table below constitute an estimation starting from the data provided by the Member States through the TENtec system and data from the Priority Project Detailed Analysis 2010. For Options 1 and 2, they were also adapted after discussions during bilateral meetings, including at director general level, between DG MOVE and representatives of the Ministries of Transport of the Member States.

The cost for the EU budget however cannot at this time be estimated, as it will depend on the co-funding rates and the geographical scope of the TEN-T Programme. These rates, which will be defined in the TEN Financial Regulation to be adopted in autumn 2011, together with the geographical scope of the TEN-T funds, will be strongly determined by the result of the process for the definition of the next EU multi-annual financial framework (MFF), for which the Commission proposal was adopted on 29<sup>th</sup> June 2011 (see above section 5.5.2).

The administrative costs are management and administrative costs for implementing the TEN-T, through the TEN-T EA and the European Coordinators. The reinforced coordination approach of Option 1 and 2 will require specific administrative and management costs compared to Option 0<sup>175</sup>. The table below summarizes the above mentioned elements:

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<sup>175</sup> These costs are related to the cost of the Secretariat that will be set up for each corridor, involving the Coordinators, DG MOVE, the TEN-T EA and the European Bank of Investments. They will also include the cost of meetings and other coordination means in order to involve National and local authorities, the Infrastructure managers of the countries involved, building companies and banks. In addition, the necessary studies will be financed from this budget to get the data (on traffic, investments, environmental studies...) required for the efficient management of the corridors. This could also include the financing of small infrastructure such as last miles connections and siding in order to increase the profitability and added-value of the Corridors.

yearly basis	Option 0	Option 1	Option 2
<b>Investment needs*</b>			
-yearly Investments estimates	€21.4 billion	€28.6 billion	€30.7 billion
- for 2014 – 2020 <sup>176</sup>	€ 150 billion	€ 200 billion	€ 215 billion
<b>Administrative costs</b>			
- TEN-T EA	€10 million	€10 million	€10 million
- Corridor Approach administration (for 10 Corridors)		€20 million	€20 million
<b>TENconnect II Benefits of CORE compared to Business-as-usual</b>			
- direct economic benefits			€77.7 bln
- air pollution savings			€5.5 bln
<b>TOTAL BENEFITS</b>			<b>83.2 bln</b>
- rebound effect			
*road safety			- €1.1 bln
*noise			- €0.1 bln
*climate effects			- €1.1 bln

**Table15: Efficiency of envisaged policy options**

\* Investments figures for the Core Network were discussed during bilateral meetings between DG MOVE and Member States representatives. Investment estimates for Option 1 came from the same source and were based on DG MOVE's knowledge of projects that Member States are likely to defend in political discussions (such as Via Carpathia, the Messina Bridge or the Botnian Corridor). Figures for Option 0 are based on the figures Members States provided via the TENtec database regarding the completion of priority projects.

As detailed in section 5, the economic, social and environmental benefits of both Option 1 and Option 2 are expected to be higher than in Option 0. At the same time, the expected benefits across all three domains in Option 2 are expected to be higher than in Option 1, while the costs of implementing the two options are similar. Therefore Option 2 has a better cost-benefit analysis than Option 1.

### 6.3. Coherence

As highlighted in the beginning of part 2 of this report, the renewed political context provided by the Europe 2020 Strategy and the main priorities it set, with the priorities set in the White Paper for transport and the budgetary principles set out in the EU Budget Review Communication, alongside the EU Treaty-mandated tasks to contribute to the objective of economic, social and territorial coherence, have provided the overall policy framework that guided the Commission during the TEN-T policy revision process and in developing the alternative policy options/scenarios in the first place. Moreover, coherence with overall EU objectives, strategies, priorities and principles, including subsidiarity and proportionality, has constituted also an important criterion in the process of policy options pre-selection. Both retained alternative policy options (Option 1 and Option 2), as well as the business-as-usual scenario (Option 0), seek to integrate and support therefore, and comply with, overarching EU policy objectives and principles.

With regard to trade-offs across the economic, social and environmental domain, the impact analysis presented in part 2 (for Option 0) and part 5 (for Options 1 and 2) of this report suggest the following conclusions:

- In a business-as-usual scenario, negative impacts will concern all three domains. In what concerns economic and social impacts, the most marked negative effect would be the increase of disparities at regional level, in terms of economic growth and jobs, as well as accessibility,

<sup>176</sup> See footnote 84

between central and peripheral regions. As far as the environment is concerned, while a significant reduction in NOx particles is expected, CO2 emissions are likely to increase. A positive trade-off could concern however land use, as with no new Priority Projects development and therefore EU funding support being envisaged, a number of large and complex infrastructural projects are less likely to be undertaken.

- In Option 1, the expected overall positive impact on EU economic competitiveness and job growth risks, as in the case of the baseline scenario, being unbalanced, with an increase in disparity between central and peripheral areas. As these positive impacts are the result of increased transport efficiency on the TEN-T, the downside of the latter is that it is accompanied by an increase in transport volumes and increased costs related to accidents and environmental impacts. These negative rebound effects are nevertheless likely to be compensated to a significant extent by higher quality infrastructure, more energy efficient engines and higher levels of renewable energy use, wider user of intelligent traffic management systems and modal shifts, particularly from road towards the other, comparatively less CO2-intensive and prone to high levels of accidents, modes.

- In Option 2, the results of the TENconnect study modelling support the (qualitatively derived) expectation that the stronger coordination at EU level in planning the TEN-T has positive impacts in terms of both economic growth and accessibility, as well as pollutant emissions. Negative impacts due to the rebound effect concern transport cost externalities in terms of road safety, noise and CO2 emissions. Nevertheless, the TENconnect projections indicate that these costs are well offset by the positive impacts. Moreover, when other transport policy related factors such as greener technology and energy use, use of ITS, induced modal shift, are also factored in, negative externalities are likely to be significantly reduced.

- The positive impacts of these latter measures – particularly ITS adoption and modal shift – are likely to be higher on an optimised (fully interconnected, multi-modal) Core network in Option 2 than on the sum of a number (not necessarily always connected or enabling co-modal transport) Priority Projects in Option 1. Moreover, as the overall positive impacts on EU economic competitiveness are likely to be higher in Option 2 than in Option 1, and accompanied by equally positive impacts in terms of accessibility and cohesion, it can be concluded that the policy approach in Option 2 is likely to be more effective than the one in Option 1 in limiting socio-economic and environmental trade-offs.

The table below, summarising the performance of each option with respect to economic, social and environmental impacts allows for an overview of the capacity of Option 1 and Option 2 to limit trade-offs across the three domains. (The impacts of Option 0, as the baseline scenario, are taken as base of reference for the comparative impacts of the two alternative policy options).

	Option 1	Option 2
<b>Economic Impacts</b>		
<b>Impact on transport sector</b>		
- Modality and efficiency of the Transport system	+	++
- Congestion & travel times	+	++
- Administrative burden	+	++
<b>General economic impacts</b>		
- Trade with Neighbouring and 3rd countries	+	++
- Economic growth	+	++
- Innovation	+	++

- EU competitiveness	+	++
<b>Social impacts</b>		
<b>Employment and Jobs</b>		
- Jobs related to infrastructure investments	++	++
- Effects on employment in the transport sector	+	++
<b>Public Health and Safety</b>		
- Road Safety	+	++
<b>Accessibility &amp; territorial cohesion</b>	+	++
<b>Environmental impacts</b>		
<b>Emissions</b>		
- Climate change	=	+
- Air pollution	++	++
- Noise	=	+
Energy use	+	+
Land-use	-	-

**Table 16: Summary table of impacts**

**Legend:** = refers to a limited or neutral impact, - refers to a negative impact, + and ++ refer to different levels of positive impacts

## 6.4. Conclusion

In light of the above evaluation, Option 2 is identified as the preferred option. Option 2 has the maximum effectiveness on the drivers to the TEN-T fragmentation and has the most positive balance regarding economic, social and environmental impacts. It is therefore the most suitable option to address the objectives set out by the Treaty and by the Europe 2020 strategy. The conclusions of this Impact Assessment are also in line with the outcome of the TEN-T revision consultation process conducted by the European Commission between February 2009 and May 2010.

For the Guidelines that are being prepared in parallel with this impact assessment, a Regulation would be the appropriate instrument. Such a regulation would be ‘binding in its entirety’ and ‘directly applicable’. The text must therefore be drafted in such a way that no further transposition is required and that the obligations from the regulation will directly apply.

The choice of the legal instrument is being left to the political level.

## 7. MONITORING AND EVALUATION

The Commission will properly evaluate and review the Progress of the implementation of the TEN-T policy through annual Progress Reports.

In addition, the Commission, its agencies, notably the TEN-T Executive Agency and the European Coordinators will constantly monitor a set of indicators.<sup>177</sup> These indicators will be used to measure to what extent the operational objectives set out in section 3 of this document are achieved or going towards achievement. The indicators, their related operational objectives and the reporting body are indicated in the table below:

<sup>177</sup> The role of the TEN-T Executive Agency, its management of the TEN-T Programme, the use of the Open-Method of Coordination through the TENtec system and the role of the EU Coordinators is described in Annex 5



Operational Objectives	Indicators	Reporting body/mean
Connect all main airports and seaports to other modes, especially (High-Speed) railways and inland waterway systems by 2050	Share of Major European airports and seaports connected with other modes	<ul style="list-style-type: none"> <li>• TENtec</li> </ul>
Allow to shift 30% of road freight over 300 km to other modes such as rail or waterborne transport by 2030, and more than 50% by 2050.	Share of each mode of transport in total inland transport expressed in tonne-kilometres. It includes transport by road, rail and inland waterways.	<ul style="list-style-type: none"> <li>• Eurostat</li> <li>• Alpine Traffic Observatory</li> <li>• Priority Projects/Corridors implementation Decisions</li> <li>• TEN-T EA</li> </ul>
Ensuring by 2030 the deployment of European transport management systems (ERTMS, SESAR, ITS, RIS, SSN and LRIT)	Kilometres/share of infrastructure equipped with management systems.	<ul style="list-style-type: none"> <li>• TENtec</li> <li>• Agencies Reports (TEN-T EA, ERA, EMSA, EASA)</li> <li>• Coordinators' report on the Priority Projects or Corridors</li> </ul>
Ensuring by 2030 the commitments of Member States to agree on common operational rules for the projects of common interest	Number of memorandum of understanding, treaties and binding decisions adopted	<ul style="list-style-type: none"> <li>• Agencies Reports (TEN-T EA, ERA, EMSA, EASA)</li> <li>• Coordinators' report on the Priority Projects or Corridors</li> </ul>
Obtaining binding commitments by Member States for the implementation of essential cross-border projects with a binding timetable.	Number of memorandum of understanding, treaties and binding decisions adopted	<ul style="list-style-type: none"> <li>• Coordinators' report on the Priority Projects or Corridors</li> </ul>
Obtaining binding commitments by Member States for the implementation of bottlenecks and missing-links on their territory that have cross-border effects.	Number of memorandum of understanding, treaties and binding decisions adopted	<ul style="list-style-type: none"> <li>• Coordinators' report on the Priority Projects or Corridors</li> <li>• Priority Projects/Corridors implementation Decisions</li> </ul>
Ensuring priority of EU funding for projects that address cross-border projects, bottlenecks and missing-links.	Share of EU funding allocated to such projects and number of realised cross-border projects.	<ul style="list-style-type: none"> <li>• TEN-T EA</li> </ul>
Ensuring conditionality of EU funding upon compliance with EU environmental legislation (SEA, EIA & Natura 2000)	Absolute respect of no funding for projects not complying with EU Environmental	<ul style="list-style-type: none"> <li>• TEN-T EA</li> </ul>

**Table 17: Monitoring indicators**

## ANNEX I

**Documents and studies / Ex-post assessments and similar / Audits – assessments consulted:**

Type	Document Name
Policy documents	White Paper: Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system, COM/2011/0144 final, 28 <sup>th</sup> March 2011
	Commission Staff Working Document: Accompanying the White Paper - Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system, SEC/2011/0391 final, 28 March 2011
	White Paper Impact Assessment: <a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SEC:2011:0358:FIN:EN:PDF">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SEC:2011:0358:FIN:EN:PDF</a>
	Green Paper - TEN-T: A policy review - Towards a better integrated trans-European transport network at the service of the common transport policy, 4 <sup>th</sup> February 2009
	Round table and workshop on the TEN-T policy review within the conference "TEN-T Days 2009: The future of Trans-European Transport Networks: building bridges between Europe and its neighbours" in Naples, 21-22 October 2009
	Commission Working Document “Consultation on the Future Trans-European Transport Network Policy”, 4 <sup>th</sup> May 2010
	Drawing up the EU Core network-Final report, Zaragoza, June 2010
	Commission Staff Working Document: "The New Trans-European Transport Network Policy Planning and implementation issues", 19 <sup>th</sup> January 2011
Audits / assessment	The Impact of Trans-European Networks on Cohesion and Employment, European Parliament, June 2006
	Assessment on a Communication from the European Commission Designed to Promote the Development of a Rail Freight - Orientated network, Atkins, December 2006
	Ex-post/Final evaluation of the Trans-European Transport Network Multiannual Indicative Programme 2001-2006 Final Report, Deloitte consulting SCRL, November 2007
	Ex-ante evaluation and Impact Assessment of the TEN-T Multiannual Programme 2007-2013, ECORYS Transport Consultants, 22 <sup>nd</sup> October 2007
	Ex-post evaluation of cohesion policy programmes 2000-2006. Work Package 5A: Transport– Steer Davies Gleave, August 2009
	Position Paper of the European Coordinators on the future of TEN-T Policy, 6 <sup>th</sup> October 2009
	TEN-T Progress Report, Implementation of the Priority Projects, June 2010: <a href="http://ec.europa.eu/transport/infrastructure/european_coordinators/doc/2011_02_02_progress_report_june_2010.pdf">http://ec.europa.eu/transport/infrastructure/european_coordinators/doc/2011_02_02_progress_report_june_2010.pdf</a>

Audits / assessment	TEN-T Priority Projects 2010: A Detailed analysis, December 2010: <a href="http://ec.europa.eu/transport/infrastructure/european_coordinators/doc/progress_report_longer_version_18jan2011_final2.pdf">http://ec.europa.eu/transport/infrastructure/european_coordinators/doc/progress_report_longer_version_18jan2011_final2.pdf</a>
	Final Report of the TEN-T Review Expert Groups, June 2010: <a href="http://ec.europa.eu/transport/infrastructure/tent_policy_review/expert_groups/doc/ten-t_policy_review-report_of_the_expert_groups.pdf">http://ec.europa.eu/transport/infrastructure/tent_policy_review/expert_groups/doc/ten-t_policy_review-report_of_the_expert_groups.pdf</a>
	Special Report No 8: “Improving transport performance on trans-European rail axes: have EU rail infrastructure investment been effective?”, European Court of Auditors, October 2010
	Mid-Term Review of the 2007-2013 TEN-T Multi-Annual Work Programme Project Portfolio (MAP Review), TEN-T Executive Agency, October 2010
	Assessment of TEN-T Programme Implementation, TEN-T Executive Agency, December 2010
	Mid-term evaluation of the TEN-T Programme (2007-2013) -Final Report, Steer Davies Consultancy, March 2011
EU Legislation	Decision No 661/2010/EU of the European Parliament and of the Council of 7 July 2010 on Union guidelines for the development of the trans-European transport network (recast) <a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32004D0884:EN:NOT">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32004D0884:EN:NOT</a>
	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 the trans-European transport and energy networks: <a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:162:0001:0010:EN:PDF">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:162:0001:0010:EN:PDF</a>
	Commission Decision of 22.7.2009 amending Decision 2006/679/EC as regards the implementation of the technical specification for interoperability relating to the control-command and signalling subsystem of the trans-European conventional rail system (European Deployment Plan for ERTMS): <a href="http://ec.europa.eu/transport/rail/interoperability/ertms/edp_map_en.htm">http://ec.europa.eu/transport/rail/interoperability/ertms/edp_map_en.htm</a>
	Regulation (EU) No 913/2010 of the European parliament and Council of 22 September 2010 concerning a European rail network for competitive freight: <a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:276:0022:0032:EN:PDF">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:276:0022:0032:EN:PDF</a>
	Impact Assessment on a Communication from the European Commission Designed to Promote the Development of a Rail Freight - Orientated network, Atkins, 2005
Environmental studies	EEA Report No 2/2010: Towards a resource-efficient transport system - TERM 2009: indicators tracking transport and environment in the European Union, April 2010
	Estimated Carbon Impact of a New North-South Line for UK DfT, Booz Allen Hamilton, July 2007
	Climate change impacts in Europe - Final report of the PESETA research project, 2009: <a href="http://ftp.jrc.es/EURdoc/JRC55391.pdf">http://ftp.jrc.es/EURdoc/JRC55391.pdf</a>

Environmental studies	EU Transport GHG: Routes to 2050, a Railway Perspective, the International Union of Railways and The Voice of European Railways, January 2010
	Retailers' Association Environmental Action Programme, Retail Forum for sustainability, March 2009: <a href="http://ec.europa.eu/environment/industry/retail/pdf/reap.pdf">http://ec.europa.eu/environment/industry/retail/pdf/reap.pdf</a>
	Measuring and Managing CO2 Emissions of European Chemical Transport, Prof. Alan McKinnon Logistics Research Centre Heriot-Watt University
	'Railistics' Project report: Benchmark of Environmental Emission for Railway Hinterland Transport from the Port of Hamburg, Report for Hamburg Port Authority, Railistics GmbH, June 2010
	"Climate Change Impacts on International Transport Networks" Note by the United Nations Economic Commission for Europe and United Nations Conference on Trade and Development secretariats, September 2010: <a href="http://www.unece.org/trans/doc/2010/wp5/ECE-TRANS-WP5-2010-03e.pdf">http://www.unece.org/trans/doc/2010/wp5/ECE-TRANS-WP5-2010-03e.pdf</a>
	TEN-T assessment, European Environmental Agency, 2009
Economics/ trends / trade flow studies	Ports and their connections within TEN-T, NEA, December 2010: <a href="http://ec.europa.eu/transport/infrastructure/studies/doc/2010_12_ports_and_their_connections_within_the_ten-t.pdf">http://ec.europa.eu/transport/infrastructure/studies/doc/2010_12_ports_and_their_connections_within_the_ten-t.pdf</a>
	Study of Maritime Traffic Flows in the Mediterranean Sea, Lloyd's Marine Intelligence Unit report for REMPEC, July 2008: <a href="http://www.maritime-connector.com/ContentDetails/1391/gcgid/186/lang/English/SAFE_MED---REMPEC-Study-of-Maritime-Traffic-Flows-in-the-Mediterranean-Sea.wshtml">http://www.maritime-connector.com/ContentDetails/1391/gcgid/186/lang/English/SAFE_MED---REMPEC-Study-of-Maritime-Traffic-Flows-in-the-Mediterranean-Sea.wshtml</a>
	European Energy and Transport Trends to 2030, National Technical University of Athens (NTUA), January 2003 (update 2007): <a href="http://ec.europa.eu/dgs/energy_transport/figures/trends_2030/1_pref_en.pdf">http://ec.europa.eu/dgs/energy_transport/figures/trends_2030/1_pref_en.pdf</a>
	Economic Activities and Development Sustainability Maritime transport of goods: A Mediterranean integration driver?, Blue Plan Notes, March 2010: <a href="http://www.planbleu.org/publications/4p_transport_maritime14_EN.pdf">http://www.planbleu.org/publications/4p_transport_maritime14_EN.pdf</a>
	Freightvision - 7FP project on long distance freight transport futures (policy, demand and technology scenarios), December 2010: <a href="http://www.freightvision.eu">http://www.freightvision.eu</a>
	Statistical coverage and economic analysis of the logistics sector (SEALS), ProgTrans AG, ECORYS, Fraunhofer ATL, TCI Röhling, Final Report December 2008: <a href="http://www.scs.fraunhofer.de/Images/Statistical%20coverage%20and%20economic%20analysis_tcm128-77369.pdf">http://www.scs.fraunhofer.de/Images/Statistical%20coverage%20and%20economic%20analysis_tcm128-77369.pdf</a>
	Economics of Trans-European Networks: where to go? Stef Proost (corresponding author) et al, Centre for Economic Studies, KULeuven, August 2009

Economics/ trends / trade flow studies	Update of Selected Potential Accessibility Indicators - Final Report, Spiekermann & Wegener Urban and Regional Research (S&W) RRG Spatial Planning and Geoinformation, February 2007: <a href="http://www.espon.eu/export/sites/default/Documents/Projects/ESPON2006/Projects/ScientificBriefingNetworking/UpdateOnAccessibilityMaps/espon_accessibility_update_2006_fr_070207.pdf">http://www.espon.eu/export/sites/default/Documents/Projects/ESPON2006/Projects/ScientificBriefingNetworking/UpdateOnAccessibilityMaps/espon_accessibility_update_2006_fr_070207.pdf</a>
	Towards a European Peripherality Index Final Report, Carsten Schürmann, Ahmed Talaat, November 2000: <a href="http://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/periph_1.pdf">http://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/periph_1.pdf</a>
	Scenarios, Traffic Forecasts and analysis of Corridors on the trans-european network (TEN-STAC), NEA Transport research and training BV, September 2004: <a href="http://ec.europa.eu/transport/infrastructure/studies/ten_t_en.htm">http://ec.europa.eu/transport/infrastructure/studies/ten_t_en.htm</a>
	Impact of Transport Infrastructure Investment on Regional Development, OECD report, 2002: <a href="http://www.internationaltransportforum.org/Pub/pdf/02RTRInvestE.pdf">http://www.internationaltransportforum.org/Pub/pdf/02RTRInvestE.pdf</a>
Freight transport / logistics	FREIGHTWISE and eFreight 6 <sup>th</sup> and 7 <sup>th</sup> FP projects on ICT in freight logistics, April 2010: <a href="http://www.freightwise.info/cms/">http://www.freightwise.info/cms/</a>
	Connecting to Compete 2010 Trade Logistics in the Global Economy - The Logistics Performance Index and Its Indicators, World Bank Report, 2010: <a href="http://siteresources.worldbank.org/INTTLF/Resources/LPI2010_for_web.pdf">http://siteresources.worldbank.org/INTTLF/Resources/LPI2010_for_web.pdf</a>
	Competition Report, Deutsche Bahn AG, March 2010: <a href="http://www.deutschebahn.com/site/shared/en/file_attachments/reports/competition_report_2010.pdf">http://www.deutschebahn.com/site/shared/en/file_attachments/reports/competition_report_2010.pdf</a>
	Politikbrief, VDA, January 2010: <a href="http://www.vda.de/en/publikationen/publikationen_downloads/detail.php?id=743&amp;PHPSESSID=elnj86q3aho3je7p4stb9igtu0">http://www.vda.de/en/publikationen/publikationen_downloads/detail.php?id=743&amp;PHPSESSID=elnj86q3aho3je7p4stb9igtu0</a>
	The DIOMIS study on rail freight combined transport operations and future projections, UIC, October 2006: <a href="http://www.uic.org/diomis">http://www.uic.org/diomis</a>
	European Union Road Federation reports for 2010: <a href="http://www.erf.be/">http://www.erf.be/</a>
	Deutsche Post DHL "Yellow Paper", Setting the right objectives: Efficient Logistics increases sustainability and competitiveness, October 2010
	Intermodal yearbook - 2010, EIA
	Annual reports: UIRR (2009), CER (2009-2010), EBU (2009-2010)
	Position Paper: Issues of Rail Infrastructure, International Union of Road-Rail Combined Transport Companies (UIRR), July 2010: <a href="http://www.uirr.com/en/media-centre/press-releases-and-position-papers/2010/mediacentre/287-position-paper-on-issues-of-rail-infrastructure.html">http://www.uirr.com/en/media-centre/press-releases-and-position-papers/2010/mediacentre/287-position-paper-on-issues-of-rail-infrastructure.html</a>

Freight transport / logistics	The BE LOGIC 7FP project and web-site
	Intermodal Freight Transport & Logistics Best Practices - Final reports from the 6FP Project PROMIT, EIA: <a href="http://www.eia-ngo.com/promit.html">http://www.eia-ngo.com/promit.html</a>
	Transport Infrastructure Investment. Options for Efficiency, OECD Report, February 2008
	Integrated Services in the Intermodal Chain (ISIC) Final Promotion of intermodal transport, ECORYS, Nov 2005: <a href="http://ec.europa.eu/transport/logistics/consultations/2006_04_26/doc/2006_03_31_logistics_consultation_task_f_en.pdf">http://ec.europa.eu/transport/logistics/consultations/2006_04_26/doc/2006_03_31_logistics_consultation_task_f_en.pdf</a>
	Long life surfaces for busy roads, OECD Report, May 2008: <a href="http://www.internationaltransportforum.org/jtrc/infrastructure/pavements/07LongLifeSummary.pdf">http://www.internationaltransportforum.org/jtrc/infrastructure/pavements/07LongLifeSummary.pdf</a>
	Benchmarking Intermodal Freight Transport, OECD Report, 2002
	Combined Transport Operations – A book by Dr. Christoph Seidelmann, 2009
	Great Axis Rail Freight Network and its area of influence, FERRMED, October 2009: <a href="http://www.vialibre-ffe.com/PDF/FERRMED_GLOBAL_STUDY_BOOK.pdf2">http://www.vialibre-ffe.com/PDF/FERRMED_GLOBAL_STUDY_BOOK.pdf2</a>
	The Rail Sector's Supply Potential - Presentation by Enrico Pastori, Trasporti e Territorio Srl via Rutilia (TRT), September 2010
	Monitraf Synthesis Report - activities and out come, Editorship: J. Ryan, H. Lückge, J. Heldstab, M. Maibach, February 2008
	Rotterdam – Genoa Corridor, IQ-C Action plan 2006-2010, June 2008
	REORIENT Study - Implementing Change in the European Railway System, The REORIENT, August 2007 ...
	Definition of Benchmark Indicators and Methodology, SuperGreen 7FP project Supporting EU's Freight Transport Logistics Action Plan on Green Corridor issues

## **ANNEX II**

### **Ex-Post evaluation of the TEN-T network policy**

During the past years, an impressive number of TEN-T evaluation reports and studies have been conducted, including:

- the Mid-term evaluation of the TEN-T Programme (2007-2013) (doc 1),
- the Assessment of TEN-T Programme Implementation, done by the TEN-T Executive Agency (doc 2),
- the ex-ante assessment of the 2007-2013 Priority Projects used for the 2008 TEN-T financial regulations (doc 3),
- the ex-post/final evaluation of the Trans-European Transport Network Multi-annual Indicative Programme 2001-2006 (doc 4 ),
- the ex-ante evaluation and Impact Assessments of the TEN-T Multi Annual Programme 2007-2013 (doc 5),
- the "Progress Report 2010" and the "Priority Projects 2010: a detailed analysis" (doc 6),
- the position paper of the European Coordinators on the future of TEN-T policy (doc 7),
- the report by the European Court of Auditors, "Improving transport performance on trans-European rail axes: have EU rail infrastructure investment been effective?" (doc 8).

Other related reports/studies include the ex-ante evaluation of the rail freight corridors (doc 9), the European parliament's report on the effect of Priority Projects on cohesion and accessibility (doc 10), the corresponding EPSON report on TEN-T's effect on accessibility (doc 11) and the final report of the TEN-T Review by the appointed Expert Groups (doc 12).

All the above evaluations and reports throw a similar light on the current TEN-T policy and how it should change for the future. They highlight the success stories that have been achieved today and also describe the difficulties that the current Priority Projects have had in meeting their scheduled completion dates, especially for projects that cross borders.

The 2007 ex-post assessment (doc 4) gave recommendations for increasing community contributions for cross-border projects (reinforcing the recommendations of the ex-ante for the current financial perspectives - doc 3), and this has been taken forward in the subsequent TEN-T financial regulations. The establishment of corridor coordinators, the enhanced work of the TEN-T Agency and the monitoring methodology and Member State liaison done by the open method of coordination through the TENtec system, has all been identified as necessary by the earlier studies and given merit in all the more recent evaluations as making a significant contribution to project progress.

Whereas, the management and control systems for Priority Project completion are making substantial gains, there is still criticism as to the scope and range of the TEN-T with questionable cost-effectiveness for some projects (see rail audit report, doc 7) and a not always adequate improvement in accessibility and employment (see docs 9 and 10) as a result of completing the current TEN-T projects. But most of all, criticism is that the TEN-T policy to date has not produced a multi-modal network that can meet projected demand and enable the Community's sustainability goals to be met. To do this, the studies argue for a core network that is multi-modal, that carries the most long distance transport and is capable of contributing to the Community's sustainable transport goals.

## **1. Mid-term evaluation of the TEN-T Programme (2007-2013) - final Report, Steer Davies Gleave, March 2011**

Steer Davies Gleave was appointed to conduct a Mid-term evaluation of the trans-European Network transport Programme (2007-2013). The objective of this evaluation was described by the Terms of Reference as to evaluate the methods of carrying out projects, as well as the impacts of their implementation taking into consideration the stated objectives of the TEN-T Programme. The report formulates overall conclusions and possible recommendations on the implementation of the TEN-T Programme with a view to providing input to the revision of the TEN-T Programme and policy, both under the responsibility of DG MOVE.

The report is the most up-to-date assessment and is substantiating the shortcomings of the existing TEN-T system especially regarding the lack of an overall, high quality, smart and green core network that would be capable of carrying most long distance traffic.

The mid-term evaluation of the Programme found that since the start of the current financial perspective (2007-2013) the Programme governance has improved: the TEN-T Executive Agency is providing more control over the public money that is spent, the selection of projects through proposal calls is more rigorous and leads to better project delivery. More than 90% of the Programme funds have been allocated and where the earliest projects since 2007 did not perform as required the funds have already been reallocated. Moreover the Programme's cost effectiveness is good: its structure is such that in the case of costs overruns, it is not the EU that bears them but the Member States. The European Coordinators and the Agency which have been funded as part of the financial envelope of the TEN-T Programme also offer an efficient management tool and have adequately assisted the Commission to the delivery of the projects selected.

However, the evaluation recognises that the Programme is behind schedule on completion: a significant number of the largest projects in the Multi-Annual Programme will be completed after 2013, by 2015. The projects that have been completed to date tend to be projects of common interest because they are shorter and because they are less complex than the Priority Projects. A number of the recent EERP projects are already late whereas they had been specifically selected to be completed over a short period. This will mean that there is little chance that the TEN-T network can be ready by 2020.

The report comments that a few Priority Projects are completed and numerous sections are finalised but some key parts – such as cross-border sections - are missing and this explains why the TEN-T network is an assembly of largely national sections, often poorly interlinked, rather than a proper physical and interoperable network. Most Priority Projects focus on rail: eighteen address rail and two address inland waterways, without achieving a coherent network. In spite of the focus given to rail, these projects have not resulted in a Single European Railway Area and are still experiencing bottlenecks and significant interoperable obstacles.

The main conclusions and recommendations of the report are as follows:

- "The European Union Guidelines on the TEN-T Programme appear to present two key issues. The first one is that the objectives of the Programme are very broad, they cover persons and goods, all EU-27 Member States, national and cross-border sections, all transport modes including interoperability, existing infrastructure and



future infrastructure, interoperability, links with other States outside the Union. The aims of the Programme cover such a range of transport issues that it has been recognised in the Green Paper that it “*made it virtually impossible to meet them in full with the instruments available*” (€8 billion of EU funding in 2007-2013)."

- " Thirdly the TEN-T network appears to be the sum of a TEN-T road network, rail network, water network, etc without a lot of specific consideration or focus given on co-modality: it is an assembly of sections that are only partially interlinked. For instance connections between the rail network and some important sea ports are not included in the Priority Projects or projects of “common interest” or large airports are not particularly well interconnected either to the long-distance rail network, which goes against the objective of establishing a sustainable mobility of goods and persons. Achieving uninterrupted passenger and freight transport chains requires that that the biggest sea ports, inland ports, dry ports, airports are linked into the TEN-T network especially to the more environmentally friendly modes."
- "In this case, where the European Union is truly adding value and justifying its use of funds is in the areas that Member States are not prioritising or considering a large extent, namely:
  1. Cross-border sections;
  2. Interoperability and practical constraints; and
  3. Co-modality.

## **2. Assessment of TEN-T Programme Implementation, TEN-T EA, December 2010**

Following Regulation 680/2007, otherwise known as the TEN-T Financial Regulation, the TEN-T Programme is to be submitted to regular evaluation (article 16). A first mid-term report relating to the financial perspective 2007-2013 was due at the end of 2010 (article 19). The overall objective was to evaluate the methods and procedures for granting financial aid to projects of common interest in the field of the trans-European transport networks and to formulate overall conclusions and recommendations on the further implementation of the TEN-T Programme.

The assessment concludes that the decision in 2006 to entrust the management of the TEN-T Programme to the newly created TEN-T Executive Agency has already proven its worth in delivering a full lifecycle grant management process from Calls for Proposals through the adoption of the decision, rigorous project management and a tightly managed payments procedure. The structured, transparent and comprehensive procedures adopted by the Agency have facilitated the targeting of TEN-T funding to EU transport policy priorities such as the Priority Projects, traffic management systems, environmentally-friendly initiatives and modes as well as cross border projects. This was acknowledged by the Court of Auditors in the recent report on the effectiveness of EU railway investment policy (doc 8). The present report documents the achievements of the TEN-T Programme in the fields of project evaluation and selection, with respect to project monitoring, as well as overall programme design and management.

The assessment is that the overall success of the TEN-T Programme in the period 2007-2010 is very important and must be credited. At the same time, the lessons learned during the last four years deserve highlighting so that the TEN-T Programme can be further enhanced—still during this financial perspective, to the extent possible, and certainly as of 2014 onwards when the new financial perspective is launched.

The assessment highlights areas that need improvement towards the better customization of procedures, on the one hand, and effective policy implementation, on the other. A strategic reflection on the orientation of TEN-T policy and, at the same time, the structure of the TEN-T Programme, in conjunction with small-scale adjustments at the level of operational management promise a further significant enhancement in terms of both efficiency and effectiveness.

Of particular relevance was the need to address the issue of the overall financing of the TEN-T Programme. Under the current financial perspective, the TEN-T Programme represents the smallest endowment to the TEN-T network next to the funds made available through the ERDF and the Cohesion Fund in the form of grants, and the loans granted by the EIB. This is surprising considering that the TEN-T Programme is the one which encapsulates the essence of what represents EU added-value, which, after all, is what drives, or should drive, the development of the TEN-T network. That the TEN-T Programme budget is not enough is shown by the low retention rates of proposals (despite the evaluations) and the frequent failure to meet the maximum co-funding rates as foreseen by the TEN-T Regulation. Improving the efficiency and effectiveness of the TEN-T Programme will be strongly facilitated by the increase of its budget during the next financial perspective.

### **3. Mid-Term Review of the 2007-2013 TEN-T Multi-Annual Work Programme-Project Portfolio (MAP Review), October 2010**

The mid-term review of the 2007-2013 multi-annual work programme (MAP), the so-called MAP project portfolio review, was undertaken to assess the extent to which the MAP is achieving its objectives, based on a review of the progress of individual projects. The MAP portfolio includes some of the most ambitious and complex projects across Europe as well as projects with specific and exceptional difficulties and a long term perspective. A large number of the projects concern cross-border sections which face additional coordination, management and funding difficulties in comparison with similar national projects. The main aim of the review was to assess the progress made in the implementation of the projects selected under the MAP as well as their future implementation plans. On this basis, the Commission was able to analyse to what extent and under what conditions the MAP is expected to achieve its stated objectives and to propose possible improvements.

The budget for the MAP represented 80-85% of the total available EU budget for the granting of aid in the field of the TEN-T for the period 2007-2013 through the TEN-T Programme. The review covers 92 projects selected under the 2007 calls for proposals which were launched to meet the objectives of the MAP. All projects were initially planned to be implemented during the 2007-2013 programming period. The 92 projects account for approximately two-thirds of the total TEN-T budget (€5.301 billion out of a total €8.013 billion) and 78% of the total MAP for the entire 2007-2013 period. The total budgeted cost of these projects is €2.647 billion. Therefore, the TEN-T budget accounts for approximately 16% of the projects' budgeted costs.

For the assessment, review panels composed of external experts and internal experts from Commission services evaluated individual project assessments and arrived at consensus views for each project, in terms of the actual status of the project and its future implementation plans. An internal review panel was established to analyse these findings.

The report concluded that projects should be allowed to run their course with a cut-off date on 31 December 2015, but subject to certain well-defined conditions based on both political and technical/financial milestones. This allowed critical support to be maintained without rewarding poor performance or requiring additional funding commitments. The review recommended the redirection of around €311 million which is to be re-injected into new annual/multi-annual calls under the current Programme.

The overall outcome of the MAP review can be summarised as follows:

- Confirmation of EU support to the most critical and complex projects within the TEN-T
- Prolongation of the eligibility period for a maximum of two more years (to the end of 2015), subject to specific political, technical and financial conditions
- Cancellation of projects that have not started within the first two years after adoption of the Commission Decision

#### **4. European Commission-DG TREN Contract-Ex-post/Final evaluation of the Trans-European Transport Network Multiannual Indicative Programme 2001-2006 Final Report, Deloitte consulting SCRL, November 2007**

The objective of this evaluation was to assist the European Commission in assessing the appropriateness and the effectiveness of the Multi-annual Indicative Programme (MIP) 2001-2006 in the context of the Trans-European Transport Networks (TEN-T).

The evaluation concluded that the 2001-2006 MIP was seen as effective, efficient and relevant in many respects. Predictability combined with flexibility where overriding success factors even if procedural issues were seen as cumbersome.

According to the study, the downside was the tendency of mature projects with high national commitment to self-select. These were frequently projects which would often have proceeded in any event, though not necessarily quite as fast. The report concluded that the Commission could reduce the rate of funding for such projects and still retain political leverage, while at the same time freeing funds for projects where the European interest is greater than the national interest. These are typically cross-border projects in the broadest sense of the word. This recommendation formed a key component of the revised financial regulations where greater emphasis is placed on cross-border funding (and was supported in doc. 4 below).

Also, the report identified that the MIP was not effective in achieving its objective of encouraging public-private partnerships. It cited the instability of the management procedures over the life of the MIP that affected the effectiveness, efficiency and relevance of the programme. Minimising the administrative burden and the need to demand accountability and transparency were also key recommendations. Nevertheless, the report did conclude that the MIP funding did go to projects which had a socio-economic impact, particularly at national level.

The main recommendations for maximising effectiveness, efficiency, relevance and impact of the MIP included:

*Regarding objectives and funding rates:*

- The primary objective of the MIP should be to fund projects of high European interest, which will fill missing links or eliminate bottlenecks;
- the rate at which studies for projects of high European interest and low national interest is funded be increased;
- the rates at which investment projects are funded be modified, with projects of high European interest and low national commitment being eligible for grants of 30% and other projects be restricted to grants of 5% of total eligible cost;
- the TEN-T coordinators be asked to define which are the projects of high European interest and low national commitment.

*Regarding PPPs:*

- Encouragement of Public-Private Partnerships (PPP) should continue to be an objective, and;
- the European Commission should collect and disseminate in a structured manner information on best practice in transport infrastructure PPP or other instruments designed in order to facilitate access to private sources of financing, such as the EIB loan guarantee or the risk capital facility;
- the financing rate be increased for studies on the suitability of investment projects for PPP;
- the financing rate be 30% for any project financed by a PPP.

*Regarding Procedures:*

- A revision of the MIP Framework Decision in order to redistribute funds likely to be underutilised be made automatic after four years, and that any other revisions be announced six months in advance.

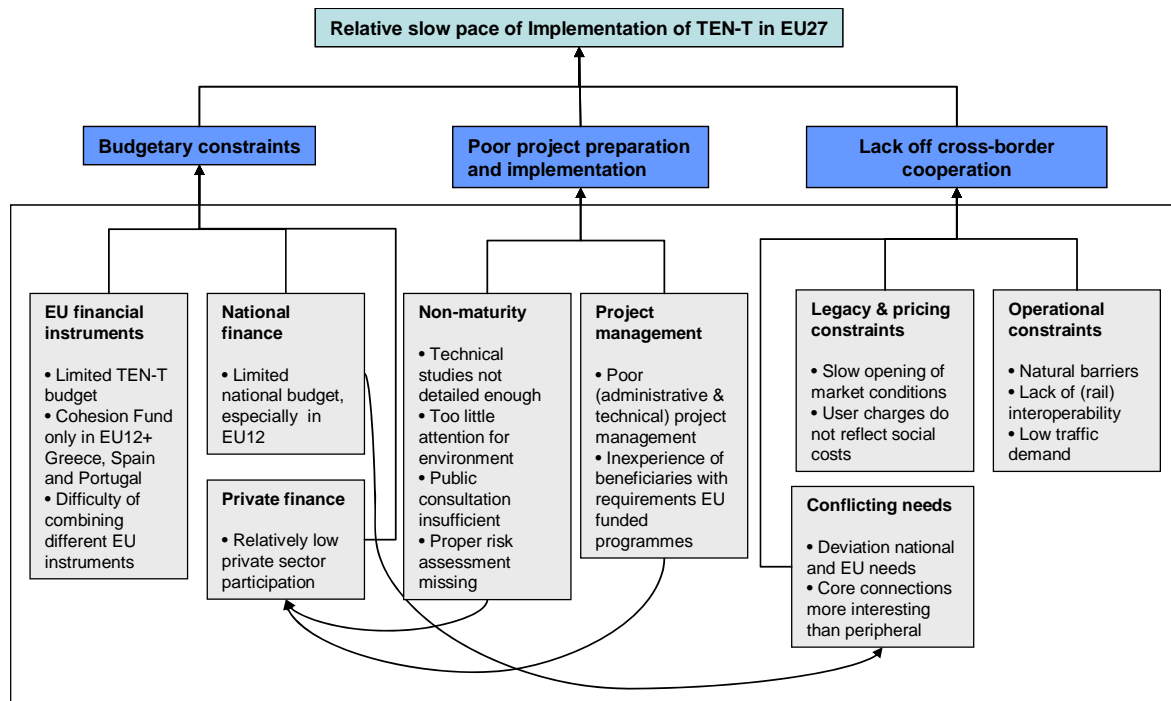
**5. Ex-ante evaluation and Impact Assessments of the TEN-T Multi Annual Programme 2007-2013, ECORYS Transport Consultants, October 2007**

The proposal for the renewed Community multi-annual (MAP) TEN-T programme for the period 2007-2013 prepared by the Directorate General for Energy and Transport (DG TREN) required the undertaking of an ex-ante evaluation. The ex-ante evaluation had two objectives: (a) to provide factual support for the selection of projects, and (b) to kick-start the TEN-T mid-term review.

The report expected that concentrating the MAP TEN-T budget on completing the pan-European corridors, by a mix of cross-border and bottleneck projects situated on the predefined priority axes/projects ("Corridor concept"), would accelerate the overall implementation of the TEN-T. And that this, in turn, would have a positive impact on the EU's economy as the benefits from having a more efficient transport system will occur sooner and these benefits outweigh the costs. The evaluation calculated the Benefit Cost Ratio to equal 1.6, meaning that every Euro spent generates a socio-economic benefit of 1.6 euros to the EU.

The report also concluded that the MAP TEN-T budget for works in the period 2007-2013 is insufficient to cover the actual estimated need in this period and any increase would have a net positive socio-economic effect for the EU+27.

The primary objective of this study was to assess how the relatively small (relative to other financing sources) budget of the MAP TEN-T can both accelerate the realisation of TEN-T while providing European Added Value.



This evaluation, as with all others identified the lack of cross border cooperation as a main problem resulting from differences in EU and national needs. The European TEN-T axes do not always contribute sufficiently to a single country to outweigh the costs that this country has to bear. Not surprisingly, countries that do not benefit from the TEN-T projects are reluctant to invest in these projects. Natural barriers, lack of rail interoperability and low traffic demands further undermine cross border cooperation.

## 6. "Progress Report 2010" and the "Priority Projects 2010: a detailed analysis"

The main conclusion of both reports directly reflects the Impact Assessment's problem definition. It concludes that today's TEN-T network mainly consists of an assembly of national sections that are not yet or only partially interlinked. Chosen for their high relevance to trans-national traffic flows, cohesion and sustainable development objectives, the current Priority Projects have been subjected to a socio-economic evaluation. Their selection reflects an approach focussed on major traffic flows between a starting and an end point, but without taking account of their continuity – i.e. the potential for interconnection and extension (both geographically and modally). Moreover, the range of projects reflects, to a great extent, the financing priorities of the Member States, where the tendency is to give priority to national transport sections linking up centres of national interest rather than fund investment in cross-border sections. As a result, important links were not integrated, even though they bore major traffic flows.

The 2010 TEN-T review highlighted the planned priority projects where there are still cross-border sections and their access routes that are significantly behind schedule.

It concludes that transport infrastructure has been historically designed to serve national rather than European goals and cross border links constitute bottlenecks that are likely to become increasingly costly as the EU economy continues integrating.

During the next financial perspectives (2014-2020), numerous cross-border sections will be in construction or completed. Therefore, the decisions for concentrating financing here, and the obvious need to continue to do so, will be an essential centrepiece for linking up national networks into a European network and thereby contributing directly to the realisation of the internal market, reaping the benefits of years of investment.

#### **7. Position Paper of the EU Coordinators on the future of TEN-T policy—Brussels, October 2009**

The European Coordinators have been appointed to follow projects that present severe difficulties and lag significantly behind in completion compared with their initial schedule. One of the common features of these projects is that they involve several Member States, which renders coordination between the project countries especially difficult and stunts progress on the terrain. Most of the projects are rail projects, but the Danube and Seine – Scheldt projects and the Motorways of the Sea are at least as challenging. The main issue at stake for the Coordinators is to ensure that with their efforts of coordination, they can contribute to giving Europe the opportunity to endow it with the infrastructure it needs to sustain the internal market. The Coordinators' vision is one of enabling a door-to-door logistics chain that is economically and environmentally efficient.

Despite the differences in the nature of the coordinated projects, their experiences during their first mandate (2005-2009) has led to common views on objectives of TEN-T policy and on financing and governance of TEN-T projects.

#### **8. Special Report No 8, European Court of Auditors, “Improving transport performance on trans-European rail axes: have EU rail infrastructure investment been effective?”, October 2010**

The report observed that 19 (of the 30) TEN-T Priority Projects defined in 2004 relate to railways. The Court examined in detail 8 of the rail axes covered by the Priority Projects involving a sample of 21 specific sections in 8 Member States covering 8.6 billion euros of EU investment up to 2006. The report identified that overall transport volumes in Europe are expected to continue rising in the next decades, however, Europe's railways would account for only a small part of this growth.

The report's main conclusions were as follows:

European rail transport faces important obstacles

- Rail infrastructure is not well adapted for modern trans-European services;
- a competitive market for European rail services has yet to fully emerge;

- trans-European rail services have to overcome a range of interoperability problems;
- Although through co-financing the development of rail infrastructure, the EU has contributed to providing new possibilities for trans-European rail transport, the value for EU money could be improved.

The audit concluded that the performance on sections dedicated to high-speed passenger services is in line with expectations with significant impacts in target markets as predicted. However, for sections used by conventional freight or mixed traffic, performance has not yet met expectations as rail network system constraints have an important effect.

The audit made the following recommendations:

The Commission should:

- place increased emphasis on alleviating practical constraints for cross-border rail transport that are not per se related to infrastructure;
- encourage and facilitate collaboration amongst Member States rail institutions to achieve this.

The audit identified weaknesses in the procedure to define the Priority Projects, specifically there was:

- no clear understanding of what constituted a major European rail axis;
- variable quality and quantity of analysis to support proposal from Member States.

Also, the Priority Projects could not be regarded as definitive descriptions of the main trans-European rail axes, given that:

- robust analysis of traffic flows were not available;
- connections to some important ports were not included;
- there are different definitions of the main axes in some locations .

The audit recommended that the Commission should, for future considerations of the definition of the TEN-T Priority Projects:

- identify those trans-European rail corridors for which there is significant actual or anticipated demand;
- strengthen the European-level knowledge and analytical bases.

Whereas, the audit recognised that the concentration of TEN-T co-financing at cross-border locations has improved since 2006 where the European co-ordinators have had a positive influence in concentrating and facilitating developments on the Priority Projects, much remains to be achieved such as the identification of bottlenecks could be improved as could then selection and approval procedures at the Commission.

Overall, the audit recommended that the Commission should:

- build on the roles played to date by the European co-ordinators;
- make sure that procedures for approving projects under Cohesion Policy are robust;
- ensure that decisions about the targeting of TEN-T funds are supported by robust analysis of important bottlenecks;

- improve the quality of cost-benefit analysis for TEN-T selection procedures;
- take the lead in facilitating the exchange of knowledge and experience about rail infrastructure development amongst project promoters.

In summary, the audit recognised that through co-financing the development of rail infrastructure, the EU has contributed to providing new possibilities for trans-European rail transport but value for EU money could be improved.

And the audit urged the Commission, Parliament and Council to take account of the Court's findings when revising the existing TEN-T Guidelines and consider ways to enhance value for EU money.

## **Other related evaluations**

### **9. Ex-ante Evaluations and Impact Assessments Framework Contract TREN/A1/46-2005-Impact Assessment on a Communication from the European Commission Designed to Promote the Development of a Rail Freight - Orientated network**

The report, published in December 2006 starts with the sentence: "The movement of freight is integral to economic growth. Nevertheless the movement of freight by road is harmful to the environment. Hence if there is to be environmentally sustained economic growth the use of rail freight will be integral to the meeting of the Lisbon agenda."

The objective of this Impact Assessment (IA) was to consider the practical (on the ground) implications of possible measures and actions to aid the development of rail freight within the European Union.

The report recognised that while EU reforms in rail freight liberalisation were clearly progressing in the right direction, certain countries have not fully implemented the directives to date and hence there is regulatory disparity. Consequently, the EC should seek to ensure that its directives are fully implemented.

In terms of investment appraisal, the report saw there to be a clear need to avoid the one size fits all solutions instead pragmatic solutions must be identified with the involvement of stakeholders on a corridor basis. Also, on the regulatory side the European rail industry was seen as clearly at different levels of development and for this reason a one size approach was felt to be also inappropriate. Nevertheless the report emphasised that there is no historical or geographical reason why the regulatory framework should not be synonymous across Europe. The report argued that such a harmonised framework would enhance the rail freight industry and is another reason why member countries must implement in full the EC directives.

The report observed that international rail freight is impaired by three major factors: the slowing-down of traffic at bottlenecks (generally in the vicinity of built-up areas); border crossings, during which considerable time may be lost due to administrative or technical constraints; and delays in access to railway services (terminals, marshalling yards). Average commercial speeds are significantly affected by these factors and, as they concern the infrastructure, they also have an impact on freight capacities and reliability.

The subsequent regulation took forward the report's recommendations and the prescribed rail freight corridors are now seen as integral parts of the core network.



## **10. The European Parliament (EP) report of 2006 on the cohesion and employment effects of the TEN-T 30 priority projects<sup>178</sup>**

The aim of this study was to assess the territorial aspects of the Trans-European Networks (TENs) impacts in terms of employment and demographic change at different, future time horizons. The study was carried out, considering primarily the two main types of impacts expected from large transport infrastructure investments:

- a) “macroeconomic” impacts, focused on direct investment impacts on GDP and employment;
- b) “microeconomic” impacts, explained in terms of changes of relative accessibility of regions.

This study dealt with the impacts of TEN-Ts infrastructures in terms of difference compared to a ‘no-TEN-Ts’ case, all other things being equal. The main conclusion of the study was that the extent of the impacts produced by the TEN-Ts infrastructure investments is generally low. The magnitude of the changes in per capita GDP and employment does not exceed 2% of the reference values, with only very few regions showing over 3% increases. From this result, it can be implied that the implementation of the TENs networks is not enough to ensure relevant improvement in the economic performance of an EU region.

In terms of cohesion, two distinct effects were calculated. On the one hand, the regions of the central EU25 (France, Benelux, Germany), which are still among the most developed EU regions, are generally boosted by the TENs networks while, at the same time, some peripheral areas in Finland, Sweden and Italy gain no real advantage from the implementation of TENs networks and most of them are currently among the less developed areas (at least within EU15). Therefore, from this point of view, cohesion is not improved. On the other hand, however, in the longer period (2030), the positive impact of TENs networks on several other peripheral and currently not highly developed areas in Eastern Europe, Greece and Ireland improves the level of cohesion of the Union.

Generally, for regions in the European core with all the benefits of a central geographical location plus an already highly developed transport and telecommunications infrastructure, additional gains in accessibility through even larger airports or even more motorways or high-speed trains will bring additional incentives for economic growth. However, for regions at the European periphery or in the new EU Member States which suffer from the remote geographical location and an underdeveloped transport infrastructure, a gain in accessibility through a new motorway or rail line may bring significant progress in economic development. The opposite may happen too, if the new connection opens a formerly isolated region to the competition of more efficient and cheaper suppliers in other regions.

The report stated that the investments in the TEN-T networks so far planned (30 PPs) do not give rise to large additional effects in terms of cohesion although it recognised that there will be a positive impact on relatively under-developed areas in Eastern Europe and Greece so that more and less positive effects will co-exist. Nevertheless, overall the “European Added Value” for most Priority Projects was considered to be limited.

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<sup>178</sup> European parliament Report-The impact of the Trans-European Network on cohesion and employment:  
<http://www.ipolnet.ep.parl.union.eu/ipolnet/cms/lang/en/pid/>

## **11. Update of Selected Potential Accessibility Indicators--European Spatial Planning Observation Network (EPSON)**

The report was coincident with the EP report above.

It made a number of observations based on the spatial distribution of potential accessibility by road and rail.

Those observations were:

- Large disparities of accessibility by both, road and rail continue to exist in the European Union. Regional deficits in competitiveness based on poor location remain.
- The transport infrastructure development of the past years was not able to change the overall European spatial pattern of regions with good, moderate and low accessibility. And this cannot be expected in the future because central regions will remain central and peripheral regions peripheral.
- However, transport infrastructure projects can have substantial impacts on potential accessibility of individual regions. In particular, high-speed rail is able to reshape the European continent in terms of accessibility by bringing high accessibility to regions outside the European core.
- Due to the specific characteristics of road and rail networks, the resulting spatial patterns of regions with highest accessibility differ. Whereas road leads to a plateau of high accessibility, high accessibility by rail is much more concentrated around nodes and along corridors of high-speed rail lines.
- The process of EU enlargement had its impact on potential accessibility. In particular for road transport, the combined working of reduced border waiting times and infrastructure development has improved the situation in several regions of the new member states.
- The development of the accessibility indicators between 2001 and 2006 shows also the focus of the new member states on prioritising road infrastructure development at the expense of rail infrastructure and services. Whereas for potential accessibility by road, most regions in the new member states improved their relative position within the European Union, the opposite is true for accessibility by rail. Here, most regions that already belong to the group of peripheral regions even increase their distance to the European average of potential accessibility by rail.

## **12. Expert Group report**

The expert group identified the inadequacy of the TEN-T guidelines and its legal framework. The report concludes that:

The Guidelines are too broad in scope- the criteria to identify priorities are mainly qualitative and provide little guidance in terms of what is of European importance;

The concept of common/European interest as expressed in the Guidelines is vague and not operational and does not sufficiently emphasise European added value;

The current network is mainly identified in a bottom-up approach. In addition, projects also lack focus which leads to dilution of resources, this in turn results in a failure to achieve a “network” perspective;

In addition, TEN-T projects are not always focussing on areas with the highest transport demand and are not always based upon reliable traffic forecasts;

The Guidelines treat transport policy on a mode per mode basis and do not significantly contribute to the objective of co-modality; indeed, both the geographical references (comprehensive network and the priority projects) and the qualitative criteria (sections 2 to 9 of the Guidelines) are to a large extent single mode based;

The function of seaports and hinterland hubs as nodal points for all the modes of transports is not addressed. In the absence of a common infrastructure concept for these nodes across modes, they have no policy basis and have to be integrated through a mode-by-mode policy approach;

As the lion's share of investment (73% between 2007-2013) has come from national budgets or private financing, public budget restrictions and inappropriate prioritisation lead to project delays and sub-optimal investments;

The TEN-T Guidelines have shown in practise to provide little help in prioritising TEN-T investments. Their added value is even further reduced as they are not effectively used in mechanisms for regional and cohesion funds to implement European transport infrastructure projects;

The current Guidelines are unable to focus on chronic bottlenecks in cross-border areas, which prevent network optimisation.<sup>179</sup>

Also, a downside relating to "foreseeability" was the tendency only to submit mature projects in order to be sure not to lose the MIP funding as a result of delays. While maturity was one of the selection criteria, this raises the issue of whether these projects would not have gone ahead anyway albeit rather more slowly and possibly without the latest technology in terms of traffic management and signalling, for example.

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<sup>179</sup> 2009 and 2010 Review of TEN-T priority project progress

## **ANNEX III**

### **PRE-SCREENING OF POLICY OPTIONS**

This Annex details the assessment of each planning and implementation scenario with regard to their effectiveness in addressing current drivers of TEN-T fragmentation and to their likely compliance with the principles of subsidiarity and proportionality. This assessment laid at the basis of the pre-screening process of the initial array of available policy options, the outcome of which is presented in part 4 of the Report.

#### **- Planning scenarios (A scenarios)**

An insufficient level of coordination at EU-level in planning the network, it has been argued in the problem definition section of the IA, has resulted in a TEN-T that does not, as yet, present itself as a network. It is missing a number of essential links, particularly cross-border, but not only, and modal interconnection nodes. The network planning scenarios have been therefore assessed mainly on their comparative capacity to address this planning related insufficiency and achieve the TEN-T policy objective of an interconnected, multimodal network that adequately covers the entire territory of the Union and adequately connects it to the neighbouring countries and the rest of the world.

#### **A1/Business as usual**

This scenario consists of the continuing application of the current Guidelines, unrevised. In planning terms, it means that the current Guidelines' criteria for wider TEN-T identification and selection of projects of European interests (or Priority Projects/PPs) will continue to apply. As the Guidelines are accompanied by a definitive list of 30 PPs, no new PPs will be identified and funded with EU budget support. MS however will be free to continue using the criteria as reference for guiding them in the future in developing transport infrastructure.

*Impact on TEN-T planning coordination at EU level: [ 0]*

The continuing primarily bottom-up approach to network development is not likely to lead to significant improvements in Member States planning coordination. As highlighted in the problem description in the report, Member States are prone to give priority to national objectives in building infrastructure, not least due to the fact that they also provide the lion's share of investments. Therefore, left on their own, they are not likely to consider as a priority developing infrastructure of common European interest unless it serves also a national priority objective. Nevertheless, whenever the latter would be the case, the common framework for the identification of the TEN-T provided by the Guidelines could provide the basis of planning development of new projects. Overall however, fragmentation issues due to missing cross-border links, including connections with neighbouring countries, are likely to remain inadequately addressed. Similarly, in the absence of a change in the current European framework conditions (be them of policy or other nature), other current trends in planning such as the primarily uni-modal focus are likely to endure, leaving also current issues of intermodality unaddressed.

*Impact on subsidiarity and proportionality: [0]*

Since no changes are brought to the Guidelines, current compliance with the subsidiarity and proportionality principles will not be affected.

#### **A2/Guidelines discarded**

This scenario assumes that the Guidelines will be eventually discarded. In order to complete current undertakings, the funding already allocated to current PPs will continue and,

following revision of their capacity to be effectively completed, continuing financial support under the next MFF could be considered. Yet, as there would no longer be an EU TEN-T policy framework, there would be no TEN-T budget line in the upcoming MFF either. Without criteria for TEN-T configuration, planning of infrastructural projects would be left entirely for Member States to decide.

*Note.* Without guiding at EU level in planning TEN-T configuration, no further implementation support action at EU level would be justifiable either.

*Impact on TEN-T planning coordination at EU level:* [ - ]

Without binding Guidelines, Member States would have complete discretion in selecting and implementing infrastructural projects. Consequently, they would have even less incentives (than in the current situation) to address with any degree of priority projects of common European interest. Ensuring the infrastructure needed for improving cross-border traffic flows, including connections with neighbouring countries, as well as aspects of multimodality would be addressed with a degree of priority even lower than under the current policy. The impact on EU-level coordination among the MS would therefore be negative. *Subsidiarity and proportionality compliance:* [No]

The Treaty gives the Union a clear mandate with regard to supporting, by means of Guidelines, the development of the TEN-T. Discarding the Guidelines would be justified only insofar as the Commission could demonstrate that progress in the development of the network will allow for effective TEN-T completion without any further EU level support, but just by mere Member States's intergovernmental coordination, at their own initiative. As highlighted earlier, continuation of current trends suggests that this is not likely to occur.

### **A3/MSs Selection of new PPs (Essen 2)**

In this scenario, the current, primarily bottom-up approach to TEN-T configuration development will be continued. The Guidelines' will be revised, to allow the adoption of a supplementary list of PPs. The (wider) TEN-T map will also be updated, to reflect evolutions in Member States' developed and planned infrastructure.

The process of selection of TEN-T projects will remain largely unchanged. MS will continue to be responsible for developing project proposals and their eventual implementation, while the Commission will select the projects that will be financially supported from the EU TEN-T budget, based on the extent to which they fulfil the criteria set out in the Guidelines.

Drawing on lessons learnt, the definition of current criteria for identification and selection of priority projects/projects of European interests will be nevertheless refined, to better specify the elements that would constitute the European added-value of projects. In particular, references to multi-modality aspects and links to third countries will be added.

The PPs included on the current list will continue to be developed according to current plans.

*Impact on TEN-T planning coordination at EU level:* [ + ]

The added value of this scenario is that it would address to an important extent the physical fragmentation problems of the TEN-T. New PP proposals could draw on the experience of more than 20 years of TEN-T development, and particularly on current identification of missing links and multi-modal nodes along major European traffic flows, would contribute to filling many of these gaps. Strengthened definition of criteria should help ensure that new PPs will address many of these missing links.

A better EU-steered process of developing the TEN-T configuration should thus ensue, but it will nevertheless remain primarily a bottom up (and thus inherently fragmented) approach. Member States would still continue to consider and fund with priority achieving national objectives. In many cases, cross-border links, both to other Member States (noticeably, particularly to their East) and non-EU Member States neighbours, do not feature on top of their priority list. Nor would multi-modal connection points feature there often, as supporting modal shift is currently not necessarily a priority for many Member States.

In the absence of other incentives, depending on the costs incurred by adding the infrastructure enabling intermodal connections or building cross-border links, on the one hand, and the funding received from EU sources, on the other, Member States might decide to renounce to the latter rather than build the infrastructure with EU requirements. It would be, nevertheless, an issue that could be addressed jointly with targeted implementation measures.

Finally, as priority projects will always be co-financed, disparity in terms of infrastructure endowment (both in terms of availability and quality) between the East and the West of the continent will endure.

It can be concluded that, while it is likely to improve the extent to which problems of physical fragmentation will be addressed, this planning scenario will not, in itself, lead to significantly improved coordination at EU level in planning the development of the TEN-T. While selecting and supporting new TEN-T projects would allow filling in geographical missing links, insofar as they will still reflect predominantly national objectives, the resulting priority projects would not necessarily be the ones that make most sense when the overall European network efficiency is taken into consideration. In other words, the TEN-T could eventually emerge as an effectively interconnected network, but it would not necessarily be the most efficient one. Nor would the fully interconnected multi-modal TEN-T aimed for be achieved within the desired year 2030 horizon.

*Subsidiarity and proportionality compliance:* [ Yes ]

As no major changes in terms of approach to planning the TEN-T would be brought, compliance with the principles of subsidiarity and proportionality would not be affected.

#### **A4/ Core Network approach**

In this scenario, the Guidelines are revised in order to support a new dual-layer planning approach. The configuration of the first, basic layer will result from the updating and adjustment of the current (wider) TEN-T (as comprised in the Member States maps and outline plans annexed to the current Guidelines) on the basis of a transparent methodological approach, consistently applied across all Member States' territories. This will constitute the "comprehensive" TEN-T. The second layer, overlaying the first and constituted of its strategically most important parts, will constitute the core TEN-T. It will be identified on the basis of a specifically designed methodology, that will be equally consistently and transparently applied for all Member States.

The methodologies developed for the identification of the configuration of both networks will ensure: balanced geographical coverage; linking up of all major EU nodes as well as peripheral regions following the most economically viable, socially beneficial and environmentally sustainable route possible; multi-modality objectives, including through the incorporation of current rail freight corridors, ERTMS corridors and "green corridors"; connections with neighbouring countries and the rest of the world. The core network will be designed to attract major long-distance and transnational traffic flows, both for freight and passengers, and connect major nodes throughout the Union in a geographically balanced way.

The comprehensive network will be so configured to ensure access to the core network and allow the spatial distribution of traffic in all regions.

While the comprehensive/basic layer of the TEN-T will constitute the object of general support at EU level (including financially, especially in the less endowed regions in the East of the Union), the main focus will be placed on the development, with priority, of the multimodal core layer, by 2030.

*Impact on TEN-T planning coordination at EU level: [ ++ ]*

During the public consultation process, this scenario has been identified as the one that best addresses the physical fragmentation problem of the TEN-T. It proposes an enhanced top-down, multi-modal approach to planning that would allow addressing current aspects of physical fragmentation of the TEN-T in a systematic and comprehensive fashion. By identifying a core network of highest strategic common interest, it will enable the prioritisation of projects in the process of selection (as well as provide orientation for future project development) to ensure that the network fragmentation problems identified (both across countries and modes) are primarily addressed.

While building of new infrastructure will be supported where needed, the planning will focus on developing the network configuration (both the comprehensive and the core layer) starting from the existing and planned infrastructure in each Member State. It will seek to make maximum use of current Priority Projects as well as other comprehensive network projects undertaken so far. The focus will be thus placed on identifying and developing the links necessary to connect existing and planned Member States infrastructures into a coherent, multimodal and thus more efficient (not least resource-efficient) network.

High coordination in planning the TEN-T will be ensured, in particular with regard to the core layer. The common planning methodology, applied transparently and coherently to all Member States shall ensure that missing cross-border links (including with neighbouring and third countries), co-modal transport routes and their necessary interconnecting points, as well as new links to alleviate major bottlenecks, are identified and addressed. At the comprehensive network level, active coordination at EU level with regard to planning the TEN-T configuration will be limited to ensuring that loose ends and discarded projects are taken off the current TEN-T map while new planned infrastructure added, and that accessibility to the core network and spatial distribution of traffic are adequately provided.

During the (extensive) process of stakeholder consultation, the envisaged methodologies for both the core network and the comprehensive network have been submitted to stakeholder opinion. In particular, Member States have been actively involved in identifying the updated comprehensive TEN-T – which is shared, at least with regard to updating the TEN-T map with discarded and planned infrastructure, by all planning scenarios – as well as the possible core network.<sup>180</sup> A series of bilateral meetings have been conducted by the Commission with the Member States in order to identify their national network component on both the comprehensive and the core TEN-T. The bilateral consultations have also revealed that the construction of the future core network thus identified could be ensured by 2030.

As the methodology for network identification will focus on supporting both major long-distance and transnational traffic flows and connecting major nodes throughout the Union in a geographically balanced way, on the core network, as well as ensure access to the core network and spatial distribution of traffic in all regions (the comprehensive network), the

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<sup>180</sup> As a consequence of this process, the Member States actually endorsed the dual-layer network approach, including the proposed draft methodology, during the Informal Transport Council in Godolo in February 2011, as the preferred approach to planning the TEN-T under the revised TEN-T policy.

approach to planning in this scenario should also ensure a fine balance between the objectives of contributing to the Union's economic competitiveness, on the one hand, and its economic and territorial cohesion, on the other.

*Subsidiarity and proportionality compliance:* [ Yes ]

The Commission will not step beyond its powers as long as it acts in fulfilment of its Treaty mandate to support the development of the TEN-T. The degree of EU level governance necessary to achieve the core network on time could nevertheless be questioned by Member States on grounds of subsidiarity and proportionality. Insofar as the process of network planning/identification has been undertaken and will continue to be done in full consultation with the Member States, this issue should not arise. Last but not least, during the legislative process of adoption of the revised Guidelines, the Member States will be required to discuss and approve the core network (as well as comprehensive network) plan, as annex to the Guidelines. The specific requirements of Art. 172 TFEU that all planned projects along the TEN-T be approved by all the Member States concerned will thus also be fully complied with.

#### **A5/Dense comprehensive network approach (TENCONNECT)**

This scenario consists of revised Guidelines aiming at supporting the development of the entire TEN-T rather than a strategic core network as a high-standard, fully integrated, multimodal trans-European network. As in the previous scenario, the network configuration will also be identified on the basis of a transparent methodology to be applied consistently across the entire territory of the Union.

*Impact on TEN-T planning coordination at EU level:* [ +++ ]

As with the previous, A4 scenario, this scenario would ensure the identification of a network configuration that specifically targets the related TEN-T policy objective, by means of a tailor-made methodology. The difference lies in that, while in the previous scenario EU action is primarily focussed on the development of the strategic core, this scenario treats the development of the entire comprehensive TEN-T as a EU priority. The resulting planning coordination among Member States would thus be highest of all scenarios, and the objective of interconnectivity of national networks, multimodality and adequate geographical coverage would be pursued in the highest degree.

*Subsidiarity and proportionality compliance:* [ No ]

Such an approach would be prone to justified challenges on the part of Member States, particularly on grounds of proportionality. The Commission would have a very difficult task justifying why most of the transport infrastructure of all Member States should be treated as a EU priority, and why its development could be best addressed only at EU level.

#### **- Implementation scenarios (B scenarios)**

These scenarios concern the level of governance the EU exercises over the implementation of the planning scenarios. They range from business as usual (i.e. the current Guidelines) through an enhancement of current EU powers that would aim at conformity with standards and coordination, to the Commission adopting full powers of control regarding the network's operation. Their preliminary assessment has focused therefore particularly on their impacts on the drivers relating to delivering interoperability, enhanced Member States cooperation in project implementation and the focusing of EU funding instruments (and, consequently, the



corresponding TEN-T policy objectives). In addition, as in the case of network planning scenarios, implementation scenarios have also been assessed for their impact on the subsidiarity and proportionality principles.

### **B1/Business-as-usual**

This is the reference scenario, whereby the current implementation approach, as provided in the Guidelines in force, is maintained unchanged. This includes both specific TEN-T instruments, as well as other instruments of EU transport policy implementation that support the achievement of the specific TEN-T objectives. Current TEN-T implementation instruments include both financial instruments – the TEN-T Programme, the Cohesion Fund and EIB loans and grants; and coordination ones – the TEN-T European Agency (TEN-T EA), the European Coordinators, the Open Method of Coordination and the TENtec database that was developed as a result of the latter. Among the more general EU transport policy implementation instruments, most relevant for supporting TEN-T development are: the innovative transport technologies or Intelligent Transport Systems (ITS), the European Rail Transport Management System (ERTMS), the River Information System (RIS), the European air traffic control infrastructure modernisation programme (SESAR).

#### *Impact on interoperability [ 0 ]*

As far as the interoperability of networks is concerned, a certain progress will be achieved, particularly in the deployment of common traffic management systems (ERTMS, RIS, SESAR). But overall, the impact on TEN-T efficiency would be too little, too late.

The introduction of ERTMS on the European interoperable network provides a good example for an indicator of progress towards interoperability. Currently, around 4000 kilometres of lines for commercial services are in service in ten Member States<sup>181</sup>, in particular high speed lines, and by the end of 2015, and respectively 2020, this should grow to 11 500 km and 23 000, respectively.<sup>182</sup> In addition, a binding European Deployment Plan (EDP), adopted on 22 July 2009, aims at a swift and coordinated deployment by 2015 of ERTMS on 6 Corridors.

Nevertheless, even if these objectives are reached by 2020, the interoperable section of the TEN-T will not constitute an interoperable European-wide network.<sup>183</sup> The six corridors of the EDP represent only 6 % of the Trans-European Network track length, even though they do carry 20% of the rail freight traffic. In addition, as European Coordinator K. Vinck has noted, "from an implementation point of view, delays are noticed on nearly all corridors with the exception of specific sections such as the Betuwe Line in The Netherlands or the Swiss transit sections of the Lötschberg and the Gotthard-Ceneri"<sup>184</sup>.

At the same time, much progress regarding interoperability in operational rules is not to be expected either, since the different barriers to interoperability (administrative requirements, cross acceptance of vehicles, certification of vehicles operators, technical and commercial controls) will not be tackled together. Without increased top-down coordination between Member States, the situation is not likely to improve, despite the involvement of the European Coordinators.

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<sup>181</sup> From the Annual Activity Report of Coordinator Karel Vinck on ERTMS, Brussels, 20 July 2010

<sup>182</sup> According to the figures in the ERTMS contracts signed recently and the national deployment plans submitted by Member States.

<sup>183</sup> Commission Staff Working Document accompanying the Communication from the Commission to the Council and the European Parliament, COM(2009) 464 final. Progress report on the implementation of the Railway Safety Directive (Directive 2004/49/EC) and of the Railway Interoperability Directives (Directives 96/48/EC and 2001/16/EC). See also figure on ERTMS Corridor in the Report, p. 20.

<sup>184</sup> Annual Activity Report of Coordinator Karel Vinck on ERTMS, Brussels, 20 July 2010

*Impact on Member States cooperation in project implementation: [ + ]*

With the continuous involvement of the Coordinators and the use of the Open-Method of Coordination, intergovernmental cooperation is likely to improve. The European Coordinators in particular have proven an effective mechanism for addressing the political sensitivities inherent in cross-border projects as well as for providing visible coordination enhancement. The results of these efforts are confirmed by the fact that so far there have been no cross-border project cancellations among the projects assessed in the 2007-2013 MAP portfolio.<sup>185</sup> However, in the absence of further legal and political commitments, it is unlikely that new large and complex cross-border projects will be completed.

Thus, the 2010 detailed analysis of the Priority Projects<sup>186</sup> shows that by 2020, according to current planning, a number of major projects will have been completed: the rail parts of PP8 and PP12; the PP13 UK/Ireland/Benelux road axis; PP17 Paris-Bratislava; PP20 Fehmarn Belt; PP23 railway axis Gdańsk-Warszawa-Brno/Bratislava-Wien; and PP25 road axis Gdańsk-Warszawa-Brno/Bratislava-Vienna. The implementation of three PPs however would still be running beyond 2020: PP1 Berlin-Verona/Milano-Bologna-Napoli-Messina-Palermo; PP3 high speed railway axis of Southwest Europe and PP6 railway axis Lyon-Trieste-Divača/Koper-Divača-Ljubljana-Budapest-Ukrainian border. All three cases involve large and complex infrastructure projects, among which not least the Brenner and the Lyon-Turin base tunnels.

*Impact on focusing of EU funding instruments: [ 0 ]*

Focusing of EU funding has significantly improved since the first programme in 1996, and in particular following the 2004 TEN-T Guidelines revision, the adoption of the 2007-2013 MFF, and the establishment of the TEN-T EA. Nevertheless, as highlighted in the problem description section of the IA, the capacity of current instruments to achieve a better focus of EU funding conditionality remains limited. At the same time, the co-funding within the TEN-T budget may remain too limited to kick off works on major cross-border sections or important bottlenecks with cross-border effects, due to the limited budget and the limited support rates. For e.g., the Mid-term review reports (2010 and 2011)<sup>187</sup> point out that the seemingly higher co-funding rate of 30% for cross-border sections is, in practice, not higher than 21% in average. As these difficult cross-border projects often run across several MFF, the final contribution from the TEN-T budget may be as low as 5 to 10%.

Upcoming foreseen changes in the regulatory framework – the establishment of a common/coordinated funding framework with the cohesion policy funds with enhanced conditionality or the establishment of an Infrastructure Fund – could address issues of EU funding focusing to a certain extent.<sup>188</sup> But in the absence of a revision of the Guidelines,

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<sup>185</sup> Mid-Term Review of the 2007-2013 TEN-T Multi-Annual Work Programme Project Portfolio (MAP Review), TEN-T Executive Agency, October 2010

<sup>186</sup> TEN-T Priority Projects 2010: A Detailed analysis, December 2010.

<sup>187</sup> MAP review, 2010 (cited above) and Mid-term evaluation of the TEN-T Programme (2007-2013)-Final Report, Steer Davies Consultancy, March 2011.

<sup>188</sup> TEN-T projects are currently funded either through the TEN-T Programme (PPs in convergence countries) or the Cohesion Fund (PPs or other TEN-T projects in the cohesion countries). While conditions for TEN-T infrastructure projects from the Cohesion Fund are currently observing TEN-T Guidelines criteria, the generally weak conditionality attached to Cohesion Fund support so far has failed to focus EU funding towards delivering projects of highest EU added-value (see also point 2.3.4 of the IA). DG REGIO is currently undertaking a large consultation process in view of strengthening conditionality. The new framework would more clearly link funding to compliance with TEN-T policy objectives and project criteria. If the current proposal for an Infrastructure Fund will be adopted by the Commission, then the new fund will incorporate both the TEN-T Programme funding and part of the Cohesion Funds dedicated to infrastructure development, including transport infrastructure.

providing for stricter conditionality of EU funding<sup>189</sup> as well as a better definition of what constitutes projects of key interest for TEN-T development (and what constitutes their EU added value in particular), the TEN-T would fail to fully profit from these directly relevant changes of the EU regulatory framework.

*Subsidiarity and proportionality compliance:* [Yes]

Since no changes are brought to the Guidelines, current compliance with the subsidiarity and proportionality principles will not be affected.

### **B2/Guidelines implementation provisions discarded**

As with A2, this scenario considers the possibility of "no (longer) EU action". Nevertheless, Guidelines could still be envisioned to provide criteria for TEN-T and projects of common European interest; but at the end of the current MFF no EU level TEN-T implementation support activities will be foreseen or financed. That includes renouncing to the work of the European Coordinators and dissolving the TEN-T EA at the end of its mandate in 2015.

*Impact on interoperability:* [ 0/- ]

Without TEN-T Guidelines and the work of European Coordinators to provide for the adoption of common standards of interoperability, the rhythm of their adoption will depend on the rhythm of implementation of other EU transport policy instruments in this regard (such as ERTMS, ITS, RIS, SESAR). While certainly not envisaging support for common standards adoption but, on the contrary, discarding current instruments that have proven particularly beneficial in this sense, the impact of this option is likely to prove negative in the long run.

*Impact on Member States cooperation in project implementation:* [ - ]

As pointed out earlier, the work of the European Coordinators has proved instrumental in improving Member States cooperation in PP implementation, especially as concerns cross-border section. Similarly, the work of the TEN-T EA has been evaluated as bringing particular added value as regards preparation of projects proposals and follow-up on PP implementation. Hence, renouncing to these instruments would most likely have a negative impact on continuing Member State cooperation.

*Impact on the conditionality/focus of EU funding instruments:* [ - ]

Left alone, Member States will be even more prone to choose which projects serves best their own national interests while still fulfilling the TEN-T criteria defined in the Guidelines.

*Impact on subsidiarity and proportionality:* [ 0 ]

This option will not have any significant impact. It could be, on the contrary, appreciated by the Member States being left alone.

### **B3/ Regulatory approach only**

This scenario consists of a TEN-T financial instrument that will strictly define the projects/network map to be funded and their timetable for completion, as well as prescribe interoperability standards and timetables for adoption. Member States will be left to their own devices to carry out the requirements by the agreed date. The role of the Commission would be restricted to monitoring and making any necessary legal challenges in case of infringements. There would be no EU coordination or other implementation tools.

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<sup>189</sup> The rules and conditions of disbursing TEN-T Programme funds are set in a distinct legal document, the Financial Regulations accompanying the TEN-T Guidelines. But a revision of the former may prove not have sufficient force in the absence of a revision of the latter – for e.g. in order to better define the type of projects that can be funded in order to better ensure their EU added-value.

*Impact on adoption of common interoperability standards: [ 0/+]*

By prescribing interoperability standards over the entire range of PPs or core and comprehensive networks, depending on the planning scenario chosen, this approach would ensure an eventual harmonisation of standards across the TEN-T. Nevertheless, the only tool the Commission would have to "stimulate" Member States to ensure speedy and effective implementation would be by means of taking them to the European Court of Justice (ECJ). Hence, as long as, from the Member States perspective (including, it should not be ignored, the national operators and "soft" infrastructure providers), it is more profitable not to adopt the common standards prescribed, they will postpone doing so. Even the threats of ECJ sanctions might prove little effective, since the costs of sanctions might still be outweighed by other national interest considerations. Hence, the impact of this option towards addressing current interoperability problems and achieving the corresponding objective of a fully interoperable TEN-T could prove positive, but it could require considerable time, beyond the 2030 objective.

*Impact on Member States cooperation in project implementation: [ + ]*

The reasoning developed earlier equally applies. Obligations deriving from the EU *acquis* would eventually render Member States to enhance their cross-border cooperation and coordination. Yet, the speed and effectiveness in delivery of projects could not be fully guaranteed, and might well prove to depend on the cost-benefits calculations made by MS from the perspective of their national interest. As argued earlier, being taken to Court the Commission might prove to provide a certain "stimulus" to Member States to seek and enhance cooperation and coordination in order to deliver cross-border project/sections; but it would not necessarily deliver the full expected outcome, nor in the timeframe the Commission would like to see. Moreover, the role of the severe guardian with the stick is not the one that the Commission seeks to play, nor to be perceived in, with predilection.

*Impact on conditionality of EU funding instruments: [0/ + ]*

The effectiveness in focusing in EU funding depends on the extent to which the projects supported are implemented, delivering the inherent EU added value. Hence, insofar Member States would not prove perfect good will from the start in complying with the Guidelines requirements, and which is likely to be the case for at least some of them, the effectiveness in delivery and meeting the established targets/objectives will also suffer.

*Impact on subsidiarity and proportionality: [ - ]*

The main shortcoming of this approach however could prove to be that it is an approach that is overly top-down, that could be easily challenged on grounds of subsidiarity. In the course of the consideration of the text by the Member States and the EP, these issues could be eventually addressed. Nevertheless, two negative implications could still be foreseen. First, the Commission's image could be seriously affected by being seen as a problem setter, not a problem solver. Second, the provisions of the text might result so much water downed, to suit the various Member States interests, that it would weaken any effectiveness in achieving the TEN-T policy objectives within the envisaged time horizon.

**B4/Reinforced coordination**

This scenario envisages strengthened provisions in the TEN-T Guidelines concerning the TEN-T implementation instruments (the TEN-T Programme, the European Coordinators, the TEN-T EA), by means of specific legal instruments – Decisions – governing the implementation of specific projects/corridors. In the case of the A1 or A2 planning scenarios, they would concern the individual PPs, whereas in the case of the A3 and A4 scenarios, they

would concern specific corridors along the core network, and the comprehensive TEN-T respectively.

The individual PP/Corridor Decisions will provide for a coordinated approach to infrastructural investments, management of PP axis/corridor capacity, in building and coordinating transshipment facilities, the optimisation of the use of each transport mode (or multi-modality), the comprehensive deployment of interoperable traffic management systems and the harmonisation of operational rules along the PP/corridor. Both EU and Member States funding would be committed through the individual PP/Corridor Decisions, which would also establish binding timelines for completion. Infrastructure improvements and transport policy measures would closely interact, and their realisation will be brought forward by appropriate coordination structures, under the aegis of a PP/Corridor Coordinator.

The European/Corridor Coordinators will continue with mandates similar to the current ones and relatively enhanced powers, grounded in the PP/Corridor Decisions. The Decisions will not be addressed only to Member States, but also to the other actors involved in the respective PP/corridor implementation. The mandate of the TEN-T EA will be maintained and extended beyond 2015, to help ensure, alongside the Coordinators, to add effectiveness in implementation, not least by encouraging the development of project proposals with high EU added-value.

*Impact on adoption of common standards of interoperability: [ ++ ]*

As the PP/Corridor Decisions would provide for common technical and service standards along the respective PP/corridor, interoperability issues will be addressed in a direct and comprehensive manner at PP/corridor level.

*Impact on Member States cooperation in project implementation: [ +++ ]*

The primary focus put in this scenario on coordination, combined with the effect of binding Member States financial commitments, will enable the speeding up of effective implementation within a binding timetable.

#### **4.2.1 BRAVO Project: an example of a successful corridor approach**

The Brenner corridor is one of the busiest European freight corridors both by road and rail, which is transiting the sensitive Alpine region. With an objective to raise the volume of environment-friendly combined rail-road transport and increase rail's market share on the Brenner corridor, in 2002, all relevant stakeholders from Austria, Germany and Italy committed themselves to the "Action Plan Brenner 2005".



**Brenner Corridor (Source: KombiConsult)**

This plan contains a list of measures required to organize and ensure the short- to medium-term upgrading of the level of service provided in combined transport on this corridor. It takes up existing measures and projects improving the competitiveness of rail freight. It consolidates these approaches, supplements them by additional actions, and supports them by means of an implementation plan that is aimed at bringing about a modal shift.

BRAVO's main objective was to develop of a coherent corridor management scheme including: (1) improvement and intensification of cooperation between the railway undertakings and infrastructure managers, (2) improvement of communication and data exchange to optimize the interfaces between parties involved (3) introduction of an overall quality system and a removal of operational bottlenecks and (4) apply interoperable rail traction involving multi-current locomotives and including train path rescheduling, simplification and harmonization of locomotive approval procedures (certification).

The implemented measures of the project exhibit very positive results:

- Increase of traffic on railway within the corridor (+16% p.a.).
- Modal shift: 5.92 to 6.86 million gross tonnes from 2005 to 2006.
- Quality improvements in terms of reliability, flexibility, enhanced customer satisfaction and reliability of transport documents.
- Benefits for environment and traffic on Brenner road.

The project results offer many transferability opportunities, as the project was designed to function as a blueprint applicable to other European corridors as well.

An increase in traffic volumes of about 57 percent in unaccompanied combined transport (CT) on the Brenner axis has been reported by the operators and railways, which have been participating in the BRAVO project over the last three years.

**Source:** <http://www.bravo-project.com/home/index.shtml>

*Impact on conditionality/focus of EU funding instruments:* [ +++ ]

PP/Corridor Decisions will identify major investments and smaller scale short term improvements necessary on the individual PPs or corridors and condition funding on their

implementation. Priority for the realisation of those projects identified as being of highest EU interest will be thus insured. Moreover, this approach would also allow for coordination and even synchronisation of EU and national funding, thus leading to further enhanced focusing of funding on key priorities across the PPs/core/comprehensive TEN-T. At the same time, improved effectiveness in implementation would also result in more value being generated in return for EU funding.

*Subsidiarity and proportionality compliance:* [ Yes]

While the reinforced coordination approach is an enhanced top-down approach, the Member States will be directly involved in the drafting of the individual PP/Corridor Decisions and the common standards (technical, service, investment) provided and financial commitments assumed. The principles of subsidiarity and proportionality will thus be preserved. The scenario presupposes intense dialogue and cooperation between the EU and the Member States involved in order to adopt the necessary PP/Corridor Decisions.

### **B5/ EU full operational management**

This scenario consists of a TEN-T Framework Regulation that would provide for complete management of the planned network via the EU agencies (ERA, EASA, TEN-T EA), under the coordination of the Commission. Whereas the definition of EU standards for interoperability is a necessary process that is ongoing, the definition of a whole series of operational rules, of delicate issues such as the final selection of the alignment, of cost-benefit analysis and environmental impact assessment, would almost certainly take the EU intervention too far.

This scenario would insure an effective implementation of TEN-T development plans by means of strong coordination at the European level.

*Impact on adoption of common standards of interoperability:* [ ++ ]

The integration and interoperability of the network with common standards, similar traffic management rules and systems along the selected network would be insured along the entire TEN-T. Nevertheless, given that development and deployment of the common standard will have to be managed by single agencies at EU level, their capacity to do so within reasonable delays is likely to be severely strained.

*Impact on Member States cooperation in project implementation:* [ - ]

This scenario does not provide for any significant support for enhanced Member States cooperation and coordination on project delivery. It will be a primarily top-down approach. On the contrary, in this scenario Member States are liable to divert attention from cooperating with each other since their primary partners would be the central EU implementation agencies. Moreover, this extreme top-down approach could lead to resistance to implementation on the part of the Member States, as they would no longer perceive themselves as equal partners/owners of the TEN-T project.

*Impact on conditionality/focus of EU funding instruments:* [ + ]

Since management of EU funding will be fully centralised at EU level, focusing of funding on the identified priorities would be ensured in theory. In practice, they could easily lead to mismatches due to the overly top-down approach, as certain issues are likely to be dealt with better at local/regional/national level.

*Subsidiarity and proportionality compliance:* [No]

The responsibility for implementation and operation of the network would be completely taken away from Member States and shifted on to the Commission. This full top-down

approach to implementation would go beyond treaty provisions on EU competences as delimited by the subsidiarity and proportionality principles.



## **ANNEX IV**

### **TEN-T and Environmental Legislation**

#### ***Introduction***

The TEN-T Policy Review requires a strict monitoring of the compliance with the EU environmental legislation. This annex introduces the subject by highlighting the new policy framework, in particular the recently adopted Transport White Paper which placed an important focus on environmental sustainability and resource efficiency (Transport 2050 - Roadmap to a Single European Transport Area). Thereafter, this annex describes the relationship between TEN-T and the environmental legislation. It then deals in particular with the implementation of the Directive 2001/42/EC (Directive on the assessment of the effects of certain plans and programmes on the environment or Strategic Environmental Assessment or SEA Directive) in the Member States as well as with the implementation of further environmental legislation.

#### ***I. White Paper***

The central challenge of the modern transport and environment policies is to shape an environmentally sustainable mobility that fulfils also social demands. Transport is of particular significance in our everyday live and at the same time it can have harmful environmental impacts. This supposed dilemma has been taken seriously by both policies at European level: many laws and decrees ensure safeguarding of the natural habitat of animals and plants; minimization of possible impacts on the environment of infrastructure construction; reduction of emissions etc.

On 28 March 2011, the European Commission adopted a comprehensive strategy for a competitive transport system that will increase mobility, remove major barriers in key areas and fuel growth and employment. The aim is to create a Single European Transport Area with more competition and a fully integrated transport network which links the different modes and allows for a profound shift in transport patterns for passengers and freight. At the same time the roadmap defines ambitious environmental goals that should mitigate the climate change:

- No more conventionally-fuelled cars in cities.
- 40% use of sustainable low carbon fuels in aviation; at least 40% cut in shipping emissions.
- A 50% shift of medium distance intercity passenger and freight journeys from road to rail and waterborne transport.
- All of which will contribute to a 60% cut in transport emissions by the middle of the century.

The crucial point is to break the transport system's dependence on oil without sacrificing its efficiency and compromising mobility. In line with the flagship initiative "Resource efficient Europe" set up in the Europe 2020 Strategy and the new Energy Efficiency Plan 2011, the paramount goal of European transport policy is to help establish a system that underpins European economic progress, enhances competitiveness and offers high quality mobility services while using resources more efficiently. In practice, transport has to use less and

cleaner energy, better exploit the existing infrastructure and reduce its negative impact on the environment and key natural assets like water, land and ecosystems.

## ***II. TEN-T***

In order to establish a single, multimodal network that integrates land, sea and air transport networks throughout the Community, the European policymakers decided to establish the Trans-European transport network (TEN-T), allowing goods and people to circulate quickly and easily between Member States and assuring international connexions. Establishing an efficient TEN-T network is a key element also in the relaunched Lisbon strategy for competitiveness and employment in Europe. It is also a crucial part of the Single Market Act aiming at exploiting fully the benefits from the Internal Market. If Europe is to fulfil its economic and social potential, it is essential to build the missing links and remove the bottlenecks in our transport infrastructure, as well as to ensure the sustainability of our transport networks into the future. Furthermore, it integrates environmental protection requirements with a view to promoting sustainable development.

## ***III. TEN-T Policy and Environmental Policy***

The environmental impacts of transport are varied; they can be not only direct by using the different transport modes (emissions, climate change at local level etc.), but also indirect by the existence of the infrastructure itself (losing surface area, surface alterations, separation of different habitats etc.). In addition, a continuous growth of the transport can be observed.

For the TEN-T Policy relevant EU Directives are the following:

- Directive 85/337/EEC – Environmental Impact Assessment or EIA Directive
- Directive 92/43/EEC – Directive on the conservation of natural habitats and of wild fauna and flora or Habitats Directive
- Directive 2001/42/EC – Directive on the assessment of the effects of certain plans and programmes on the environment or Strategic Environmental Assessment or SEA Directive
- Directive 2009/147/EC – Directive on the conservation of wild birds or Birds Directive

The Habitats Directive together with the Birds Directive forms the cornerstone of Europe's nature conservation policy. It is built around two pillars: the Natura 2000 network of protected sites and the strict system of species protection. All in all the directive protects over 1.000 animals and plant species and over 200 so called "habitat types" (e.g. special types of forests, meadows, wetlands, etc.), which are of European importance.

Environmental assessment is a procedure that ensures that the environmental implications of decisions are taken into account before the decisions are made. Environmental assessment can be undertaken for individual projects, such as a dam, motorway, airport or factory, on the basis of the EIA Directive or for public plans or programmes on the basis of the SEA Directive. The common principle of both Directives is to ensure that plans, programmes and projects likely to have significant effects on the environment are made subject to an environmental assessment, prior to their approval or authorisation. Consultation with the public is a key feature of environmental assessment procedures.

The Directives on Environmental Assessment aim to provide a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation of projects, plans and programmes with a view to reduce their environmental impact. They ensure public participation in decision-making and thereby strengthen the quality of decisions. The projects and programmes co-financed by the EU have to comply with the EIA and SEA Directives to receive approval for financial assistance.

Environmental impacts are important also for the resource efficiency flagship. Pollution is in most cases affecting the re-productive capacities of renewable resources such as forest, fisheries and water and therefore undermining our resource base. Such environmental impact indicators can be related to GDP or added value in a sector and thereby produce "eco-efficiency indicators".

#### ***IV. Compliance of the TEN-T Network with the SEA Directive***

In the framework of the ongoing revision process of the TEN-T Guidelines, Member States may introduce proposals for modification and additions to comprehensive network components on their respective territory. As a first step, this requires the submission of documents substantiating the compliance of these proposals with the SEA Directive, to be taken into account by the Commission in elaborating its proposal for new TEN-T Guidelines. The Member States were asked to provide the Commission these documents.

The SEA Directive stipulates that SEA has to be carried out on "plans and programmes of which the first formal preparatory act is subsequent to" 21 July 2004. In addition "Plans and programmes of which the first formal preparatory act is before that date and which are adopted or submitted to the legislative procedure more than 24 months thereafter, shall be made subject to the obligation" of the completion of a SEA. This implies that no SEA needs to be carried out on plans and programmes that were adopted before 21 July 2004 or plans and programmes of which the first formal preparatory act is before that date and which are adopted before 21 July 2006.

Accordingly, the compliance with this Directive can be demonstrated as follows:

- the Member State provides a confirmation that it is not obliged to carry out a SEA (explaining the reason of the exemption from the obligation)
- if a SEA has been carried out, the Member State provides a summary regarding the procedure (preparation of an environmental report, alternatives identified and analysed, consultations with the public and other authorities, results/conclusions of the final decision);
- and finally if a SEA will have to be carried out or it is ongoing, it provides an explanation how the application of the SEA will be ensured.

All Member States have provided information concerning the application with the SEA Directive; this information is being evaluated in cooperation with Directorate General for Environment. The present report provides an overview, how the Member States' apply in practice the SEA Directive within the TEN-T Policy review process (see the attached table). Overall, it can be concluded that the SEA Directive contributes to the systematic and structured consideration of environmental concerns in planning processes and better integration of environmental considerations upstream. In addition, by means of its

requirements (environmental report, consultation and information of the authorities and public concerned etc.) it ensures better and harmonized planning procedures, and contributes to transparent and participatory decision making processes.

#### ***V. Compliance of the TEN-T Policy with the EIA Directive***

The 30 Priority Projects for the trans-European transport network are mostly projects which promote the most environmentally friendly transport modes and which consume less energy, such as the railways and waterways. The completion of the trans-European transport network will have a positive impact on the environment. If transport-generated CO<sub>2</sub> emissions continue to increase at the present rate, by 2020 they will be 38% above present levels. Completing the 30 Priority Projects will slow down this rise by about 4%, equivalent to reducing CO<sub>2</sub> emissions by 6.3 million tonnes a year.

Community environmental protection legislation provides a clear framework in which these major projects have to be implemented. The Community guidelines for the development of the trans-European transport network refer to it explicitly. Each new infrastructure programme has to undergo a strategic environmental assessment and each project has to be assessed on an individual basis. This double obligation makes it possible to optimise the implementation of the major infrastructure projects from the environmental angle.

Apart from these environmental assessments, each individual project has to comply with Community legislation on noise, water and the protection of flora and fauna. If an impact is found on any of these aspects, alternatives will have to be looked for in order to guarantee that environmental legislation is complied with as far as possible. If none of the alternatives to a project declared to be in the public interest is considered to be an optimum solution and in line with Community legislation, compensatory measures may be adopted which will allow the project to be carried out while at the same time compensating for any negative impact.

New transport infrastructure can lead to further fragmentation of the territory, which can have adverse effects on biodiversity and certain endangered species. It should, however, be noted that land fragmentation depends appreciably on population density and that transport investments can thus be said to have only an indirect influence on fragmentation. It is important to note also at this juncture that several EC directives require Member States to carry out environmental impact assessments at project level and to pay particular attention to the protection of legally recognised natural sites. Such developments help to minimise environmental nuisances and to take appropriate mitigation measures. Moreover, the consultation procedure and access to justice regarding the development consent envisaged under the EIA Directive enables involvement of the public in the decision-making process.

As described above, the guidelines obliges the Member States to carry out environmental impact assessments for all TEN-T projects, as well as implementing the Habitats Directive and the Birds Directive. Member States also have to implement, from July 2004 onwards, the Directive on the assessment of the effects of certain plans and programmes on the environment and therefore assess the environmental impacts of their plans and programmes leading in a subsequent phase to transport projects, including TEN-T projects. It allows environmental considerations to be integrated upstream in the planning process before any firmer projects are planned. It is worth noting that, although this document presents only a broad-brush analysis, it is an integrated analysis at European level. It should therefore be emphasised again that despite positive environmental developments at the European level, air quality, noise or other environmental problems may occur at the local level. Therefore, as

mentioned earlier, each individual project should undergo a detailed environmental assessment according to existing EU legislation before financing decisions are taken.

Currently the Commission is looking to streamline procedures for the various environmental impacts by introducing a 'one-stop-shop' for information provision and dissemination—following an Impact Assessment, a the proposal to this end maybe presented during 2012/2013. Something in the order of 30% of the land area in new Member States are covered by Natura 2000 biodiversity sights, a far greater proportion of land area than in EU 15. Generally, in case of transport projects the most problematic issue was and still is (because of the collision with Natura 2000 sites) the compliance with the Habitats Directive, which requires proper assessment of plans and projects which are likely to have significant impacts on Natura 2000 sites.

A multi-NGO study<sup>190</sup> in 2008 on the potential conflicts between the TEN-T Priority Projects and the EU's Natura 2000 network of protected areas found that 379 sites that should be protected by the EU Birds Directive and 935 protected under the Habitats Directive are likely to be affected by the 21 TEN-T Priority Projects analysed. Watercourses and maritime areas merit particular attention.

## **Conclusion**

Analysis has shown that TEN-T projects may pose serious threats to biodiversity and Natura 2000 areas which were designated to protect the most endangered European species and habitat types. The negative impacts from transport projects might result from physical reduction of natural habitats, landscape fragmentation, migration barriers, collision of vehicles with animals, emissions of noise and air pollutants, changes to the water regime and others. It is therefore necessary that all projects undertaken as part of the TEN-Ts prove full compliance with EU environmental legislation, including Birds and Habitats Directives, before they are given a green light for implementation.

National and regional transport infrastructure development plans must undergo a SEA on the strategic level and the individual projects must be subject to the EIA assessments. Their impacts on nature must be fully analysed and alternatives with least negative effects should be given preference. In this regard, routings which allow bypassing the Natura 2000 sites should be prioritised. If transecting protected areas is unavoidable impacts must be mitigated and when it is not fully possible compensatory measures to safeguard the coherence of the Natura 2000 network must be implemented. The Water Framework Directive must also be respected, including carrying assessments on plans, programmes and projects.

Coordinated strategic planning with early stakeholder consultation should be promoted as it is the best way to avoid conflicts at the later stages of projects implementation, as proposed in the recent White Paper on Transport, Action 36<sup>191</sup>. Requirements of nature protection need to be factored in already at the initial stages of the planning process to minimise impacts on

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<sup>190</sup> *TEN-T and Natura 2000: the way forward*, An assessment of the potential impact of the TEN-T Priority Projects on Natura 2000, Final report – May 2008, By Helen Byron & Lucy Arnold, RSPB

<sup>191</sup> Ex-ante project evaluation criteria

- Introduce ex-ante project evaluation criteria ensuring that infrastructure projects duly demonstrate the EU added value or are based on 'services rendered' and generate sufficient revenue.
- Streamline procedures for projects of overriding European interest, in order to ensure (i) reasonable time limits for completing the whole cycle of procedures; (ii) a communication framework that is in line with the project implementation; and (iii) integrated planning which takes environmental issues into account in early stages of the planning procedure.
- Introduce PPP-screening to the ex-ante evaluation process to ensure that the option of PPP has been carefully analysed before a request for EU funding is being asked.

environment. Mitigation and compensatory measures are eligible for the EU co-financing, so the project promoters should be encouraged to make use of these possibilities.

## **ANNEX V**

### **Monitoring and Evaluation**

In this annex, the role of the TEN-T Executive Agency, its management of the TEN-T Programme, the use of the Open-Method of Coordination through the TENtec system and the role of the EU Coordinators will be described. This annex comes as a supplement to Part 7 of the Impact Assessment.

#### **1. Commission monitoring, evaluation and coordination**

##### **1.1. Open Method of Coordination (OMC) – TENtec Information System**

The Open Method of Coordination (OMC) – an intergovernmental method of “soft coordination” – has been re-launched by the Lisbon strategy and provides the political frame for all TENtec developments. The Directorate in the Commission responsible for TEN-T programmes, DG MOVE, is developing an Information System (TENtec) to store and manage technical, financial and historical data for the analysis, management and political decision making concerning the TEN-T programmes. This includes support for briefings, modelling of future policy/budgetary scenarios, interfacing to GIS (Geographical Information System), monitoring and reporting, electronic submission of applications and conducting online surveys. Additionally, the system manages the necessary workflows, issuing of Commission decisions, complete selection cycle for new projects including proposal submission and evaluation, and the required web interfaces (Private Portal and Public Outreach module as well as general web services to connect external data sources). Finally, interactive maps and satellite overlays (e.g. Google Earth) are supported with the seamless inclusion of GIS. The entire software development is based on the SMART-IT principle, making TENtec a user-driven application.

##### **1.2. Respect of budget and timetable**

Current evaluation indicators in relation to project performance are based on a number of parameters, including fulfilment of project objectives, cost and time related aspects, funding and project management aspects, in particular risk factors. However, these indicators and accompanying statistical information should be interpreted in light of the fact that most of TEN-T funded projects are challenging and face a high degree of complexity and a multiplicity of factors that can influence different aspects of their performance. It is therefore inevitable that some of the projects have budget deviations and delays in implementation.

On average, for investment projects, the support corresponding to the MAP selection in 2007 (accounting for approximately two-thirds of the total TEN-T budget) equals 16% of the total project budgeted costs. Most of the remaining funding is financed by the Member States. With this low MAP co-financing, the EU “additionality” and thus the accountability that it could create in the Member States, is naturally limited. The national political decision to support the project until completion is much more important than the fact that the project receives EU co-financing. Nevertheless, the political context created around the TEN-T and its Priority Projects, as well as the peer pressure from other participants in European meetings, were important factors in influencing national level decisions.

The planning of infrastructure projects throws up difficulties in respecting the yearly timetables. Technical problems do occur and budgets and timetables still appear to be underestimated. Recent studies have analysed this phenomenon by explaining why the costs of large-scale projects, such as High Speed Rail projects, new motorways, and the Channel Tunnel, systematically turn out to be higher than what was forecast. It is clear that up to the final building consent, factors such as policy decisions, environmental impact and local implementation of a project may have significant influence on the final costs and timetable. However, as soon as construction starts, risks should have been calculated upfront and costs and timetable be respected within the risks identified upfront.

DG MOVE, in cooperation with the TEN-T EA have analysed in detail the respect of budget and timetable in the mid term review of the project portfolio<sup>192</sup>.

### **1.3. EU Coordinators and core network corridors**

The implementation of the revised TEN-T Strategy is to be monitored using current techniques including expanding the role of the TEN-T Coordinators. The role of the EU Coordinators has proven to be an effective mechanism to address the political sensitivities inherent in cross-border projects as well as provide visible coordination enhancement. The results of these efforts are confirmed by the fact that so far there have been no cross-border project cancellations in the 2007-2013 MAP portfolio.

TEN-T coordinators draw up annual activity reports and have provided the European Commission with advice on progress of projects with a view to funding decisions. In their analysis of the progress of projects, they report on the extent to which progress will be partially or totally negated by the absence of or delays in crucial flanking activity, such as interoperable signalling, operational rules, the necessary rolling stock, the coordinated timing of construction in various MS, the solidity of financial constructions for the projects involved, etc. This facilitates the task for the European Commission when arbitrating between project applications which otherwise would have equal merit.

It is clear that the Commission needs to play a greater role in ensuring that more attention is paid to monitoring and evaluation through developing basic indicators and criteria which will give it a much enhanced ability to compare different projects, and thus significantly improve its ability to be sure *ex ante* that it has selected the projects which will make the best use of the future funds. Standardised definitions for indicators, including net present value, cost-benefit analysis and internal rate of return should be further developed.

The setting up of corridors will allow to coordinate for the entirety of a main traffic flow such determining factors as capacity, travel time, coordinated project implementation, interoperability, enhanced intermodality and capacity in the intermodal nodes and so forth. This will allow to evaluate and monitor the needs to establish to what extent funding has contributed to the achievement of the TEN-T Guidelines' priorities, to improve interoperability, to give access to outlying areas, to promote multi-modality and, above all, to identify the Community added value of the programme at national and EU level. The TEN-T

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<sup>192</sup> It appears that the delays are "reasonable" in light of the above conclusion (before versus after building consent). Cost overruns appeared to be limited in this review. A further review of this Economic Recovery Plan of the TEN-T is foreseen to be conducted in 2011. This regular review of the portfolio is a constant factor based upon the obligatory annual "Action Status Reports" for each proposal.



EA and the regulatory agencies cited below will play an enhanced role in monitoring such progress.

#### **1.4. Inter-institutional coordination**

Within the institutional framework, the Commission will enforce the Guidelines in accordance with its role given by the Treaty. It will survey the implementation of the TEN-T, mainly through the new coordination mechanisms and the awarding of funding (for both studies and works). The role of the TEN-T agency will need extending but will continue to focus on the implementation of projects and project monitoring. Its role could be reinforced with regard to the Corridor Approach in which individual projects will be embedded and project pipelines will be prepared. The expertise thus gained will give the grounds for a knowledge based management of the future Programme while placing the Agency at the centre of inter institutional coordination in the area of EU funded transport infrastructure.

Through the annual reporting of the European Coordinators, the European Commission, the European Parliament and the Council are informed about the progress achieved for particular Priority Projects. Furthermore, the yearly Progress Reports and regular reviews such as the MTR contribute to the monitoring of the TEN-T

### **2. TEN-T Executive Agency - An efficient component to centralised management**

Since 2006 the implementation of the TEN-T Programme is under the mandate of the TEN-T Executive Agency<sup>193</sup> and a mandate stretching for a period of nine years from November 2006 to December 2015<sup>194</sup> has been decided. The main tasks of the Agency are specified as follows: (a) provision of assistance to EC during the programming and selection of projects of common interest and their monitoring, (b) coordination with other financial instruments also engaged in the provision of support to projects of common interest in the transport sector, such as EIB, Structural Funds and Cohesion Fund, (c) provision of technical assistance to project promoters regarding financial engineering, and (d) the administration of the budget for the TEN-T Programme.<sup>195</sup>

The main objective in creating the Agency was to increase the efficiency and improve the management of the TEN-T Programme through a better follow-up of the preparation and subsequent implementation of projects selected under the TEN-T calls for proposals. Assisted by the Agency, the Commission remains responsible for the annual work programmes, the selection of the projects and for adopting the project funding Decisions.

Since its inception, the Agency has focused on measures to familiarise the beneficiaries with the new administrative and reporting requirements, as well as to streamline and simplify, to the greatest extent possible, various procedures. These measures include developing a series of models and guidelines for the preparation of various documents, reports and payments;

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<sup>193</sup> Council Regulation 58/2003 of 19 December 2002, OJ L 11/1

<sup>194</sup> See Commission Decision of 26 October 2006 establishing the Trans-European Transport Network Executive Agency pursuant to Council Regulation (EC) No 58/2003 (2007/60/EC) (OJ J 32/88), amended by Decision 2008/593/EC of 11 July 2008 (OJ L 190/35).

<sup>195</sup> The Agency's tasks are further specified in annual work programmes. Three work programmes have so far been published: (1) 2008 Work Programme—Commission Decision C(2009)1394 of 6 March 2009 approving the 2008 work programme of the TEN-T EA; (2) 2009 Work Programme—Commission Decision C(2009)7027 of 23 September 2009 approving the 2009 work programme of the TEN-T EA; (3) 2010 Work Programme—Commission Decision C(2010)3277 of 7 June 2010 approving the 2010 work programme of the TEN-T EA

hosting regular workshops that attract a large population of stakeholders and address common issues relating to the technical and financial aspects of project management; as well as establishing improvements to the call for proposal texts and guidelines to applicants. Improvements in the communication mechanisms, regular contacts and systematic exchange of information have been conducive to a successful trust-building strategy with beneficiaries. As a direct result, response times applicable to all administrative aspects of project management have been dramatically reduced. At the same time, visibility of EU funding as well as institutional accountability have significantly increased. Expertise provided in areas such as public procurement and environmental issues has improved the alignment of the projects implementation with EU law. Many of these issues are in line with the objectives of the creation of the Agency following the recommendations of the European Court of Auditors<sup>196</sup> and the mid-term review of the previous Multi-Annual Indicative Programme<sup>197</sup>.

In the framework of its mandate the Agency is responsible for the collection, analysis and transmission to the Commission of all information required by the Commission for the implementation of the trans-European transport network, in particular carrying out studies and evaluations such as annual or mid-term evaluation of the implementation of the TEN-T programmes including necessary follow-up measures after prior agreement with the Commission. It is also required to prepare recommendations to the Commission on the implementation of the programme and its future development. It is in this context that the Agency has carried out in 2010 the review of the individual MAP projects in close co-operation with DG MOVE.

The decision to centralise the management of the TEN-T Programme through the creation of the TEN-T Executive Agency has already proven its worth in delivering a full lifecycle grant management process from Calls for Proposals through the adoption of the decision and a tightly managed payments procedure. The structured, transparent and comprehensive procedures adopted by the Agency have facilitated the targeting of TEN-T funding to EU transport policy priorities such as the Priority Projects, traffic management systems, environmentally-friendly initiatives and modes as well as cross border projects. This was acknowledged by the Court of Auditors in a recent report on the effectiveness of EU railway investment policy.<sup>198</sup> The knowledge and expertise gained by this dedicated structure in centralised management, have significantly contributed to the better use of TEN-T funds and ultimately to the maximisation of the TEN-T Programme efficiency.

### **3. Sector specific Agencies**

In the following sections the role of the European Railway Agency (ERA), the European Maritime Safety Agency (EMSA) and the European Aviation Safety Agency (EASA) is going to be discussed.

#### **3.1. European Railway Agency (ERA)**

The construction of a safe, modern integrated railway network is one of the EU's major priorities. Railways must become more competitive and offer high-quality, end-to-end services without being restricted by national borders.

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<sup>196</sup> Special Report N° 6/2005 on the TEN-T of 21/4/2006 OJ C/94/1

<sup>197</sup> Technical Assistance Consultancy Contract for the MIP Revision, volume I: Main Findings and Recommendations, Issue 4: 18 December 2003, EVAMONTEN-T

<sup>198</sup> Special Report N° 8/2010 'Improving transport performance on Trans-European rail axis : Have EU rail infrastructure investments been effective?', Luxembourg, European Court of Auditors

The European Railway Agency was set up to help create this integrated railway area by reinforcing safety and interoperability. The Agency also acts as the system authority for the European Rail Traffic Management System (ERTMS) project, which has been set up to create unique signalling standards throughout Europe.

The main task is to prepare new and updated legislative acts for adoption by the Commission, after a positive opinion from the Committee of Member States, and to give other technical support to the Commission. The activities carried out by the Agency aim at:

- Developing a common approach to safety, safety regulation and accident investigation, in particular by harmonization of safety assessment methods, safety targets and safety certification conditions
- Improving the interoperability of the European rail system by developing the conditions for the free and uninterrupted movement of trains through technical and operational harmonization, including conditions for mutual acceptance of railway vehicles
- Facilitating the exchange of information within the railway sector by networking with national bodies, providing registers and databases and giving guidance on the implementation of the regulatory framework

It is the role of the transverse functions of the Agency (Administration, etc.) to support and facilitate the operational functions in their achievement of the organization's mission whilst at the same time maintaining compliance with the Community regulation and internal control requirements.

The Mission of the Agency in the field of interoperability is to support on technical matters the implementation of the European Community legislation on Railways. In particular, the main tasks of the Agency in terms of interoperability are the following:

- Produce proposals for Technical Specifications for Interoperability (TSIs) related to subsystems like Infrastructure, Energy, Rolling Stock, Telematic Applications and Operation in accordance with mandates given by the Commission
- Coordination of TSIs related activities with the standardisation bodies, the notified bodies and NSAs
- Setting up and maintenance of registers which contain information related to interoperability and insure transparency in railway field
- Activities related to vocational competences on common uniform criteria and the assessment of staff involved in the operation and the maintenance
- Decision on National vehicle registers
- Amendment of Wagon TSIStudy on extension of TSI scopeStudy on 1520/1524 railway systemDraft TSIs on Energy, Infrastructure, Locomotive and passenger carriages, Telematic applicationsRevise TSIs on Operational and Management, Rolling stock – freight wagons, NoiseRecommendation on modules for the conformity assessmentRecommendations on registers (European register of authorised vehicles, Registers of infrastructure)

### **3.2. European Maritime Safety Agency (EMSA)**

The European Maritime Safety Agency, created in the aftermath of the *Erika* disaster, will contribute to the enhancement of the overall maritime safety system in the Community. Its goals are, through its tasks, to reduce the risk of maritime accidents, marine pollution from ships and the loss of human lives at sea.

In general terms, the Agency will provide technical and scientific advice to the Commission in the field of maritime safety and prevention of pollution by ships in the continuous process of updating and developing new legislation, monitoring its implementation and evaluating the effectiveness of the measures in place.

Some of the key areas where the Agency is active, are: strengthening of the Port State Control regime; auditing of the Community-recognised classification societies; development of a common methodology for the investigation of maritime accidents and; the establishment of a Community vessel traffic monitoring and information system.

The Agency works closely with Member States. It responds to their specific requests in relation to the practical implementation of Community legislation, such as the recently adopted directive on traffic monitoring, and organises appropriate training activities. The Agency facilitates co-operation between the Member States and disseminates best practices in the Community. The Agency also assists the accession countries in the implementation of Community legislation on maritime safety and the prevention of pollution by ships.

The Agency contributes to the process of evaluating the effectiveness of Community legislation by providing the Commission and the Member states with objective, reliable and comparable information and data on maritime safety and on ship pollution.

### **3.3. European Aviation Safety Agency (EASA)**

The European Aviation Safety Agency promotes the highest common standards of safety and environmental protection in civil aviation in Europe and worldwide. It is the centrepiece of a new regulatory system which provides for a single European market in the aviation industry.

The agency's responsibilities include:

- expert advice to the EU for drafting new legislation;
- implementing and monitoring safety rules, including inspections in the Member States;
- type-certification of aircraft and components, as well as the approval of organisations involved in the design, manufacture and maintenance of aeronautical products;
- authorization of third-country (non EU) operators;
- safety analysis and research.

## **ANNEX VI**

### **Socio/Economic data including a description and analysis of the modelling work for the TEN-T Guidelines**

The following is an analysis done by the TENConnectII consortium on data that emanates from the TRANSTOOLS model. Also included are extracts from OECD report<sup>1</sup> on the Impact of Transport Infrastructure Investment on Regional Development<sup>199</sup> and the data on job creation compliments that given in the IA Report.

TENconnect II data are the outcome of a long series of modelling activities undertaken by DG MOVE that are described in part 1 of this document. The data received support in general the logical reasoning of the IA report but need to be qualified for a number of reasons detailed below (in Part 2).

#### **1. SUMMARY OF STUDIES AND MODELLING ACTIVITIES FOR THE TEN-T GUIDELINES**

##### ***1.1. TRANS-TOOLS***

TRANS-TOOLS is a European Transport Network model covering all modes of transport for passenger and freight. The purpose of the model is to determine equilibrium traffic flows and to assess the level of congestion, accessibility and the impact of transport infrastructure. TRANS-TOOLS estimates equilibrium transport costs (travel time and monetary travel costs) as a function of policy measures and thereby simulates impacts on demand for transport services by mode, on network links and corridors, for origin-destination pairs, commodity type, on emissions and other externalities, regional GDP and welfare. TRANS-TOOLS estimates transport demand for each NUTS 3 zone and distributes it on the networks of the various modes available. The main steps of the approach include the estimation of: the trip generation and the combined mode and destination choice as well as the route choice.

The trip generation represents the transport demand that each zone generates and depends on the socio-economic characteristics of each zone, as well as on the economic and industrial structure. The mode and destination choice reflects the demand for transport between the origin zone and all possible destination zones and by all available modes. This model depends on trade and travel patterns, as well as on the availability, costs of transport between the zones and the modes. The latter reflect relative costs differences that may be due to road pricing schemes as well as speed limits and capacity constraints in the network. The route assignment gives within each mode, the links of the network where transport demand will be distributed.

TRANS-TOOLS has been constantly further developed in cooperation with DG TREN, then DG MOVE. The version used for the purpose of the TEN-T Impact Assessment Report is TRANS-TOOLS version 2. It has focused on improving the model along several dimensions.

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<sup>199</sup> Impact of Transport Infrastructure Investment on Regional Development, OECD report, 2002:  
<http://www.internationaltransportforum.org/Pub/pdf/02RTRinvestE.pdf>

The improvements can be decomposed into two parts; data improvements and structural model improvements.

#### *Data improvements:*

Improve the geographical coverage of the TRANS-TOOLS model, by

- Disaggregating of the zone system in some new Member States and neighbouring countries

Updating and improve trip matrices, by

- Compiling more traffic counts in order to improve the car matrix estimation by mean of MPME (Multiple Path Matrix Estimation)
- Adding more traffic counts for air traffic by using the leg-database in EUROSTAT for EU27 and compiling additional counts for the remaining countries, thus enabling an MPME matrix fitting.
- Re-estimating rail matrices based on national statistics
- Transforming from Origin - Destination to a Generation - Attraction representation

Update and improve the networks within the core area, in order to:

- Reflect networks in year 2005, rather than 2000
- Upgrade networks in new Member States as well as include a more detailed network structure in the core modelling area
- Selected extensions needed to enlarge the coverage area

#### *Model improvements*

Update a number of the sub-models of the TRANS-TOOLS model, thus

- Improving and extending CGEurope (Spatial Computable Generalized Equilibrium model by Bröcker and Korzhenevych) in the version used in TRANS-TOOLS
- Replacing the existing trade model with the above mentioned improved version of CGEurope
- Replacing the existing passenger demand model
- Improving the existing assignment model, especially for air traffic.

The studies financed by DG MOVE in order to help plan its transport policy used TRANS-TOOLS as the main model to help designing the European Transport Infrastructure. With the recent improvements, TRANS-TOOLS reacts in the right way to changes in infrastructure, transport cost and legal framework, so that comparing different scenarios in a relative way is possible with sufficient reliability, however the model still does not perform as it would be needed in terms of absolute figures and spatial resolution. Against this background the development of TRANS-TOOLS version 3 has already started.

### *1.2. TENconnect I<sup>200</sup>*

As a first supporting step in the preparation of the current TEN-T policy review, the study was to deal with many aspects of the TEN-T, from analysis of the existing (2005) traffic flows, traffic forecasts for 2020 and 2030, and identification of major axes taking into account

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<sup>200</sup> The duration of the study was from 01.01.2008 to 30.11.2009. The study is available here: [http://ec.europa.eu/transport/wcm/infrastructure/studies/2009\\_12\\_ten\\_connect\\_final\\_report.pdf](http://ec.europa.eu/transport/wcm/infrastructure/studies/2009_12_ten_connect_final_report.pdf)

cohesion, internal market and access to neighbouring countries, however based on assumptions made by the contractor. Both passenger and freight transport were considered. The forecasts were carried out for a "business as usual" and a "sustainable economic development" scenario. A bottleneck analysis was carried out, with the aim of identifying improvement projects of common interest. Furthermore, the study included an investigation of transport costs between South and East Asia and Europe.

The study included also a few substantial improvements of TRANSTOOLS 2 (updating to 2005 as base year, increasing the number of traffic zones, extension of number of transport modes and trip purposes, improving of passenger and freight matrices, including a new trade model based on an improved economic model and considering national differences in mobility and values of time).

The results showed clearly that the model was not yet mature as a basis for decision-making at TEN-T level.

### *1.3. TENconnect II<sup>201</sup>*

The detailed resolution of the model was insufficient and considerable deviations from real traffic flows were experienced. Therefore, the selection of scenarios within TENconnect 1 did not reflect the needs of the impact assessment for the current TEN-T policy review.

Based on this situation, a continuation of the study seemed to be necessary, in order to improve the spatial resolution and accuracy of TRANSTOOLS by a re-calibration, to calculate traffic flows for 2030 to support the routing of the Core Network links, as postulated in the methodology, and to deliver global figures characterising the individual scenarios for the impact assessment.

Actually, these goals were achieved only partly. A considerable improvement of the accuracy was reached on average (deviation from real count values in the road network went down from 35 to 19 %), however with deviations even considerably higher at the level of individual links, the traffic flows were still not reliable enough to form the base of decisions on the Core Network.

At global level, the accuracy of the results is much closer to what would be needed; however, against the order of differences between the individual scenarios, they might not display sufficient significance and transparency.

### *1.4. Recent developments in TENconnect II – recalibrations – coordination with the Impact Assessment Team*

The re-calibration of TRANS-TOOLS v.2 took place during the first weeks of 2011. It was delayed due to late supply or even lack of supply of data from a number of Member States, which also affected the quality of the results. While the results in many cases corresponded much better with real traffic patterns, there were still certain links which showed traffic flows which were completely wrong. After some minor amendments, this problem could be defused, but still there are considerable deviations between calculation and reality.

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<sup>201</sup> The duration of the study has been from 22 December 2009 to end of May 2011. The Final report will be made available on the website of DG MOVE.

With these inaccuracies in the base year 2005 calculation, even greater deviations may be expected for the traffic forecasts, so that the results cannot be used for the identification of an optimal routing of Core Network links. However, they give sufficient indication regarding the impacts of the different scenarios on economy, social life and environment to compare them on a relative but not absolute base. Hence, the modified model has been applied for assessing three different options for the future development of the Trans European Network, namely Implementation of the present priority projects up to 2030, implementation of an idealised comprehensive network up to 2030 and development of an improved core network on top of the proposed comprehensive network. The following gives details of the recalibration.

#### *1.4.1 Recalibration*

The analysis of the 2005 results of the TRANS-TOOLS model has primarily focused on road and rail link loads. In a number of cases the link loads were far from observed traffic levels, and in order to improve this both data and model have been improved.

New 2005 data have been collected for all the 1441 NUTS3 zones in the model. In many cases data were improved because EUROSTAT in particular had new data available for population and GDP per NUTS3 zones in many countries. Most effort has been made in order to improve the network and the matrices for passenger and freight transport.

Some elements in the passenger matrices, particular for zones comprising an island, showed too much traffic leaving and entering these zones. Therefore, these matrix elements were adjusted in order to avoid inexplicable high loads on ferry lines connecting these islands. The matrices were also checked for other large elements, and if found unreasonable these were also adjusted.

The freight transport module of the TRANS-TOOLS model was exchanged with a new freight module stemming from the WORLDNET project. Freight matrices in this project were evaluated to be of a higher quality, thus providing better results, than the former freight module. The drawback was that the WORLDNET model could not be integrated in the TRANS-TOOLS model, thus results were communicated between the two models, because the Level-of Service files were created in TRANS-TOOLS, the freight demand and modal split was created in WORLDNET and the assignment of freight transport to the road and rail network were carried out in TRANS-TOOLS. This obviously made the use of the model slower and more complicated, introducing new possibilities for errors.

The networks for road, rail and inland waterways form the basis for the Level-of Service files for passenger and freight transport and these files are used in the demand and modal split models. Therefore, the networks should be as accurate as possible in order to obtain reasonable time and cost data for these calculations. The networks are also the basis for the assignment of road and rail transport, and here it is also of major importance that the networks are as accurate as possible.

Analysis of the results indicated that particular the road network included too many links. An assignment showed that more than 8000 links were not used. Therefore links with no traffic and not part of any main road system were removed. Further it showed that speed applied on main roads and secondary roads had too little difference, which meant that traffic loads on secondary roads were too high compared to the level on the main road system. Therefore, design speeds on the secondary road network were lowered. It was also necessary to introduce a possibility of making certain roads, particularly in the mountainous regions impassable for trucks.



However, analysis of the results also showed that assignment needed to be improved. The assignment method included an error term which made the choice of route stochastic. However, the stochastic choice was too wide, and therefore it was decided to reduce the error term considerably. This gave much more likely route choices for long distance international traffic.

Assignment of traffic to the road network depends on the speed and the flow. Therefore, as flows increase the speed decreases. In urban areas, however, the levels of traffic are too high for the number of roads included. Therefore, it was seen that traffic flows often switched between two roads. In order to avoid this, and thus increase convergence of the assignment model it was decided to abandon capacity constraints in the urban areas.

In the former TRANS-TOOLS model iterations in route choice were determined based on a run-time of 36 hours. Too few iterations could be accomplished for route choice in the road network. Therefore, an effort was made to create faster convergence for less computing time. This has been achieved using an intelligent assignment procedure. The objective has been to improve convergence by increasing number of iterations. For road the number of iterations has increased from 20 to 500 and convergence has improved very much. More iterations in rail passenger and rail freight have also improved link load convergence (iterations increase from 200 to 500), but not as much as for road.

## **2. ANALYSIS OF TENCONNECT II RESULTS**

### *2.1. Relevance of the TENconnect II results to the Impact Assessment Report evaluation of options*

It needs to be made clear that **the results of the TENconnect II study cannot be directly compared with the analysis of impacts contained in the TEN-T Impact Assessment** for a number of reasons. In a first place, the work on TENconnect II started before the work of drafting the final version of the TEN-T Guidelines and the related Impact Assessment Report: Secondly, the primary objective of the TENconnect II study was to serve as a tool to help defining the planning methodology as requested by the Expert Group 1.

TENconnect II study has therefore focused mainly on calibrating traffic flows for the base year traffic analysis and on calculating traffic forecasts, to identify methodically the Core Network shape and an idealised Comprehensive Network with the highest available standards that copes best with these traffic flows.

Economic, environmental and social impacts of the three scenarios were calculated. In this respect, TENconnect II **only simulates the impacts of planning scenarios** which correspond to the Impact Assessment planning scenario A1 (BAU), A4 (Core Network) and A5 (Dense/Comprehensive Network) respectively, **in the absence of an implementation dimension**. The impacts of the planning scenario A3 (Essen II) was not taken into account since it could not integrate into the model's parameters the unsure dimension of the selection of Priority Projects by the Member States in a continuing bottom-up approach to planning of the TEN-T.

Finally, it should be noted that the TENconnect simulation was not intended to take into account the implementation dimension of the proposed TEN-T Guideline policy, not least due to the fact that mathematic models cannot readily translate in figures for instance the role of a European Coordinator, the level of Member States coordination or a Corridor agreement on train drivers licensing or signalling systems on the successful implementation of ITS on the TEN-T.

**As a consequence, the results of the TENconnect II simulation of the impacts of the TEN-T (planning) scenarios cannot be directly compared with the policy Options 0, 1 and 2 studied in the Impact Assessment. With this caveat in mind, the data generated by TENconnect could however be used to analyse the merits of a coordinated European approach to planning the network, as retained in policy Option 2 in the Impact Assessment, as opposed to the current, primarily bottom-up approach, that characterises both Option 0 (BAU) and Option 1.** To this end and taking into account the limits of the model calculations in terms of absolute values, the results of the TENconnect II simulation of the various economic, social and environmental impacts of the CORE versus the BAU planning scenarios have been submitted to a "reality check"/ sensitivity analysis of the underlying assumptions of the model and, where available, the results of other relevant studies have been used to support this analysis.

## *2.2. Preliminary analysis*

A high degree of uncertainty is surrounding projections over such a long time horizon, especially for such a complex concept as the EU's transport system. It is due to the high numbers of factors involved in the calculation; the error margins related to the assumptions behind each of the factors (oil price, expected growth...); the great difficulty, if not the impossibility to integrate some factors in the models (such as congestion around urban areas); the magnitude of factors exerting a decisive influence on the modelling results (eg number of lanes, operational rules, interoperability systems, borders and customs controls, technological progress...) ; or the black swans (major disruptive events impossible to predict, for instance such as the eruption of the Icelandic Volcano or the impact of the Japanese Earthquake on the European economy). Therefore, policy choices regarding transport infrastructure cannot rely solely on modelling results.

As an example, TENconnect II is unable to adequately integrate congestion in the input of the modelling. To be able to properly model congestion, for which most parts take place in and around urban areas, more disaggregated models would be needed. One of the purposes of the TEN-T guidelines is to solve fragmentation by providing a network that completes the missing-links. Therefore, the Core Network as integrated as an input in the modelling completes the road and the rail network in the Union according to the given methodology. As a consequence of the inability to integrate congestion, the models assume that motorways allow a constant speed of 120 km/h all over Europe (for passenger cars), making it by far the most efficient mode and therefore attracting new traffic and fostering a modal shift from rail to road.

This is of course contradicting reality: motorways around major economic centres of Europe are already congested, with low average speed and new motorways will not be built in those areas. Logistics operators are looking for available capacities in other modes to solve this problem. In order to take congestion into account, the only possibility was to reduce the average speed in major economic region to 100 km/h, which brought better results but did not represent much reality.

For the purpose of the study, the option with the idealised comprehensive network a speed of 120 kph is used on all improved non-urban roads. Also no capacity restraints are used. This obviously provides a highly efficient road network and this option also gives the highest road share of all. The more balanced core network development and has a speed of 100kph and hence provides a lesser road share than the idealised comprehensive option, but a higher share than the priority projects concluded.

It has to be borne in mind that infrastructure development is a limited factor when calculating transport impacts. Infrastructure has a clear impact on territorial cohesion and the economy (see below) but a much more limited impact on environmental aspects. As demonstrated by the configuration of the proposed policy options of the Impact Assessment to the Transport White Paper, behavioural changes (pricing), vehicle technologies and standards (for emissions and safety) need to be combined with infrastructure planning policy in order to maximise the environmental impact of transport policy.

The sections below analyse the data received from the TENconnect II study, by explaining them and undertaking a sensitivity analysis.

The data is given for three planning scenarios, as described in the following table.

Scenario	Year	Description
PP (BAU)	2030	Priority Project scenario, includes already decided projects and is essentially the Business As Usual.
CORE	2030	Core network scenario, includes a mixture between COMP and PP but with reduced speed on the core network to represent congestion effects.
COMP	2030	Idealised Comprehensive scenario, includes development of the whole TEN-T.

Table 1: Description of scenarios.

### *2.3. Analysis of economic impacts*

#### **2.3.1. General Economic impacts**

##### *Economic growth & Consumer surplus*

Economic Growth and consumer surplus are closely related in the TENconnect II results. The TENconnect results give the following outcome regarding consumer surplus:

		<b>Scenario</b>	
<b>Impact type (billion euros)</b>	<b>Type</b>	<b>CORE30 vs BAU30</b>	<b>COMP30 vs BAU30</b>
Consumer surplus - passenger	Zone internal	44.8	130.7
Consumer surplus – freight	Zone internal	0.3	0.9
Consumer surplus - passenger	Zone external	25.5	94.1
Consumer surplus – freight	Zone external	7.1	18.4
<b>Subtotal – direct benefits</b>		<b>77.7</b>	<b>243.8</b>
<b>Subtotal – 2.order GDP effects</b>		<b>30.7</b>	<b>75.6</b>
<b>Total</b>		<b>108.4</b>	<b>319.4</b>

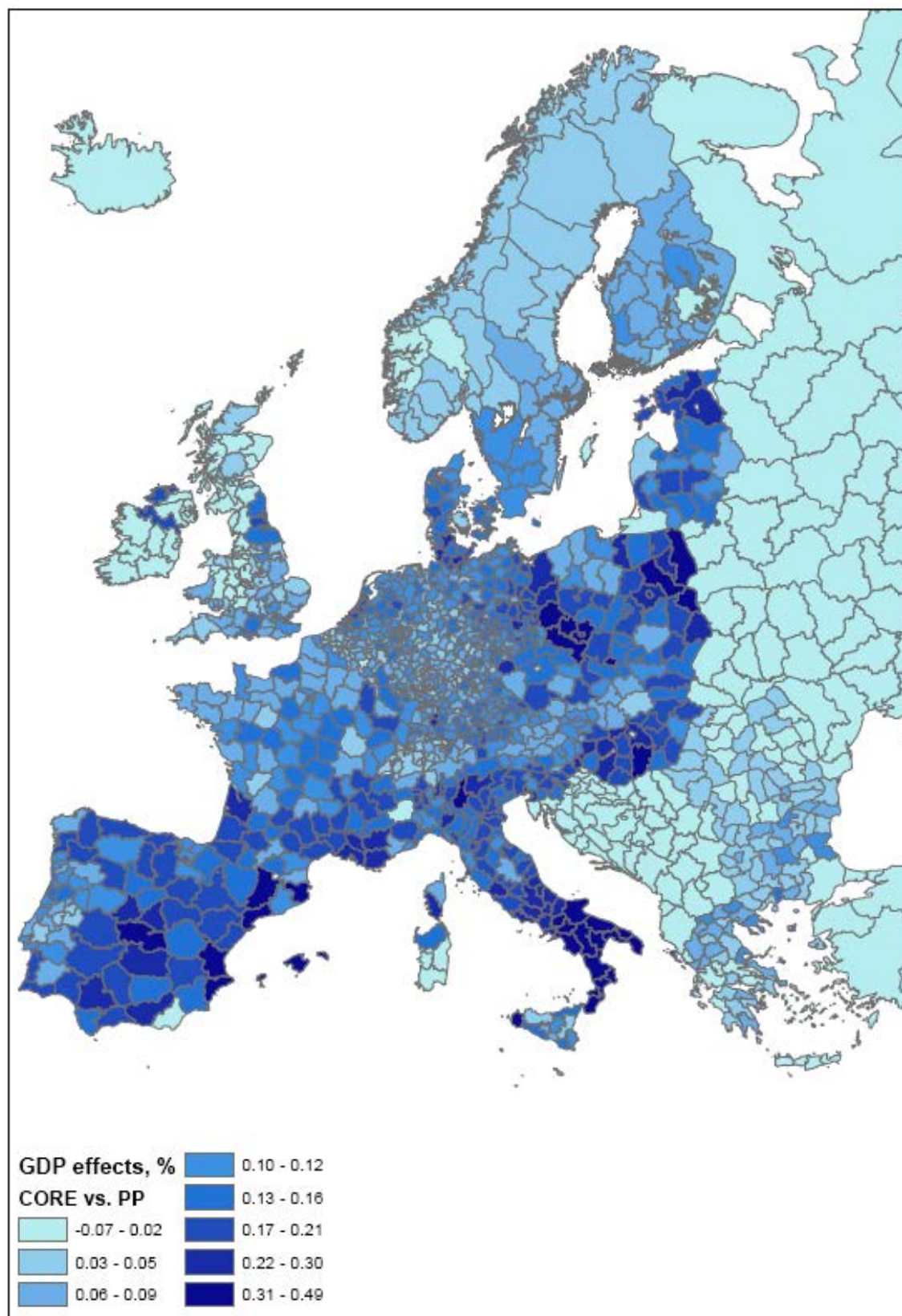
**Table 2: Consumer surplus impact** in billion Euro

Compared to the BAU, the Core Network brings by 2030 €77,7 Bln of direct benefits to the European Consumer. The Comprehensive Network option triples this amount (including second order GDP effects adds some 40% benefit to the core and 31% benefit to the Comprehensive networks).

However, these results need to be qualified on several grounds. First of all, the same calculations applied to a Core Network for which the speed was not reduced around major economic centres (in order to take into account congestion, see above) gives a direct surplus of €114,5 Bln. It shows that Consumer surplus in this model is highly dependent on speed traffic on the road.

Consumer surplus is calculated from the saving in time/increased road traffic caused by the network. It is therefore related to the numbers of billions of passenger car/Kms calculated by the model. This means in the end that each car/Km generated by the network gives a benefit to the European economy. The benefits are calculated by distinguishing between business travel and various categories of leisure travel activities, hence acknowledge the difference in added value to the society. The Economic growth (measured in induced GDP Growth) is also related to traffic growth.

The map below shows the growth induced by the Core Network in 2030 compared to the growth of the Business-as-usual scenario (with the completion of the current Priority Projects) at the level of regions. It therefore gives an idea of the impact on territorial cohesion.



**Figure 1: GDP effects**

This map shows the positive benefits of the Core Network for regions situated along the eastern and southern shores of the EU. Regions that are already well connected (or that should be thanks to the completion of the current Priority Projects) do not gain much from the Core



Network, unlike regions that were not connected because of the political choices made when selecting the Priority Projects; this seems logical. However, while the general results seem coherent, results are sometimes incoherent for a limited number of regions. The same reasoning applies to the accessibility map below:

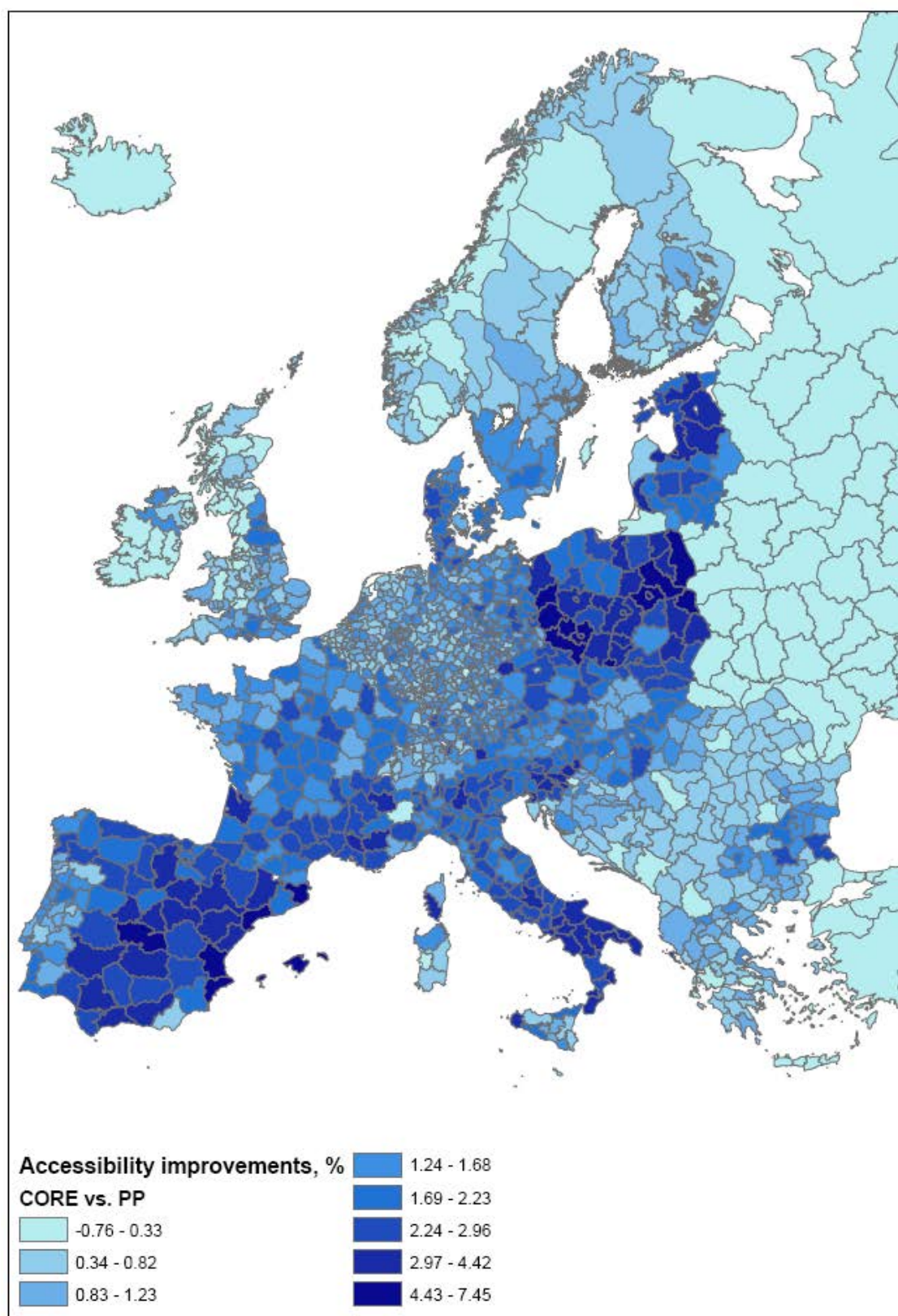


Figure 2: Comparison of BAU with the proposed CORE network for Accessibility

## Congestion

- **TENconnect II results.**

Impact type	Type	BAU30	CORE30	COMP30
<b>Travel time car driver (billion hours)</b>	Zone external	30.3	29.9	28.6
	Zone internal	39.0	37.6	34.5
<b>Travel time car passenger (billion hours)</b>	Zone external	18.1	17.8	17.4
	Zone internal	23.8	23.0	21.3
<b>Travel time rail pass (billion hours)</b>	Zone external	4.8	4.7	4.4
	Zone internal	2.2	2.2	2.0

**Table 3: Travel time impacts** (Figures are an estimate for the whole traffic in Europe, not only for the vehicles running on the TEN-T network defined, at a 2030 horizon.)

It is important to be aware that the passenger kilometres represented in Table 2 represent an estimate of total road traffic carried out by private cars. This include in addition to the assigned traffic also traffic on smaller roads (that is not part of the network), pre-loaded traffic, and connector traffic. Although these kilometres are not part of the CORE network in any sense they should be included when measuring total impacts

TENconnect II simulation shows that, in a Core Network scenario, European car drivers would save 0.4 billion hours when driving outside their region (30.3 – 29.9). In the same scenario, rail passengers would save 0.1 billion hours. In relative terms, the results indicate a 1.32% increase in time saving for car drivers and 2.08% time saving for rail passengers as opposed to a BAU scenario.

- **Interpretation/Qualifications**

Although these figures show the efficiency of the Core Network reflected in a reduced time spent in vehicles, the results are disputable (see preliminary analysis). In fact, the model does not calculate congestion (time lost in traffic jams) since the parameters are based on free traffic flows in the absence of capacity constraints (no information of the number of lanes for instance). It calculates the time saved in each mode by going from a point A to a point B if a new infrastructure is built, showing the increase potential efficiency of the network for transport operators, but without taking into account congestion parameters. Nor does it take into account possible co-modal travel options.

As a general comment, the TENconnect study shows the positive economic impact of the Core Network planning scenario compared to the Business-as-Usual. However, these results are based on a limited number of parameters (saving in time/increased road traffic) and do not take into account other parameters such as road congestion.

### 2.3.2. Transport as a business

#### Volumes & Modal split

- **TENconnect II results:**

		BAU30	<b>CORE30</b>	COMP30
<b>Passenger car vehicle KM (billion PKM)</b>	Zone external	2,779	<b>2,814</b>	2,892
	Zone internal	3,034	<b>3,060</b>	3,086
Total passenger car PKM		5,813	5,874	5,978
<b>Passenger rail KM (billion PKM)</b>	Zone external	404	<b>398</b>	394
	Zone internal	119	<b>117</b>	115
<b>Air PKM (billion PKM)</b>	All	1,158	<b>1,137</b>	1,118
<b>Freight truck VKM (billion HGV VKM)</b>	All	266	<b>272</b>	277
<b>Freight rail TONKM (billion TONKM)</b>	All	690	<b>649</b>	638

**Table 4: Traffic flows impacts**

Those figures show a slight increase of road traffic and a limited decrease of rail and air traffic.

- **Interpretation/Qualifications**

The results do not seem logical, since most of the road network already exists while a large share of the European rail network remains to be built.

After discussion with the modelling team, it was made clear that these results are once more related to the absence of congestion on the road network. Another issue that drives the passenger car demand includes increased income growth, which will increase the car ownership propensity and thereby car driving (especially outside the core where the saturation level is currently lower).

Much has been written on the economic relevance of the value of time. Whereas, it is generally accepted that time saved for a truck driver or a travelling salesman, could well translate into money saved, there is a question mark over how relevant time saving is for the travelling public. The OECD report makes the following point.

"The principle underlying the assessment of benefits associated with travel time is that transport system users' economic decisions regarding the location of their homes, businesses, mode choice or route followed to get to a specific destination and behaviour in traffic, reflect their valuation of travel time. In other words, users' willingness to pay in order to save time or the amount they would accept in compensation for losing time could be inferred from their behaviour.



Time savings are benefits resulting from an improvement in the efficiency of the transport system (shortened routes, increased traffic fluidity, better access to connection services, etc.). For freight carriers, time savings will take the form of money savings given that reductions in travel time reduce hourly costs of transport services (*e.g.* drivers' wages, insurance, etc.) for shippers. For consignees, travel time savings may be converted into reduced inventory costs. Some analysts argue that the common practice in CBA of valuing commercial vehicle time savings on the basis on drivers' wage produces estimates for value of travel time that are too low, thus capturing only part of the true potential cost savings of freight carriers. The concern is that costs of capital equipment, benefits from accrued reliability and reduced delivery time of shipments are not explicitly accounted for. On the other hand, for passenger transportation, travel time savings normally bring no direct monetary reward."

All IAs now include the HEATCO<sup>202</sup> values of time and for this IA, some 70 billion out of 77 billion Euro economic gain for the core network is down to passenger travel time savings.

## *2.4. Analysis of social impacts*

### **2.4.1. Employment and Jobs**

Within the TENconnect methodology, employment and jobs effects are integrated in the economic/GDP growth calculations.

The OECD report assessed the cost to employment ratio for various high value projects and gave the following indicators. The report was written in 2002 and therefore the values should be seen as giving a general correlation and not an accurate representation of employment levels over the period to 2030.

#### **- USA example**

Federal-aid construction expenditures are USD 1 billion. With state and local matching funds set at 20%, combined programme expenditures total USD 1.25 billion. Programme composition by improvement type as a percentage of total cost is:

- ☐ New route construction: 9.34%
- ☐ Relocation: 2.03%
- ☐ Major widening: 6.05%
- ☐ Minor widening: 2.20%
- ☐ Restoration and rehabilitation: 11.44%
- ☐ Resurfacing: 12.51%
- ☐ New bridge construction: 7.34%
- ☐ Bridge replacement: 9.80%
- ☐ Bridge rehabilitation: 3.36%
- ☐ Minor bridge rehabilitation: 2.00%
- ☐ Safety/Traffic/TSM: 9.57%
- ☐ Environment related: 4.32%
- ☐ Reconstruction (with added capacity): 13.04%
- ☐ Reconstruction (with no added capacity): 7.00%

Given these assumptions about the level and composition of programme spending, first-round direct employment income is estimated at USD 572.7 million. First-round direct employment in construction and materials supplying industries is 19 672.8 person-years. Of this total, 12 453.5 person-years occur

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<sup>202</sup> Developing Harmonised European Approaches for Transport Costing and Project Assessment—Sixth Framework project- <http://heatco.ier.uni-stuttgart.de/>

in the construction sector and 7 219.3 person-years occur in materials supplying industries. In addition to substantial numbers of jobs in the construction sector, first-round employment effects are particularly large in Transportation and warehousing, Business and professional services, Stone and clay products, Petroleum refining, Wholesale trade, Fabricated structural metal products, and Non-metallic minerals mining.

A second round of employment and income effects occurs in the production sector in response to the demand for additional inputs required by construction materials supplying industries. An additional 6 851.2 person-years of indirect employment benefits in the production sector are generated, yielding employment incomes totalling USD 212.9 million. These indirect employment effects are distributed across a much wider array of industry sectors than the direct effects. In addition to employment gains in Business services, Transportation and warehousing, and Wholesale trade, relatively large numbers of jobs are also observed in Restaurants and amusements, Primary iron and steel manufacturing, Finance, insurance and real estate, Automotive repair services, Machinery and equipment, Crude petroleum and natural Gas, Chemicals, and Rubber products. Overall, the dollar value of first- and second-round goods and services produced due to highway construction expenditures is USD 2.93 billion. This implies a direct and indirect spending multiplier of 2.34. When direct and indirect employment incomes are spent, a third round of employment and income benefits occurs. This is termed “induced” employment and reflects producers’ response to an increase in the demand for all goods and services. The total number of person-years of employment generated by this additional spending is 21 052.38. Third-round employment income generated is estimated at USD 527.5 million.

The largest employment gains occur in the service sector, including Wholesale and retail trade, Business services, Health services, Restaurants and amusements, Educational and social services, Finance, insurance and real estate, and Communications. However, large induced employment effects are also observed in Textiles and apparel, Construction, Agriculture, forestry and fisheries, Food and kindred products, Printing and publishing, Electric equipment and electronic components, Motor vehicles and parts, Paper and allied products, and Rubber products.

Total employment income due to first-, second- and third-round (*a.k.a.* direct, indirect and induced) effects of highway construction spending is USD 1.313 billion. The total number of person-years of employment supported by Federal-aid Highway programme expenditures of USD 1 billion and total highway project expenditures of USD 1.25 billion, is 47 576.4. The dollar value of goods and services generated across all sectors of the economy is USD 6.097 billion, implying a spending multiplier associated with highway capital investment of about 4.77.

Of course, the magnitude and incidence of income and employment estimates will vary with the level of programme spending, the amount of state and local matching funds, and programme composition, since different types of capital improvements have different labour and materials intensities. These estimates are provided to illustrate the order of magnitude of employment impacts due to highway capital improvement expenditures.

- In comparison to the US studies, a similar exercise in France gave the following:

Direct and indirect employment effects created by spending of FRF 1 000 million excluding tax (at 1995 prices) on major infrastructural works (motorways):

Direct jobs:	
-jobs on site and at head office	1210 job years
Indirect jobs:	
-jobs linked to manufacture of supplies	660 job years
-jobs upstream of the site	570 job years
Revenue effect	800 job years

Total

3240 job years

Comparing the results of the two approaches.

For EUR 1 billion (FRF 6.56 billion or USD 1.11 billion-at 2002 prices), the number of jobs affected gives:

	United States	France
Direct jobs	11 059	7 940
Indirect jobs	12 493	8 070
Induced jobs	18 694	5 250
Total	42 246	21 260

So, the ratio of direct and indirect employment compared to cost is 42246/billion Euro in the USA and 21260/billion in France.

With the projections for the annual cost of the TEN-T given as ranging from €21.4 billion for BAU/Option 0, through €28.6 billion for the CORE and €30.7 billion, based on the more conservative French data, the annual job creation would vary from 455000 for BAU, through 608000 for the CORE to 653000 for the COMP.

	Investments needs estimates by 2020 <sup>203</sup>	Job creation in worker years estimates by 2020 <sup>204</sup>
Option 0	€150 billions	3.2 million
Option 1	€200	4.3 million
Option 2	€215	4.6 million

Given that the build programme would last from 2013 until 2030, i.e. for a total period of 17 years, then the expected job creation could be as high as:

BAU=7.74 million worker years

CORE=10.3 million worker years

COMP=11.1 million worker years

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<sup>203</sup> Estimates based on Member States Infrastructure Investment plans (2014 – 2020) established by DG MOVE in cooperation with Member states via TENtec database and bilateral meetings in April 201. These figures have also been used for the White Paper.

<sup>204</sup> Euro on 2011 basis, 18,000 total jobs for every \$1 billion investment, average exchange rate euro – dollar of January 2009 (date of the above mentioned study)

### 2.4.2. Health/Safety

- **TENconnect results:**

Impact type (billion euro)	BAU	CORE	COMP	CORE vs BAU	COMP vs BAU
Road safety	136.0	137.1	138.9	+1.1	+2.9

**Table 5: Road Safety impacts (External costs) (horizon 2030).**

TENconnect simulation indicates a growth in total costs of accidents in the Core network planning scenario (Option 2) as opposed to the traffic forecast on the TEN-T in a continuing BAU scenario (Option 0).

- **Interpretation/Qualifications:**

The growth of accident related costs in a CORE network planning scenario is a consequence of improved efficiency of traffic (i.e. the rebound effect) as opposed to the BAU scenario. The data needs however to be read with the following two qualifications:

- 1) The relative overall increase (0.8%) that the TENconnect modelling shows in a CORE network planning scenario should be read as part of the overall costs vs benefits assessment.
- 2) As a consequence of its exclusively planning starting point, as highlighted earlier, the TENconnect model did not take into account a series of other implementation related factors that would contribute to mitigating the negative effects in two ways:

a) a likely increased modal shift in the actual Option 2 scenario, due to a series of non-infrastructure measures to be promoted in the context of the reinforced corridor coordination approach, that would lead to a shift away from road traffic, resulting in less traffic on road than estimated by the model and therefore less accidents;

b) a series of other measures that would contribute to increased safety on road, reducing thus the ratio of accidents/gravity of per unit of traffic volume (as opposed to the ratio used in the model), such as the use of intelligent traffic management systems and services and higher standards with regard to the construction of roads. (Notably, for example, the experience and results of Commission's Action Plan for road safety have not been taken into account in the TENconnect simulation.)

Yet, as demonstrated by the evaluation of the EasyWay project<sup>205</sup>, the coordinated deployment of ITS services on the trans-European road network) can have significant positive impacts. Thus, within the frame of EasyWay I, this has lead to injury accident savings of between 10% and 20%, depending on the particular application, rising to approximately 60% on some safety critical roads sections.

The results of the deployment of dynamic traffic and network management services in particular, successfully deployed by European road operators to tackle disrupted traffic flows on strategic and critical sections of the TEN-T, have proved significant on those parts of the network that suffer greater congestion and accident rates. Positive impacts include increased capacity rates of up to 9% and a reduction in accidents of typically between 20% and 30%, but as high as 63% on particular safety critical sections of the TEN-T.

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<sup>205</sup> EasyWay – Synthesis of Project Evaluation Results 2007-2009, 15 February 2011.

Implementation of both ITS and state of the art technological standards on the physical infrastructure is envisaged in all three retained TEN-T policy options but, as argued in the IA Report, these are likely to be most effectively and widely deployed in Option 2 as opposed to BAU/Option 0 as well as Option 1, due to better and coordinated implementation and wider traffic volumes affected.

## 2.5. Environmental impacts: Climate effects, Air pollution, Noise

### • TENconnect results

	Scenario				
Impact type (€billion)	BAU	CORE	COMP	CORE vs BAU	COMP vs BAU
Traffic noise	15.2	15.3	<b>15.4</b>	<b>+0.1</b>	+0.2
Air pollution ( <i>NOx, PM, SOX, HCs</i> )	60.5	55.0	<b>55.0</b>	<b>-5.5</b>	-5.5
Climate effects ( <i>CO2</i> )	94.4	95.5	<b>96.0</b>	<b>+1.1</b>	+1.6
Total environmental effects	170.1	165.8	<b>166.4</b>	<b>-4.3</b>	-3.7

**Table 6: Environmental impacts (External costs)**

This table shows the overall derived environmental impact, up-weighted to measure total road traffic (horizon 2030). The impacts on the CORE have also been scaled based on the "CO2 intensity" weighting factor derived from the White Paper envisaged measures.

The results of the TENconnect simulation show a relative increase in the estimated costs of noise and CO2 emissions, but a decrease in those related to air pollution, in a policy scenario where the TEN-T is the result of coordinated EU-level planning (core network) as opposed to continuing with the current 30 Priority Projects (the result of a bottom-up approach) in a BAU scenario. Again, the COMP network shows a similar picture albeit one that has increased CO2 due to the rebound effect of supposed traffic generation. Because of the improvement in air pollution, the overall effect of both the CORE and the COMP networks on external costs is positive.

### • Interpretation/Qualifications:

As in the case of road safety data discussed earlier, the increase in the costs related to noise and CO2 emissions reflects the rebound effect of improved efficiency of traffic flows on a TEN-T with a core (or a COMP) network developed on the basis of a European methodology. Yet, just as in the case of the road safety data, the TENconnect simulation reflects:

1) the impacts of a CORE network where effects of multimodality (an in-built dimension of CORE network planning and implementation in Option 2) have not been taken into account - i.e. a shift away from road to rail and air for passenger traffic, and to rail and inner waterways for freight, and

2) the impact of infrastructural development taken in isolation, and not as part of

a) a policy approach with a reinforced EU coordination dimension in implementation, that envisages the use of highest technological standards with regard to, for example, the motorisation of road vehicles, or the sources of electricity used in the power grids of rail on the CORE network;

b) the overall measures as envisaged in the White Paper and meant to reduce transport emissions as a whole.

The decrease in emissions of air polluting particles, on the other hand, reflects a higher accuracy of the TENconnect simulation, as the positive results of measures taken so far at EU level and aimed at reducing these kinds of emissions, have been taken into account (for instance the implementation of the EURO norms for vehicles).

A number of studies have however shown that the negative impacts of the rebound effect of improved efficiency of traffic can be mitigated when measures to improve efficiency are taken in conjunction with a series of other measures meant to reduce the environmental impact of the transport sector.

Thus, the European Environmental Agency report on 2009<sup>206</sup> for example starts from the premise that more efficient vehicles using less fuel may in the long run be cheaper to operate, lowering the general transport costs and leading, in turn, to more transport, as tasks that were earlier too costly to undertake could then be done at a reasonable price. While this entails added choice for consumers and thus added welfare, it also means that significant parts of the environmental benefits disappear in growing transport volumes. Nevertheless, the report shows a set of measures including adoption of technological improvements (improved engine and vehicle design, use of electric cars, low carbon fuels, technologies encouraging behavioural change) and demand control could combine to support the achievement of a 60% reduction in CO<sub>2</sub> emissions from transport by 2050.

The evaluation of the EasyWay I impacts provides another, though more limited in scope, example in this sense. Results have thus shown that the coordinated deployment of ITS on the TEN-T only has led to CO<sub>2</sub> savings of up to 4% (between 2007 and 2009), as a consequence of reduced congestion (due to increased capacity throughputs by up to 20% where lanes are managed dynamically) and reduced accidents.<sup>207</sup>

Last, but not least, the Transport White Paper IA Report shows that measures to modernise and increase the efficiency of transport infrastructures are essential for any efforts to achieve the 60% CO<sub>2</sub> reduction target, but that a comprehensive and combined set of measures is needed to insure the sustainability of the transport system.

### **3. CONCLUSIONS**

- The results of this 3-year long modelling exercise show the economic and cohesive benefits of a coherent infrastructure development, planned at the European level.
- However, many uncertainties are inherent to such a modelling exercise over a long time period with a large number of parameters that are difficult, if not impossible to integrate in the model. It has led to qualify the results and to use them only as supportive elements to a qualitative assessment and logical reasoning on the Options of the IA Report. Moreover,

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<sup>206</sup> EEA Report No 2/2010: Towards a resource-efficient transport system - TERM 2009: indicators tracking transport and environment in the European Union, April 2010.

<sup>207</sup> Measures facilitated through a high ITS content that might be considered as ready for widespread deployment, include: cross border traffic management; dynamic lane management; variable speed limits / speed limit enforcement; co-ordinated data exchange / real time traffic information provision. A number of other measures show potential and after further evaluation by the EasyWay II programme should be reviewed and considered for mainstreaming. These include: co-modal information / journey planning; freight specific information / parking guidance.

the scenarios of the modelling exercise only correspond to the planning aspect of the Policy Options of the IA Report, not including the effects of the implementation aspects.

- The results confirm the positive impact of the Core Network planning in terms of growth, accessibility and pollutants emissions and prove direct economic benefits (€77.7 Bln) that are much higher than the potential negative externalities related to the rebound effect (€ 1.1 Bln for road safety, €0.1 Bln for noise, €1.1 Bln for climate effects).
- The results also show that infrastructure planning cannot solve alone transport negative externalities due to the rebound effect. As explained in the IA Report, infrastructure planning has to be combined with a strong implementation approach to be able to apply other measures (pricing, new technologies, interoperability standards...). In this way, transport infrastructure planning and corridor implementation can serve transport policy by being a main implementation tool of multiple initiatives.

## **ANNEX VII**

### ***Case Studies***

The following table supports the TEN-T Impact assessment by describing the results of various projects and programmes that, in the main, focus on the application of governance, cooperation, standardisation and the application of best practice in implementing transport, mainly rail, networks. Also assessed are the likely effects of the application of 'best practice' in road transport ITS, especially effective at 'traffic calming' and hence congestion and accident reduction but also in reducing air pollution and CO<sub>2</sub> emissions, in spite of any 'rebound effect' on traffic volumes.

The study from the European Environmental Agency, the FREIGHTVISION study and the work that underpinned the Impact Assessment to the Climate Change roadmap, all emphasise the key role that technological innovation will play in implementing a more efficient and sustainable European transport system by acting on 3 main factors: vehicle efficiency through new engines, materials and design; cleaner energy use through new fuels and propulsion systems; better use of networks and safer and more secure operation through information and communication systems.

The European Environment Agency's 2009 (TERM) report<sup>208</sup>, observes that more efficient vehicles using less fuel may in the long run be cheaper to operate and thus lower the general transport costs. This in turn leads to more transport (the rebound effect) because tasks that were earlier too costly to undertake can now be done at a reasonable price. While this entails added choice for consumers and thus added welfare, it also means that significant parts of the environmental benefits disappear in growing transport volumes. The report shows the combination of measures that are necessary to achieve the transport target of a 60% reduction in CO<sub>2</sub> emissions by 2050. The potential impact of technology measures can reduce by half the GHG emissions compared to the base year 2008, but only achieve about a 20% reduction based on 1990. When the potential for demand control measures are included (through pricing etc facilitated by the application of ITS) then a 60% reduction in the cumulative affect of CO<sub>2</sub> measures is achievable. And it is this level of reduction that was designated in the Transport White Paper<sup>209</sup>.

The proposed CORE network with its optimal implementation strategy both for its construction and its operation will facilitate the provision of these mechanisms that will maximise the efficiency of the network as a whole and together, enable future demand to be met in a sustainable way and hence achieve the White Paper's target for a 60% cut in CO<sub>2</sub> emissions by 2050 (on 1990 levels).

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<sup>208</sup> EEA Report No 2/2010: Towards a resource-efficient transport system - TERM 2009: indicators tracking transport and environment in the European Union, April 2010

<http://www.eea.europa.eu/publications/towards-a-resource-efficient-transport-system>

<sup>209</sup> EU Transport GHG Routes to 2050--[www.eutransportghg2050.eu](http://www.eutransportghg2050.eu)



The projects and Programmes presented below are a selection of the list given in annex 1 to this IA. They are not presented in full detail but only with the aim of highlighting certain impacts.

Study	Principle Benefits / Implementation Measures	Conclusion
DIOMIS study <sup>210</sup>	<p>"Developing Infrastructure and Operating Models for Intermodal Shift (DIOMIS)" concerns the development of combined transports (road/rail) in Europe, where a total growth of volume from 125.3 million gross tonnes in 2005 to 268 million gross tonnes in 2015 was expected, an increase of 57% (pre recession estimates) and had the following objectives:</p> <ul style="list-style-type: none"> <li>- to provide a survey of best practices for Combined Transport (CT) terminal management in selected European countries;</li> <li>- to set up recommendations on how "soft" management measures can contribute to using existing terminal infrastructure in an optimum way or increasing the transshipment capacity without major investments;</li> <li>- to foster the exchange of capacity management knowledge between European intermodal terminal operators.</li> </ul> <p>Shifting road transports to CT is calculated to give a 60% reduction of CO2 emissions per km (incl. the local road transport at each end) and a 29% reduction of overall fuel consumption per km for unaccompanied CT, compared to road transport only (based on the industry's "CO2 Reduction through Combined Transport" Report).</p>	<p>The DIOMIS Agenda 2015 addresses a large number of infrastructure-related issues where investments in infrastructure on different levels will lead to the expected growth of unaccompanied combined transports. The measures include:</p> <ul style="list-style-type: none"> <li>- More efficient employment of network and terminal infrastructure.</li> <li>- Realisation of envisaged infrastructure enlargement investments and fast implementation of further actions to eliminate bottlenecks.</li> <li>- Improvement of cooperation and international coordination amongst intermodal stakeholders.</li> </ul> <p>The study pinpointed combined transport growth potential by 2015 and beyond, thus providing a frame of reference for:</p> <ul style="list-style-type: none"> <li>- the intermodal industry: customers, shippers, forwarders and shipping lines</li> <li>- Investors: loading units, wagons, terminals, locomotives</li> <li>- Improved co-operation and international co-ordination</li> </ul> <p>The extra utilisation and efficiency would be gained through:</p> <ul style="list-style-type: none"> <li>- More efficient use of rail infrastructure</li> <li>- Capacity impact of adopting best-practice utilisation of existing infrastructure</li> <li>- More infrastructure investments and international co-ordination.</li> </ul>

<sup>210</sup> Diomis study- <http://www.uic.org/diomis/spip.php?article11>

<b>Freight oriented rail network:</b>	<p>Regulation 913/2010 of 22 Sept 2010 concerning a European rail network for competitive freight requires Member States to set-up rail freight corridors, based on "business cases" to meet three challenges concerning:</p> <ul style="list-style-type: none"> <li>- the European integration of rail infrastructures by strengthening coordination between infrastructure managers on investment and operational matters;</li> <li>- the balance between passenger and freight traffic on major international axes by giving adequate capacity and priority to freight trains and making capacity allocation and traffic management more and more driven by socio-economic considerations as opposed to mere political reasoning;</li> <li>- the intermodality between rail and other transport modes by developing and making access to and use of freight terminals more efficient.</li> </ul> <p>Greater coordination and a common desire to give adequate priority to freight on these routes should make it possible to improve the performance of the services and improve the position of rail freight transport.</p>	<p>The objectives differ depending on the corridor.</p> <ul style="list-style-type: none"> <li>- Along the Rotterdam-Genoa<sup>211</sup> corridor the objective is to double the volume transported by 2020, by increasing punctuality by 26% and reducing travel time by 20%.</li> <li>- Along the Antwerp-Lyon/Basle corridor, the measures will allow about 7 billion tonne-km of freight to be transported by rail instead of by road. The benefits for society in terms of pollution, congestion and safety have been estimated at over 140 million euros per year.</li> <li>- Along the Antwerp-Lyon/Basle corridor, the objective is to increase the volume transported by 55% by 2020. This will be achieved by reducing travel time by 15%, by reducing the number of late trains on the Antwerp-Lyon branch by a factor of more than four, and by halving those on the Antwerp-Basle branch.</li> </ul> <p><u>The cost of developing an entire network with a total length of about 25 000 km amounts to about €170 billion.</u></p>
<b>BRAVO<sup>212</sup></b>	<p>BRAVO's main objective was to develop a coherent corridor management scheme including the:</p> <ul style="list-style-type: none"> <li>- improvement and intensification of cooperation between the railway undertakings and infrastructure managers</li> <li>- improvement of communication and data exchange to optimize the interfaces between parties involved</li> </ul>	<p>The implemented measures of the project exhibit very positive results:</p> <ul style="list-style-type: none"> <li>- an increase in traffic volumes of about 57 percent (16% per year) in unaccompanied combined transport (CT) on the Brenner axis has been reported by the operators and railways, which have been participating in the BRAVO project</li> </ul>

<sup>211</sup> Rotterdam – Genoa Corridor, IQ-C Action plan 2006-2010, June 2008

<sup>212</sup> [www.bravo-project.com](http://www.bravo-project.com)

	<ul style="list-style-type: none"> <li>- introduction of an overall quality system and the removal of operational bottlenecks</li> <li>- application of interoperable rail traction involving multi-current locomotives and including train path rescheduling</li> <li>- simplification and harmonization of locomotive approval procedures (certification).</li> </ul> <p>The project results offer many transferability opportunities, as the project was designed to function as a blueprint applicable for other European corridors.</p>	<ul style="list-style-type: none"> <li>- over these three years</li> <li>- modal shift: 5.92 to 6.86 million gross tonnes from 2005 to 2006</li> <li>- quality improvements in terms of reliability, flexibility, enhanced customer satisfaction and accuracy of transport documents.</li> </ul> <p>The expectation is to:</p> <ul style="list-style-type: none"> <li>- double the volume transported by 2020 by increasing punctuality by 26% and reducing travel time by 20%</li> <li>- 28 billion tonne-km of freight to be transported by rail instead of by road on an annual basis. This represents, at each point of this 1300 km long corridor, 1 lorry loaded with 26 tons of freight every 37 seconds, 24 hours per day, every day of the year.</li> </ul>
<b>New Opera<sup>213</sup></b>	<p>NEWOPERA stands for New European Wish: Operating Project for a European Rail Network and studied the necessary step changes for achieving a long-term scenario (identified as 2020) of a core rail network predominantly dedicated to freight.</p> <p>The regional impact of this project on road traffic is mainly concentrated in Germany, Italy and central Europe and is the most trafficked region of the EU. Tributaries run to the East and peripheral MSs (but are not part of the New Opera network). As with the above, the total infrastructure investment is limited with the emphasis on maximising the efficiency of the existing infrastructure. The New Opera network utilisation represents 59% of the total rail traffic and 66% for transport distances above 800Kms.</p>	<p>The conclusion of the project was that <b>quadrupling</b> of the rail freight trains on the New Opera corridor would expand rail freight's market share from 6% (2006) to 16%. This represents a shift from road to rail/intermodal traffic - 144 billion tonne.kms on the overall rail of which 131 billion tonne.kms would be on the New Opera Network.</p> <p>Other recommendations include:</p> <ul style="list-style-type: none"> <li>- rolling stock upgrades,</li> <li>- electric locomotives</li> <li>- upgraded sidings and equipment for longer trains</li> <li>- Institutional cooperation</li> </ul>

<sup>213</sup> www.newopera.org

<p><b>REORIENT<sup>214</sup></b></p>	<p>The REORIENT's study, commissioned by DG TREN was to assess the progress in implementation of the new rail legislation, and the impacts that the legislation had on the market behaviour of the European rail freight industry. Both the incumbent railway operators and the promising new rail start-ups were in the REORIENT analytical focus.</p> <p>The study assessed each MSs performance against four main criteria and found the following:</p> <p><b>1. Independence:</b> <i>the requirement that the country's Infrastructure Manager be completely independent of all of the country's railway undertakings.</i> Norway and Finland had the highest score, and Greece had the lowest. There were also severe shortcomings in Austria, while Sweden, the Czech Republic, Slovakia, and Romania had only limited shortcomings.</p> <p><b>2. Access:</b> <i>the requirement that there should be non-discriminatory access for all freight railway undertakings to the Trans European Rail Freight Network.</i> No countries had full open access. Each country had some conditions that were unfavourable for new entrants. The best performing countries were Norway, Poland, and the Czech Republic. Greece currently provides no access for new entrants. Some severe limitations also exist in Finland and Hungary, although for different reasons.</p> <p><b>3. Support:</b> <i>Willingness of the National Rail Regulator to Implement Administrative Changes.</i> It shows that there is strong support in the Nordic countries and in Hungary for implementing the necessary administrative changes, while there is some degree of opposition in Bulgaria, Romania, and</p>	<p>The main barriers to meeting the requirements relate to:</p> <ul style="list-style-type: none"> <li>- Inadequate mandates and lack of willingness of national regulators to implement and enforce administrative changes.</li> <li>- Inadequate organizational structures, skills and knowledge of rail institutions (railway undertakings, infrastructure managers, and regulators) to handle changes in task execution.</li> <li>- Lack of potential and willingness of rail undertakings and Infrastructure Managers to adjust to changed market structures.</li> </ul> <p>If only the requirements related to the transport network are taken into account, financial barriers are dominant. The main financial barriers are the potential of both the railway sector and the national government to accommodate required investments and the willingness of the railway sector to invest in technological improvements and new business concepts.</p> <p>Other barriers for improving the transport network are inadequate organizational structures, skills and knowledge of rail institutions, and technical barriers. Information is not widely available and varies considerably by country. Infrastructure quality is uneven, especially in new Member States, resulting in slower speeds. Analysis of higher speed scenarios suggest greater potential market share for rail.</p>
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<sup>214</sup> [www.reorient.no](http://www.reorient.no)

	<p>Greece.</p> <p><b>4. Capability: Government Potential to Support Investments.</b> It shows that there are significant financial barriers to achieving the goals of interoperable international rail freight transport in Romania, Bulgaria, and Greece. No such barriers exist in the Nordic countries or Austria.</p> <p>The opening up to a market economy for new MSs could mean that the voting public and politicians are anxious to adopt West-European solutions, abandoning rail and instead adopting long haulage freight solutions. Such worries are not unfounded given evident from the Polish government's transport planning document that shows that between 2007 and 2013, Poland will receive about 19 billion € from Union funds for "Improvement of Infrastructure and Natural Environment". 11 billion € will be channelled to building new highways, whereas 4.8 billion € – less than half – will go to railways. However, rail freight is less in conflict with Natura2000 areas. REORIENT results show that rail solutions along a North-South Corridor are considerably less in conflict with EC special protected areas than long haulage truck transport. This is due to the extensive rail network that is already in place and that is underutilised. That rail overall is the more environmentally friendly solution is well known and the study shows that with respect to potential conflict areas, rail is in a much better position than road along the business corridor from North to South.</p>	<p>Intermodal transport is still hampered by terminal processing times due to technological limitations. On Management Practices, while nominally open, current slot allocation processes reflect biases that hamper the ability of new entrants to provide new intermodal rail-based freight services. Existing processes are partly inefficient and not freight-friendly. And politically, rail freight does not receive sufficiently high visibility on the national or European agendas.</p> <p>Overall, improvements are left primarily to administrative processes that move slowly and are largely dominated by national rail undertakings.</p> <p>Financial barriers are a major factor hindering the rapid adaptation of new Trans-European rail freight solutions. They are substantial and cannot be handled by the rail freight and logistic industry alone. Support for rail among the voting public and local politicians is thus critical for securing national and regional corridor development.</p>
<b>RODER and AlpFRail<sup>215</sup></b>	<p>This is a successful supply chain logistics case exhibiting the synergies between two separate developments, presented as distinct good/best practice examples in PROMIT<sup>216</sup>. It</p>	<p>Improvements in rail operations along the Tauern axis are the objective of the AlpFRail (Alpine Freight Railway) project, aiming at a consequent</p>

<sup>215</sup> <http://www.lkzprien.de/en>

<sup>216</sup> 6FP project on Best Practice in Intermodal Transport-[www.promit-project.net](http://www.promit-project.net)

	<p>concerns freight traffic between Turkey and Western Europe. The existing land-based road routes were already unattractive in respect to distance, time, transport costs and environmental impact, especially due to the poor prevailing road conditions and the long time required for clearing the numerous border crossings. The internal conflicts in former Yugoslavia further worsened the situation.</p> <p>In 2001, the RODER company was founded to develop the combined transport services between Turkey and Europe through short sea shipping. The immediate targets were:</p> <ul style="list-style-type: none"> <li>- avoidance of traffic pressures on main transport routes,</li> <li>- reduction of operational costs,</li> <li>- limiting capital investment on trucks, and</li> <li>- reduction of emissions and noise.</li> </ul> <p>The intermodal transport chain is organized as follows:</p> <ul style="list-style-type: none"> <li>• Road transport: Cargo is picked up from various inland locations in Turkey and transported to a RoRo terminal (Pendik, Ambarli or Çeşme).</li> <li>• Short sea shipping (unaccompanied transport): Following customs clearance, the complete units (tractor and semi-trailer coupled) or the uncoupled semi-trailers (tractors are left behind at the terminal) are boarded on RoRo vessels and trans-shipped to Trieste. Sailing time takes approximately 60 hours. The truck drivers fly from Istanbul to Ljubljana and reach Trieste by bus.</li> <li>• Rolling motorway (accompanied transport): Following unloading and customs clearance at Trieste, a significant share of the trucks are loaded on trains serving the Tauern axis</li> </ul>	<p>displacement of freight flows to rail in the Alpine region. By means of technical and organizational improvements on this axis, additional capacities for up to 18 trains per day can be generated.</p> <p>The preliminary results of the AlpFRail project are positive. Within one year, 10 additional trains per day are provided on the Tauern axis, replacing 45,000 truck trips per year.</p> <p>The scheme has the following advantages:</p> <ul style="list-style-type: none"> <li>- Lower operating costs for the transport operator due to shorter transit time (less than 12 hours as opposed to 14-16 hours of the present solution). As the rail leg is carried out without drivers, about 1 day lower personnel and equipment operation costs can be realized per trip.</li> <li>- No waiting time for trucks in the terminal for loading and unloading from the train.</li> <li>- The possibility to cross the Alps also on weekends and bank holidays.</li> <li>- No resting time for the drivers.</li> <li>- The customs clearance takes place in the destination (instead of the sea port) leading to additional time savings.</li> </ul> <p>The Trailer-Train initiative aims to extend the intermodal unaccompanied transport chain of RoRo services from Turkey to Trieste to the Bavaria region by train. The extensive market analysis performed covers both craneable and non-craneable trailers (presently 60% of unaccompanied trailers coming to Trieste are craneable). The port of Trieste provides</p>
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	<p>(Trieste-Villach-Salzburg). The journey to Salzburg takes 9 hours. There are 3 departures daily on each direction and the trains can carry 20 transport units. The truck drivers use special sleeping cars of the train.</p> <ul style="list-style-type: none"> <li>• Road transport: The trucks disembark at the Salzburg rail terminal and continue their journey to their final destination by road.</li> </ul>	<p>several alternatives for the trans-shipment of trailers. Overall 5 existing or future possibilities were analysed, involving trans-shipment by crane, by using the Modalohr system, and by using RoLa tractors.</p> <p>The rolling motorway approach is easily transferable to other European corridors.</p>
<b>MONITRAF</b> <sup>217</sup>	<p>MONITRAF provides a platform for the alpine transit regions. Freight traffic and its impacts are a major challenge for the Alpine countries and require an international approach in order to prevent distributional impacts between the different countries. Because the transit regions are especially affected, the regions Tyrol, South Tyrol, Central Switzerland, Ticino, Piemonte, Rhône-Alpes and Valle d'Aosta have started the project MONITRAF aimed at the development of a common and sustainable strategy for transalpine freight traffic.</p> <p>MONITRAF ran from 2005 until 2008 and defined major indicators to describe the traffic development and its impacts and collected traffic, environmental and socio-economic data to obtain a comparable picture of the situation in the Alpine countries, something that had not been achieved until then.</p>	<p>The modelling of future emission scenarios indicate the impacts of future traffic development, the role of technological development and positive effects of new measures. As a first step, a business-as-usual scenario (BAU) has been developed on the basis of the situation in 2005. This BAU is built on existing forecasts for freight traffic (e.g. Federal Council of Switzerland 2007, study for the base tunnel Lyon-Torino (LTF – Etude de trafic Fret – Résultats Phase 1 - Septembre 2006).</p> <p>By the year 2025 an increase of traffic by 47% is assumed for the Fréjus, 62% for the Mt. Blanc, 17% for the Gotthard and 74% for the Brenner.</p>
<b>FERRMED Global Study</b> <sup>218</sup>	<p>The FERRMED Association is supported by the EC and several European national and regional Governments with a view to contributing to improve EU railway freight transportation system. It was undertaken by a consortium of European consulting companies over a period of more than 2 years. Today FERRMED is supported by 143 members,</p>	<p>The study concluded that upgrading the FERRMED Great Axis Rail Network, implementing the FERRMED Standards and eliminating the institutional, legislative, infrastructural and technical bottlenecks should increase the transport share of railways to 17% of all inland freight and 24% (more</p>

<sup>217</sup> <http://www.monitraf.org/44.html>

<sup>218</sup> FERRMED, October 2009:

[http://www.vialibre-ffe.com/PDF/FERRMED\\_GLOBAL\\_STUDY\\_BOOK.pdf2](http://www.vialibre-ffe.com/PDF/FERRMED_GLOBAL_STUDY_BOOK.pdf2)



	<p>including key business institutions and private companies from all over Europe and North Africa.</p> <p>The FERRMED Great Axis Network is the focus of the FERRMED standards. This Network interconnects the most important maritime and fluvial ports, the most important economic regions and the main East-West axes of the European Union, spanning over more than 3,500 kilometres from Stockholm and Helsinki to Algeciras and Genoa, crossing 13 countries (Belgium, Denmark, Finland, France, Germany, Italy, Luxembourg, Netherlands, Spain, Sweden, United Kingdom, Norway and Switzerland), encompassing Northern and Baltic Sea basins with Western Mediterranean coasts. The FERRMED Great Axis would have direct influence over an area that concentrates 54% of the EU population and 66% of its GDP. In addition, it would link the EU to Russia, through the connections with the Western end of the Trans-Siberian Railway in St. Petersburg and Finland, and with the North of Africa.</p> <p>In its present condition, this Network transports an estimated 266 billion of tons km per year. The Study identifies the infrastructure, technical, institutional, legislative and regulatory actions required, and the financial alternatives initially available, to upgrade the FERRMED Great Axis Rail Freight Network into a harmonized, interoperable, profitable, competitive, efficient, safe and sustainable rail freight network, which would be consistent with EU transportation interoperability policies, legislation and regulations.</p> <p>The resulting increase in the total amount in goods transported would be to 524 billion of tons km per year by 2025.</p>	<p>than 500 km) - 28% (more than 1,000km) of all long distance transport by 2025, reversing the trend of road transport share growth and capturing a broad range of socio-economic and environmental benefits for Europe.</p> <p>Three investment scenarios were developed:</p> <ul style="list-style-type: none"> <li>- EUR 130 billion in investments until 2025 should generate EUR 150 billion in savings in vehicle operational costs (VOC), EUR 41 billion in savings in travel and transport time and EUR 12 billion in savings in accident and environmental benefits from 2016 to 2045. The Economic Internal Rate of Return (EIRR) under the MFS, based on socio-economic and environmental costs and benefits, is estimated at 4.97%, in line with profitability benchmarks for these types of projects in Western Europe (3 to 5%).</li> <li>- EUR 177 billion in investments until 2025 should generate EUR 194 billion in savings in VOC, EUR 284 billion in savings in travel and transport time and EUR 15 billion in savings in accidents and pollutant emissions from 2016 to 2045. The EIRR under the MFS, based on socio-economic and environmental costs and benefits, is 11.09%.</li> </ul> <p>With additional public policy support, the FERRMED Network could reach 30% to 35% of inland long distance freight rail transport market in later years.</p> <ul style="list-style-type: none"> <li>- EUR 210 billion in investments until 2025 would</li> </ul>
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		give an expected EIRR of 8.85%.
<b>ITS and the EasyWay programme</b> <sup>219</sup>	<p>Within the frame of the first EasyWay Programme, the coordinated deployment of Intelligent Transport Systems (ITS) on the TEN-T road network took as its overall objective to:</p> <ul style="list-style-type: none"> <li>- Reduce accidents by 4-6%;</li> <li>- Reduce congestion by 3-6%;</li> <li>- Reduce CO<sub>2</sub> emissions by 1-3% between 2007 and 2009</li> </ul> <p>Measures facilitated through a high ITS content that might be considered as ready for widespread deployment, include:</p> <ul style="list-style-type: none"> <li>- Cross Border Traffic Management</li> <li>- Dynamic Lane Management</li> <li>- Variable Speed Limits / Speed Limit Enforcement</li> <li>- Co-ordinated Data Exchange / Real Time Traffic Information Provision</li> </ul> <p>A number of other measures show potential and after further evaluation by the EasyWay II programme should be reviewed and considered for mainstreaming. These include:</p> <ul style="list-style-type: none"> <li>- Co-Modal Information / Journey Planning</li> <li>- Freight Specific Information / Parking Guidance</li> </ul> <p>The most important measure for the TEN-T is: Europe-Wide Traffic Management Services (TMS) - Dynamic Traffic and Network Management Services that have been successfully deployed by European road operators to tackle disrupted traffic flow on strategic and critical sections of the TEN-T. Dynamic Traffic Management Services deployment mainly consists of:</p> <ul style="list-style-type: none"> <li>- hard shoulder running</li> </ul>	<p>Overall, the evaluation showed that where services have been deployed, the benefits delivered are in line with the objectives set by the project. There have been positive impacts on:</p> <ul style="list-style-type: none"> <li>- Safety – with injury accident savings of between 10% and 20%, depending on the particular application, rising to approximately 60% on some safety critical roads sections</li> <li>- Congestion – with capacity throughputs increased by up to 20% where lanes are managed dynamically</li> <li>- The environment – where reduced congestion, along with reduced accidents, have resulted in CO<sub>2</sub> savings of up to 4%.</li> </ul> <p>The deployment of TMS have provided significant results on those parts of the network that suffer greater congestion and accident rates. Positive impacts include increased capacity rates of up to 9% and a reduction in accidents of typically between 20% and 30%, but as high as 63% on particular safety critical sections of the trans-European road network.</p> <p>Other key measures:</p> <ul style="list-style-type: none"> <li>- A good quality on-board weather information and warning service has been estimated to reduce the risk of injury accidents in adverse conditions by 11%<sup>220</sup> and fatalities about twice as much (i.e. around 20%). As circa 15% of fatalities in the EU occur in adverse conditions, this translates into a</li> </ul>

<sup>219</sup> [www.easyway-its.eu](http://www.easyway-its.eu)

<sup>220</sup> Safety potential of road transport information services, Elina Aittoniemi, Technical Research Centre of Finland, 2007

	<ul style="list-style-type: none"> <li>- dynamic lane management</li> <li>- ramp metering (controlling the amount of traffic on the motorway)</li> </ul>	<p>fatality reduction of circa 3% over the whole year.</p> <ul style="list-style-type: none"> <li>- The deployment of Speed Control on Critical Road Segments of the TEN-T Road Network including variable speed limits and speed enforcement, has shown impacts of a 15% to 54% reduction in accidents (more typically accidents are reduced by between 20% and 30%) and up to 20% in the improvement of traffic flow.</li> </ul>
<b>FREIGHTVISION<sup>221</sup>:</b>	<p>FREIGHTVISION project assessed what needs to happen to long distance freight transport in order that it becomes 'sustainable' by 2050, and used an 80% cut in CO2 emissions (based on 1990 levels) as one of its goals. To do this it developed a <u>holistic approach by integrating all aspects of the problem (infrastructure, vehicles, fuels, interoperability etc.) and all types of criteria in the solution (research, technologies, policies and pricing).</u></p> <p>Of the 36 measures discussed, the following relate directly to the TEN-T IA—the other measures have a secondary effect and together should achieve freight transport's sustainability goals:</p> <ul style="list-style-type: none"> <li>- Investment in road infrastructure</li> <li>- Investment in rail infrastructure</li> <li>- Investment in IWT infrastructure</li> <li>- Investment in maritime port infrastructure</li> <li>- Intermodal Transport</li> </ul> <p>FREIGHTVISION's results show that to achieve 'sustainability' in long distance freight transport, then a combination of measures need to be taken, the most important of which is seamless transport flows (especially so as to</p>	<ul style="list-style-type: none"> <li>- <b>Investment in road infrastructure</b> The TEN road network is essential for the overall freight flows in Europe. Investments in the TEN-T should focus on removal of bottlenecks, linking networks of all modes of transport and better utilization of the existing network by using ITS. At the same time it is necessary to have a holistic approach to the transport system as a whole. Introduction of Green Corridors is an opportunity for combining measures and a holistic approach. There is also a need to include the connections to the non-EU countries.</li> <li>- <b>Investment in rail infrastructure</b> Providing rail corridors that are mainly or completely dedicated to freight can enable rail to become more competitive against other freight modes (especially road transport) and provide a higher quality service while minimising conflicts with passenger rail transport. This would address the current barrier to modal shift to rail posed by railway infrastructure capacity constraints.</li> <li>- <b>Investment in IWT infrastructure</b> Capacity of the IWT network is hampered by</li> </ul>

<sup>221</sup> Freightvision - 7FP project on long distance freight transport futures (policy, demand and technology scenarios), December 2010: <http://www.freightvision.eu>

	<p>encourage rail modal shift) and road vehicle technology, including ITS as a facilitative mechanism for introducing pricing.</p>	<p>bottlenecks. Lack of sufficient investments have led to a reduction of preventive maintenance, unexpected draught restrictions, temporary closure of locks, etc. This results in unreliable services, reduced safety and higher costs.</p> <p>- <b>Investment in maritime port infrastructure</b>  In 2018 maritime freight volumes are expected to have grown from 3.7 Bn tonnes (2006) to 5.3 Bn tonnes. In ten years time, EU ports and the shipping industry thus have to be able to handle, at least 1.5 billion tonnes more than today. Investments in port infrastructure are needed to improve efficiency and hinterland connections.</p> <p>- <b>Intermodal Transport (IMT)</b>  A combination of different modes of transport comes more and more into focus due to a growing importance of environmental and financial aspects. But the feasibility of IMT depends on the transported products and their industry, as well as the different characteristics (speed, flexibility, reliability, network density etc.) of road, rail and inland waterway (IWW). Today, the largest problems of IMT are the slowness and reliability of rail and IWW, bottlenecks in terminal capacity, inefficiency of transshipment technology as well as information gaps concerning existing advantages and applications of IMT.</p>
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## Conclusion

The case studies show how the application of today's 'best practice' will reduce transport externalities, to more than compensate for any increase in traffic volume resulting from the operation of an efficient CORE network (the rebound effect).

For instance, the BRAVO project along the Brenner Corridor saw an increase in traffic volumes of about 57 percent over its first three years of operation. The other studies focus on proposed networks, from the central network of NEWOPERA to the 'red banana' of FERRMED. NEWOPERA estimated that a quadrupling of the rail freight trains on the New Opera corridor would expand rail freight's market share from 6% (2006) to 16%. FERRMED gives estimates of 17% of all inland freight and 24% (more than 500 km) - 28% (more than 1,000km). But for these gains to be realised then all studies conclude for EU Railway Corridors Management. The benefits of the corridors are given in terms of modal shift (up to a doubling of 'long distance' freight transport volume by rail) and CO<sub>2</sub> reduction and the costs are a similar order of magnitude to that estimated in the IA for the freight orientated rail network regulation.

The studies highlighted are giving factual support and data that underpin the Impact assessment and in particular the implementation scenario B4 in combination with the planning scenarios A3 and A4.

The EASYWAY study on the application of ITS best practice shows how the 'rebound effect' resulting from the operation of an efficient CORE network does not need to lead to higher external costs. Their work has shown road accident savings of between 10% and 20%, depending on the particular application, rising to approximately 60% on some safety critical roads sections. Congestion is improved with capacity throughputs increased by up to 20% where lanes are managed dynamically; and for the environment, reduced congestion, along with reduced accidents, have resulted in CO<sub>2</sub> savings of up to 4%.

Finally, FREIGHTVISION supports the notion of the Transport White Paper, that future sustainable mobility can only be achieved by the Cumulative effect of a combination of 'improve', 'avoid' and 'shift' measures. And this line is supported and quantified by the EEA TERN study and the IA for the Climate Change Roadmap.

All these studies prove that the combination of a planning dimension with an implementation dimension is able to improve the functioning of the transport market while tackling the environmental challenges, among which include the rebound effect. These case studies reveal that a Corridor approach promoting the best practices and technologies is paramount to an efficient and greener transport system at the level of the European Union.

## ANNEX VIII

### **General Definition**

1. **European added value** of projects means the value of spill-over effects to non-investing countries and regions. Cross-border projects typically have high spill-over effects, but lower direct economic effects compared to purely national projects and therefore, they are likely not implemented without EU support.
2. **NUTS region** means a region which meets the criteria of the relevant level defined in the Nomenclature of Territorial Units for Statistics.
3. **Third country** means any neighbouring country and all other countries with which the Union may cooperate to achieve the objectives pursued by this Regulation.
4. **Neighbouring country** means the countries belonging to the European Neighbourhood Policy, the Enlargement Policy, the European Economic Area and the European Free Trade Association.

### **Trans-European transport network configuration**

5. **Projects of common interest** are projects that develop the TEN-T according to the maps annexed to the TEN-T Guidelines and fulfil the objectives set out in the Guidelines.
6. **Priority Projects** are Projects of common interest selected according to criteria set out in the Guidelines.
7. The **wider/comprehensive network** is made up of all existing and planned transport infrastructures of the transport-European transport network as outlined in the maps annexed to the Guidelines. This forms the basis of the Priority Projects/Core Network identification.
8. The **Core Network** consists of those parts of the comprehensive network which are of the highest strategic importance for the achievement of the objectives for the development of the trans-European network.

### **Transport sector specific definitions**

9. **Transport mode** means railway, inland waterways, road, maritime or air transport.
10. **Multimodal transport** means the carriage of freight and/or passengers using two or more modes of transport
11. **Co-modality** refers to a "use of different modes on their own and in combination" in the aim to obtain "an optimal and sustainable utilization of resources".- therefore, not only a multi-modal, but also a uni-modal transport can be co-modal.
12. **Upgrading of existing infrastructure** means modifying existing infrastructure to meet higher standards.

13. **Intelligent transport systems (ITS)** means systems which apply information, communication and positioning/localization technologies for the purpose of managing mobility and traffic on the trans-European transport network and provide value added services to citizens and operators for safety, security and environmental efficient use of the network. They are part of the transport infrastructure.
14. **Air traffic management system** means a system as identified in Regulation (EC) No. 552/2004 of the European Parliament and of the Council of 10 March 2004 on the interoperability of the European Air Traffic Management network (the interoperability Regulation)<sup>222</sup> and in the European Air Traffic Management (ATM) Master Plan as defined in Council Regulation (EC) No 219/2007 of 27 February 2007 on the establishment of a Joint Undertaking to develop the new generation European air traffic management system (SESAR)<sup>223</sup>.
15. **Vessel Traffic Monitoring and Information Systems (VTMIS)** means systems deployed to monitor traffic, using information from AIS, Long Range Identification and Tracking, coastal radars and radio communications in line with Directive 2002/59/EC of the European Parliament and of the Council of 27 June 2002 establishing a Community vessel traffic monitoring and information system and repealing Council Directive 93/75/EEC<sup>224</sup>.
16. **River Information Services (RIS)** means information and communication technologies on inland waterways as defined in Directive 2005/44/EC of the Parliament and the Council of 7 September 2005 on harmonised river information services (RIS) on inland waterways in the Community<sup>225</sup>.
17. **e Maritime services** means services based on the use of advanced and interoperable information technologies in the maritime transport sector, aiming at facilitating the throughput of cargo on the sea and in the port area.
18. **European Rail Traffic Management System (ERTMS)** means the system as described in Commission Decision of 22 July 2009 amending Commission Decision 2006/679/EC concerning the technical specification for interoperability relating to the control-command and signalling subsystem of the trans-European conventional rail system<sup>226</sup>.
19. **Freight terminal** means a structure equipped for the transshipment and temporary storage of freight in transport units.
20. **Logistic Platform** means an area directly linked to the transport infrastructure of the trans-European transport network which includes at least one freight terminal and enables the provision of logistics activities.
21. **Multimodal logistic platforms** are nodes where series of logistic activities take place, connected to different modes of transport, and open to commercial traffic. These infrastructures, that include at least one Terminal, are often linked to Sea / IWW ports. In order to make the most of scale economies on international routes, their nodal function

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<sup>222</sup> OJ L 96, 31.3.2004, p. 26-42

<sup>223</sup> OJ L 64, 2.3.2007, p.1-11

<sup>224</sup> OJ L 208, 5.8.2002, p. 10-27

<sup>225</sup> OJ L 255, 30.9.2005, p. 152-159.

<sup>226</sup> OJ L 194, 25.7.2009, p. 60-74

does not only include transport-related activities but also national and international logistics and distribution.