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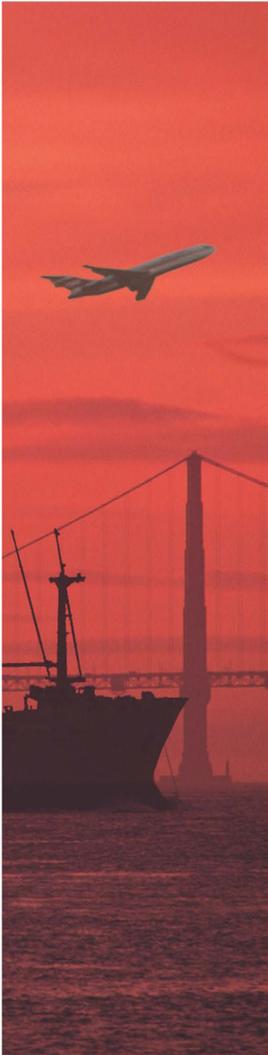
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**FINANCING INSTRUMENTS  
FOR THE EU'S TRANSPORT  
INFRASTRUCTURE**

**STUDY**





**DIRECTORATE-GENERAL FOR INTERNAL POLICIES**  
**POLICY DEPARTMENT B: STRUCTURAL AND COHESION POLICIES**

**TRANSPORT AND TOURISM**

# **FINANCING INSTRUMENTS FOR THE EU'S TRANSPORT INFRASTRUCTURE**

**STUDY**

This document was requested by the European Parliament's Committee on Transport and Tourism.

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**DIRECTORATE-GENERAL FOR INTERNAL POLICIES**  
**POLICY DEPARTMENT B: STRUCTURAL AND COHESION POLICIES**

**TRANSPORT AND TOURISM**

# **FINANCING INSTRUMENTS FOR THE EU'S TRANSPORT INFRASTRUCTURE**

**STUDY**

## **Abstract**

This study provides an overview of the most important current and future financing instruments and sources for the EU's transport infrastructure, in particular for the TEN-T. Furthermore, it includes a more analytical discussion of these instruments against the background of changes in the underlying policy framework.

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## LIST OF ABBREVIATIONS

<b>CEE</b>	Central and Eastern Europe
<b>CEF</b>	(draft) Connecting Europe Facility
<b>CF</b>	Cohesion Fund
<b>CoR</b>	Committee of the Regions
<b>CPR</b>	(draft) Common Provisions Regulation
<b>CSF</b>	Common Strategic Framework
<b>DBFO</b>	Design-build-finance-operate
<b>EAFRD</b>	European Agricultural Fund for Rural Development
<b>EBRD</b>	European Bank for Reconstruction and Development
<b>ECOFIN</b>	Economic and Financial Affairs Council
<b>ECTF</b>	European Clean Transport Facility
<b>EERP</b>	European Economic Recovery Plan
<b>EIB</b>	European Investment Bank
<b>EPEC</b>	European Public-Private Partnership Expertise Centre
<b>ERDF</b>	European Regional Development Fund
<b>ERTMS</b>	European Rail Traffic Management System
<b>ESA 95</b>	European System of National and Regional Accounts
<b>ESF</b>	European Social Fund
<b>GDP</b>	Gross Domestic Product
<b>GHG</b>	Greenhouse Gas
<b>GNI</b>	Gross National Income
<b>HSL</b>	High Speed Line
<b>ICT</b>	Information and Communication Technology

<b>IFIs</b>	International Financial Institutions
<b>ITS</b>	Intelligent Transport Systems
<b>JASPERS</b>	Joint Assistance to Support Projects in European Regions
<b>LGB</b>	Loan-Grant Blending
<b>LGTT</b>	Loan Guarantee Instrument for Trans-European Transport Network Projects
<b>MAP</b>	Multiannual Work Programme
<b>MFF</b>	Multiannual Financial Framework
<b>NUTS</b>	Nomenclature Territorial Units for Statistics
<b>PKBAL</b>	Paris-Köln-Brussels-Amsterdam-London (railway project; one of the PPs)
<b>PP</b>	Priority Project
<b>PPP</b>	Public-Private Partnership
<b>RDI</b>	Research, Development and Innovation
<b>SCUT</b>	Sem Custos para os Utilizadores (Portuguese for 'no cost to the users')
<b>SESAR</b>	Single European Sky ATM Research
<b>SFF/SA</b>	Structured Finance Facility/Special Activities
<b>SICAV-FIS</b>	Société d'Investissement à Capital Variable - Fonds d'Investissement Spécialisé
<b>SPV</b>	Special Purpose Vehicle
<b>TEN</b>	Trans-European Networks
<b>TEN-E</b>	Trans-European Energy Networks
<b>TEN-T</b>	Trans-European Transport Networks
<b>TEN-T EA</b>	Trans-European Transport Network Executive Agency
<b>TFEU</b>	Treaty on the Functioning of the European Union

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## EXECUTIVE SUMMARY

### Background and aim of the study

The Trans-European Network for Transport (TEN-T) is a cornerstone of the EU's transport policy. The current MFF period comes to an end in 2013 and, in this context, the Commission released proposals for a revision of TEN-T policy and regional policy in October 2011.

In order to obtain an overview of the most important current and future financing instruments and sources for the EU's transport infrastructure, in particular for the TEN-T, Parliament's Committee on Transport and Tourism has commissioned this study.

### The TEN-T policy review

In the review of the existing TEN-T policy, the Commission concluded that many of the most important projects (Priority Projects) were behind schedule. One of the reasons for this is insufficient project funding. So far, TEN-T policy has delivered a patchwork of badly connected national projects rather than a fully interconnected pan-European network. More attention must therefore be paid to cross-border connections, intermodal integration and improved interoperability.

### The Commission proposals and the financing of TEN-T

The Commission proposals<sup>1</sup> address these issues in various ways. First of all, a two-layer network has been established, consisting of a Core Network that interlinks all the main economic agglomerations and the main ports and airports and a wider Comprehensive Network that includes all the main international transport links. In addition, projects that improve cross-border connections and contribute to climate objectives should be prioritised.

The 2011 White Paper on Transport mentions the ambition to complete the Trans-European Network for Transport (TEN-T) in 2050 and the Core Network before the end of 2030. The Commission has estimated that completion of the TEN-T requires investments of around EUR 500 billion by 2020, of which an estimated EUR 250 billion will need to be invested in the Core Network (COM(2011)665/3).

In 2007-2013, total investment in TEN-T is expected to amount to EUR 390 billion, with other (national) resources accounting for the largest share, namely 73% (EUR 285 billion). The remaining 27% (EUR 105 billion) is financed by EU funds and the EIB.

The budget of the newly proposed Connecting Europe Facility (CEF-Transport) is almost four times that of the current TEN-T programme: EUR 31.7 billion compared to EUR 8 billion. This increase is partly the result of earmarking EUR 10 billion of the Cohesion Fund budget for the CEF, a way of prioritising the TEN-T network over other types of transport infrastructure in the eligible countries.

Furthermore, the Commission aims to stimulate private investors, such as institutional investors, to invest in TEN-T projects. The Project Bond Initiative proposal has been

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<sup>1</sup> These proposals include the proposal for revision of the TEN-T guidelines, the CEF proposal and the proposal for the Cohesion Fund, see chapters 2.2 and 3 for an overview of all relevant proposals and EU documents.

designed to stimulate this, as it can improve the credit rating of projects by providing guarantees. This means that some of the project risks are shifted to the EIB that receives a fixed contribution from the TEN-T programme of EUR 230 million in the pilot phase (2012-2013). The reason given for so doing is to correct market failures: insufficient liquidity in the market and risk aversion are mentioned, but it is questionable whether these are true market failures. The EC expects the Project Bond initiative to create a leverage of 15 to 20 times the EC contribution, although the exact 'leverage' is uncertain (SEC(2011)1237).

The use of Public Private Partnerships (PPPs) also deserves attention. PPPs are a way of structuring a project and attracting private-sector finance. Although increasingly popular, PPPs are not a global panacea, as recent PPP projects have shown mixed results. Some have become financially unsustainable, often due to much lower traffic volumes than projected. The use of PPPs is particularly advantageous where a project allows the construction company freedom of design and construction. PPPs always require good procurement advice and should not be adopted to get projects off the balance sheet, as has happened in the past. Great care needs to be taken with PPPs that depend on availability and/or performance-related payment mechanisms.

### **Strategic and operational alignment of EU funds**

While the TEN-T programme mainly funds rail and inland waterway infrastructure, about half of the much larger CF and ERDF allocation for transport concerns road infrastructure. Although this follows logically from the different objectives of the various EU funds and is in line with the multimodal nature of the Comprehensive Network, there is a risk of a further lock-in on road transport and it will make it more difficult to achieve the very ambitious modal shift targets of the 2011 White Paper on Transport.

In the Commission proposals, the objectives and stated priorities of the various instruments are better aligned than before. The earmarking of EUR 10 billion from the CF for the CEF and the ex-ante conditionalities in Cohesion Policy will contribute to an improved strategic alignment. Moreover, the CEF proposal allows for 10 percentage points higher co-funding rates for projects that contribute to decarbonisation or the improvement of cross-border connections. However, the establishment of appropriate criteria for the assessment of these objectives will be crucial. Furthermore, although the overall policy package seeks to contribute to decarbonisation and modal shift, the potential size of the contribution by the new TEN-T proposals to achieving these targets has not been estimated.

Issues that deserve attention from an operational perspective are project definition and preparation. Furthermore, coordinating the grant application with the tendering process is difficult to manage, particularly for PPP projects. Ex-ante conditionalities aimed at capacity-building, the further use of EPEC and JASPERS and greater coordination between JASPERS and centrally managed funds could help to overcome barriers.

### **Policy recommendations**

Putting the correct framework in place is a necessary but not a sufficient condition for delivering the right projects on the ground. The criteria and mechanisms that will be used for the prioritisation of projects deserve particular attention. So far, the assessment of economic and climate impacts of TEN-T projects has not always been effective. This could be improved by stricter, binding requirements for the quantification of the net economic impacts (cost-benefit analysis) and the climate impacts (carbon rating) as well as the underlying traffic modelling. Moreover, the validation by independent bodies (preferably from Member States that have no interest in the project) and the certification of traffic models could ensure

independent, scientifically sound and more transparent assessment procedures. Care should be taken that identical traffic projections are used in the economic and climate impact assessments. The result of these assessments could serve as a basis for the prioritisation of various projects and/or for deciding on the co-funding rate.

User charges and the internalisation of external costs can play a key role by optimising infrastructure use, raising revenue that can be used for (cross-) financing new infrastructure and helping to engage private investors. Under the current CF/ERDF funding rules, the revenue from user charges is subtracted from the total project sum eligible for co-funding. In this way, the current rules discourage the application of user charges and indirectly favour road infrastructure, because EU Member States are obliged to make use of user charges for rail infrastructure, which is not the case for road and inland waterways. The link between the various objectives could be strengthened by specifically requiring the utilisation of user charges in the eligibility criteria for projects or at least some types of project. User charges could also be taken into account in the prioritisation of EU funding or by differentiating the maximum co-funding rates in relation to net GHG impacts. In this way the TEN-T policy could also contribute to the White Paper objective of the full internalisation of external costs.

Regarding innovative instruments, we conclude that in general they may help to close the funding gap and reduce the financial burden for the public sector. Projects could benefit from the financial discipline of private investors. However, the consolidation, streamlining and standardisation of the various 'innovative financial instruments' are needed.

### **A less resource-intensive scenario**

Experience has shown that it is very difficult to gather sufficient resources for large-scale transport infrastructure investments and in the current climate this may become even more challenging. Hence, should either public or private investments fall short of what was envisaged in the proposals, there may be a need to consider an alternative scenario or plan B.

Such a plan B could mean that, in the event of insufficient resources and possibly lower economic growth rates, further prioritisation will be needed within the predefined networks. The results of an improved and fully independent CBA and carbon rating could be used as a basis for this. Other elements of such a scenario could be a stronger focus on user charges and Intelligent Transport Systems to ensure that the available infrastructure capacity is used more efficiently. A further elaboration of the current Commission proposals along these lines is recommended.



## **1. INTRODUCTION**

### **1.1. Background of this study**

Seamless, multimodal transport infrastructure is a key element in the economic and sustainability objectives of the European Union as currently laid down in the EU2020 strategy (COM (2010) 2020). European transport policy is aimed at stimulating the development of the European transport system. The Trans-European Network for Transport (TEN-T) covers the most important European transport infrastructure. For the new Multi-Annual Financial Framework a core network is proposed by the Commission which encompasses the infrastructure connecting the main European urban nodes, among other main infrastructure. The EU has the ambition to complete the Trans-European Network for Transport (TEN-T) in 2050 and the core network before the end of 2030. The Commission has estimated that the completion of the TEN-T requires investments of more than EUR 500 billion by 2020, of which an estimated EUR 250 billion will need to be invested in the core network (COM(2011)665/3).

The experiences with the TEN-T over the last two decades make clear that financial constraints are one factor that hinders the completion of the network (Expert Group 5, European Commission, 2010a). The financial crisis and the current Euro crisis are putting additional pressure on national government budgets and on private infrastructure finance, making the challenge even bigger.

The European Commission is attempting to increase TEN-T funding through the introduction of the Connecting Europe Facility (CEF), which will replace one of its current EU financing instruments, the TEN-T programme. At the same time, it is looking to the private sector to leverage the EU contribution through innovative financing instruments.

Apart from the challenge of activating sufficient financial resources, also the strategic and operational alignment of the various (EU) financing instruments for transport requires attention.

As the current financing period comes to an end in 2013, the Commission released proposals concerning the new Multi-Annual Financial Framework in October 2011. These include proposals for a revision of TEN-T policy as well as other relevant policies, e.g. cohesion policy.

### **1.2. Aim and methodology of this study**

This study aims at providing the Committee on Transport and Tourism of the European Parliament with accurate information on the most important current and future financing instruments and sources for the EU's transport infrastructure, in particular for the TEN-T. Furthermore, it provides a more analytical discussion of the instruments and their interactions against the background of changes in the underlying policy framework.

This study has been based on a broad review of the documents that have been produced in the build-up towards – among others - the revision of the TEN-T guidelines and the new Multi-Annual Financial Framework 2014-2020. In addition a range of interviews has provided input to this study. Also relevant academic literature, as well as other relevant documents and reports have been consulted.

### **1.3. Reading guide**

This study is structured as follows. First, an overview is given of the TEN-T policy and a brief summary of the on-going TEN-T policy debate, taking place in the context of other relevant policies such as the MFF and Europe 2020 strategy (chapter 2).

Next, chapter 3 provides a comprehensive overview of existing and proposed financing instruments that are (at least partly) concerned with financing TEN-T infrastructure. For each instrument the main technicalities and policy issues are summarised.

As the effectiveness of all these policies depends heavily on their interactions, these are discussed in chapter 4, with a focus on the strategic and operational alignment of the various instruments as well as the relation to administrative capacities within EU Member States. Finally, chapter 5 contains possible future scenarios for the European funding framework, the main conclusions and policy recommendations.

## 2. OVERVIEW OF THE TEN-T POLICY DEBATE

### KEY FINDINGS

- Since the inception of the European transport policy (mid-80's), its focus has been on European added value, including a smooth functioning of the internal market, economic, social and territorial cohesion and improved accessibility.
- From the 2009-2010 public consultation on the TEN-T policy, public stakeholders have identified the main bottlenecks in the Trans-European Network for Transport (TEN-T): a financing gap (including low co-funding rates from the TEN-T programme) and a lack of (adequate) cross border connections, multimodal connections and interoperability.
- The proposal for the Connecting Europe Facility exhibits a higher budget and an extension of the Priority Projects into a core network connecting all major economic agglomerations and ports in the EU, including ten main corridors. The strategic alignment of the Cohesion Fund (CF) and the Connecting Europe Facility (CEF) is meant to improve by earmarking EUR 10 billion of the CF for the CEF.

### 2.1. Introduction

Within the European transport system, TEN-T infrastructure is a sub-system consisting of all transport infrastructure in the EU that plays an important role in long-distance freight and passenger transport between the different EU Member States. In the 2011 Commission proposals, this subsystem is called the 'comprehensive network'<sup>2</sup>. Within the comprehensive network there is yet another subsystem called 'the core network'<sup>3</sup>, which connects the main urban nodes and allows for a prioritisation of funding and financing by the EU. The core network will absorb the current Priority Projects.

The role of the EU in the transport infrastructure lies in the fact that traditionally, transport infrastructure has had a largely national focus. To facilitate EU policy objectives such as a smooth functioning of the internal market, economic, social and territorial cohesion and improved accessibility across the EU good connections between countries are necessary. This is done by eliminating existing bottlenecks in the EU transport networks, completing the main routes (especially cross-border sections) and improving interoperability. In this respect, other types of infrastructure that are co-financed by the EU – such as urban transports by the ERDF – are of a lesser interest.

Before discussing the financing instruments for TEN-T, which is the main subject of this study, we provide an overview of the TEN-T policy debate in this chapter. The concept of TEN-T policy, its main objectives and a brief overview of the networks are explained in section 2.2. This includes the history of the TEN-T and the on-going revision of the policy. Next, a brief introduction is given to the financing of TEN-T in section 2.3. This includes a summary of both the experience with the financing of TEN-T over the last few years and the main elements in the proposals regarding financing of TEN-T for the next financing period, 2014-2020.

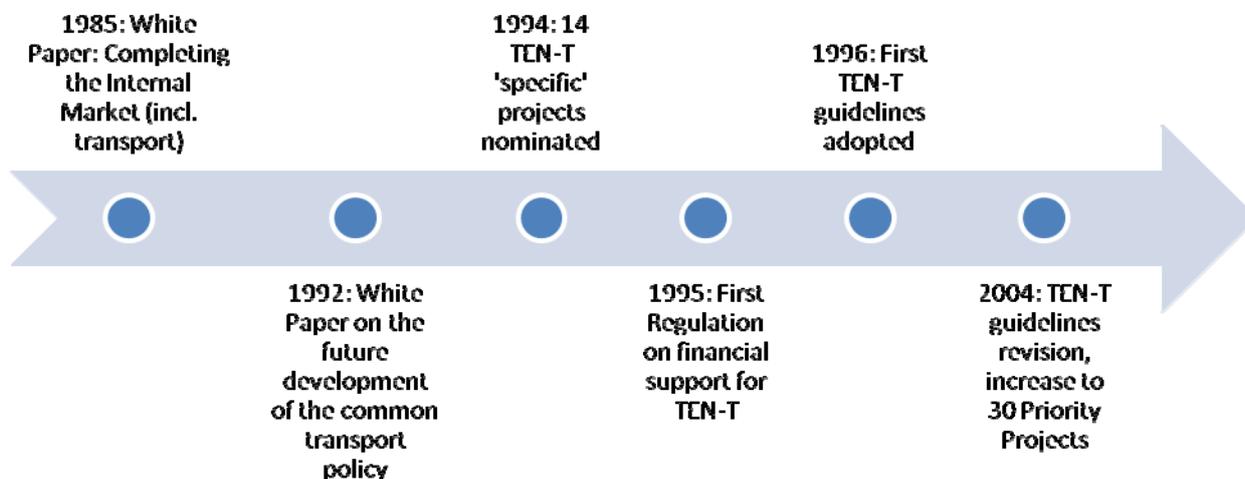
<sup>2</sup> The TEN-T comprehensive network consists of "all existing and planned infrastructure meeting the requirements of the Guidelines". Article 4 determines the objectives of TEN-T and Annex I consists of maps of the comprehensive network. (COM(2011) 650/2).

<sup>3</sup> A methodology for the design of the core network can be found in [http://ec.europa.eu/transport/infrastructure/doc/web\\_methodology.pdf](http://ec.europa.eu/transport/infrastructure/doc/web_methodology.pdf).

## 2.2. European transport policy

### 2.2.1. The history of European transport policy

Figure 1: Time line on the history of the TEN-T



Before 1985, transport policy in Europe was mainly a national issue, even though transport had already been an element in the Treaty of Rome of 1957. This changed with the publication of the White Paper "Completing the Internal Market" in 1985, which stated that internal frontier controls with respect to the transport of goods would have to be eliminated (COM(85)310). Subsequently, in 1992 the White Paper "The Future Development of the Common Transport Policy" was published (COM(92)494), which was the first Commission document containing a coherent vision of a European transport policy. It defined the establishment and development of trans-European transport networks as a Community policy goal, and called for the interconnection and interoperability of national networks to achieve this goal. Transport policy was still very much motivated by the deepening of the internal market, which required good transport links between countries. From the document, it becomes clear that European transport policy is not just concerned with infrastructure, but also with the environment, research and development, safety issues, technical harmonisation, etc.

In 1994, the European Council defined fourteen projects at a meeting in Essen (Germany) that were of particular importance to the development of the trans-European transport network. To stimulate the development of these projects, the next two years saw the adoption of the first Regulation establishing rules for financial support<sup>4</sup> for TEN-T (EC No 2236/95) and the first guidelines for the TEN-T (Decision No 1692/96/EC)<sup>5</sup>.

In 2004, these two documents were revised to take account of the enlargement of the EU (Regulation (EC) No 807/2004 and Decision No 884/2004/EC, respectively) and at the same time, the list of priority projects (PP) was extended to thirty (see Annex II for a map). In addition various so-called horizontal projects were defined on cross-cutting issues like traffic management systems, improving interoperability of railway networks and measures to

<sup>4</sup> This financial support is referred to in this report as the TEN-T programme, and it is the only European financial instrument that is exclusively geared towards TEN-T projects. Note that not all amending acts for the Regulation of 1995 and the Decision of 1996 are mentioned in this chapter.

<sup>5</sup> This means that the fourteen Essen projects were established before the TEN-T network was laid out in the 1996 guidelines. Before 1996, the term 'trans-European transport networks' was used in a more general sense, rather than that it was a clearly defined network.

promote maritime and inland waterway transport. The enlargement of 2007 again required a revision of the guidelines (Regulation (EC) No 1791/2006). Also, Regulation (EC) No 680/2007 established that TEN-T policy is supported by a TEN-T programme of around EUR 8 billion in the current MFF period (2007-2013). Finally, Decision No 661/2010/EU, essentially a recast of the TEN-T guidelines taking into account several amendments since 1996, was adopted.

### 2.2.2. The TEN-T policy review

Figure 2: Timeline on the TEN-T policy review



To gain a complete picture of the effectiveness of the TEN-T programme, a policy review of TEN-T policy took place in the build-up towards the new Multi-Annual Financial Framework 2014-2020. The policy review encompassed a number of steps.

In 2009 a Green paper (COM (2009)44) was the basis for the first stakeholder consultation. The main question that was posed in this paper was whether the current “dual layer structure” of TEN-T policy – including a comprehensive network as well as unconnected Priority Projects – should be continued. The large majority of the respondents believed that the dual layer structure should be changed into one with a comprehensive network and a “core network”, rather than separate Priority Projects (European Commission, 2010e).

On a broader EU level, the EU 2020 strategy (COM(2010)2020) was launched in March 2010, which is the overarching EU strategy for the period up to 2020 within which other policy frameworks will be developed. The objective of Europe 2020 is to achieve smart, sustainable and inclusive growth. The strategy reiterates the need for more coordination and a focus on projects with high European added value. Furthermore, the strategy notes that Europe must create innovative instruments to finance the investments needed and to facilitate access to capital markets.

As the follow-up to the first consultation, a new second public consultation was launched with a document on the future TEN-T policy (COM (2010) 212) incorporating this EU 2020 strategy. Strengthened by the support of the stakeholders in the first public consultation, the Commission proposed a core network<sup>6</sup> of which the design should take into account resource efficiency and GHG emission reduction. The most important remaining question in the document was how to close the funding and implementation gap regarding TEN-T projects.

<sup>6</sup> A definition of the core network is provided in section 2.2.3.

Also, from November 2009 to April 2010 six expert groups appointed by the Commission analysed particular issues for TEN-T policy more thoroughly. Of these, expert group No. 5 dealt with the funding and financing of TEN-T and the engagement of the private sector in particular. Some of its suggestions on how to improve the current funding scheme will be discussed later in this study.

Subsequently, the mid-term review of the TEN-T Multi-Annual Work Programme (MAP)<sup>7</sup> published in October 2010 concluded that the policy changes in the 2007-2013 MFF period compared to the previous MFF period had had a positive impact on the implementation of TEN-T policy (European Commission, 2010d). These policy changes included the appointment of European Coordinators and an increase in the overall budget and co-funding rates (especially for cross-border sections). According to the mid-term review, the European Coordinators – appointed in 2005 and 2007 to speed-up the progress of certain Priority Projects – have indeed facilitated international cooperation and actively supported a platform on which political and technical issues can be solved. Moreover, the higher co-funding rates established a higher leverage effect of the EU contribution, but the leverage could be even higher if more private finance was attracted. Finally, it concluded that there was room for further improvement of TEN-T policy through further refinement of selection criteria and improved project monitoring and reporting.

A report published in December 2010 by the TEN-T Executive Agency (TEN-T EA, 2010) concluded that with a view to Priority Projects specifically, the TEN-T policy had shown diverging results. Some projects are regarded as a success story (such as PP11 Øresund fixed link) while others are still a long way from being finished. A key factor for success was found to be long term funding commitment, particularly when more than one level of government or more than one Member State is involved.

In January 2011, a Commission working document (SEC(2011)101) summarised a number of (remaining) critical issues with respect to TEN-T policy, which formed the basis for the revision of TEN-T policy:

- “TEN-T rather consists of an assembly of national sections that are only poorly interlinked”; especially good cross-border links are missing;
- Interoperability programmes (such as ERTMS for rail) and intelligent transport systems are not yet fully implemented;
- Different operational rules and standards (e.g. language requirements, document handling) are undermining European transport efficiency;
- Intermodal integration (e.g. the existence of intermodal transshipment facilities) is lacking.

It also defines “the centre piece of the new TEN-T policy: An integrated multi-modal network spanning the continent, triggering further economic growth and competitiveness and mitigating environmental impacts” (SEC(2011)101).

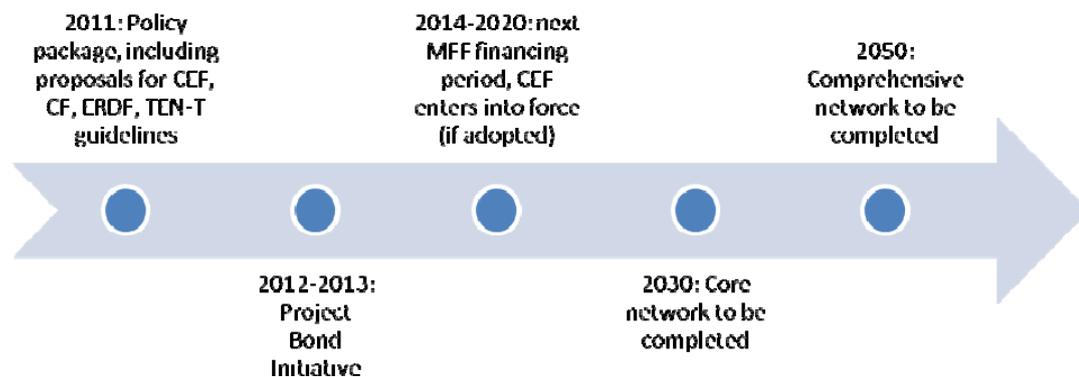
Before we move on to the new proposed TEN-T policy, it is useful to note that the Transport White Paper of March 2011 (COM(2011)144) mentioned the need for a funding framework taking into account both the TEN-T programme and the Cohesion and Structural Funds (Initiative 37) as well as the need to stimulate private sector engagement through PPPs and projects bonds (Initiative 38).

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<sup>7</sup> The MAP represents the largest component of the TEN-T programme and targets only Priority Projects and horizontal priorities as identified in the TEN-T Guidelines (European Commission, 2010d). In 2006 the Trans-European Transport Network Executive Agency was established which aims at supporting the European Commission and TEN-T project managers and promoters, by ensuring the technical and financial management of the projects and the successful implementation of the TEN-T Programme.

### 2.2.3. The proposed TEN-T policy (2014-2020)

Figure 3: Timeline on the future of TEN-T policy



In June 2011 the Commission proposals concerning the new MFF period 2014-2020 were published under the title: A Budget for Europe 2020 (COM (2011) 500: part I and Part II) These documents underline the need for a stronger focus on EU added value, delivering key policy priorities, simplification of funding rules and conditionality of funding (e.g. in cohesion policy). Also the possibility to attract private sector finance in order to leverage the EU budget is a key message.

More specifically related to transport, it is estimated that EUR 540 billion<sup>8</sup> need to be invested into the trans-European transport network from 2014-2020 (COM(2011) 500). In order to provide more focus in European funding, the Commission proposes a Connecting Europe Facility to fund pre-identified transport infrastructure of EU interest which are consistent with sustainable development criteria.

Subsequently, a TEN-T policy package came out on the 19th of October, 2011 including a proposal for establishing the Connecting Europe Facility (COM(2011) 665/3), a proposal for the new TEN-T guidelines (COM(2011) 650/2) and a communication on a pilot for the Europe 2020 Project Bond Initiative<sup>9</sup>. The new TEN-T funding framework contains a number of key elements:

- 1) The CEF is a European funding instrument for transport, energy and ICT. It refers to the TEN-T guidelines, which set criteria (e.g. interoperability requirements such as the deployment of ERTMS and minimum/maximum conditions on axle load, train lengths, etc.) that are binding for all projects that will receive funding from the CEF, including the current Priority Projects. The proposal for the new TEN-T guidelines (COM(2011)650/2) is a proposal for a Regulation, whereas the previous guidelines were a Decision.
- 2) The TEN-T framework consists of two layers: the current 'comprehensive network' and the new 'core network'. The core network consists of the strategically most important parts of the comprehensive network, including the current Priority Projects. Whereas

<sup>8</sup> In the CEF proposal (COM(2011)665/3), it is stated that "The completion of the trans-European transport networks requires about EUR 500 billion by 2020". By TEN-T, the comprehensive network is meant. Lasserre (2010) notes that for the period 1996-2020 in total EUR 900 billion is needed for the full TEN-T network, of which 500 billion is remaining.

<sup>9</sup> The versions of the documents used for this study are those found on the DG MOVE web page, which are updates of the originals released in October 2011 (i.e. COM(2011) 665/1 and COM(2011) 650/1).

the PPs have been defined on the basis of national priorities, the core network is based on a commonly agreed methodology<sup>10</sup> which determines the main nodes in the network (COM(2011) 650/2). The core network comprises 83 major urban nodes<sup>11</sup> – including their entire relevant multimodal infrastructure that is part of the comprehensive network (rail, road network), ports and airports -, 83 ports and the 46 most relevant border crossing points. In fact, the design of a core network is a way of prioritising EU infrastructure spending. The core network should be completed by 2030 and the comprehensive network by 2050.

- 3) The corridor approach has been developed to improve implementation by facilitating coordination between Member States and other relevant stakeholders. The core network corridors – which are designated corridors on the core network - are based on important rail freight corridors and will cover at least three Member States, three transport modes and a maritime port, where possible (see Annex III for a map of the core network corridors). The corridors will be a coordination platform for “capacity management, investments, building and coordinating multi-modal transshipment facilities, and deploying interoperable traffic management systems” (COM(2011) 650/2). In other words, the corridors are not only intended to coordinate the physical infrastructure, but also the ‘soft infrastructure’ (e.g. the coordination of services that will be provided on the network). There will be 10 multimodal network corridors, each presided by a European Coordinator<sup>12</sup>.
- 4) The CEF will fund the projects on the core network that have the highest European added-value: cross-border missing links, key bottlenecks and multi-modal nodes.
- 5) The alignment of TEN-T and Structural/Cohesion funds will be improved by ring-fencing EUR 10 billion of the Cohesion Fund for the Connecting Europe Facility. The projects eligible for CF funding under the CEF will have to fulfil the criteria set for the CEF, but the funding will be limited to projects in countries eligible to the CF. The EUR 10 billion will be centrally managed by DG MOVE (most likely the TEN-T Executive Agency). The maximum co-funding rates will be equal to those of the Cohesion Fund. The strategic and operational alignment of the different funds will be discussed in more detail in chapter 4.
- 6) The funding framework foresees a significant role for innovative financing instruments to leverage CEF funding. Therefore, the EU Project Bond initiative will be tested in the years 2012-2013 (see section 3.4.5).
- 7) The conditionality of CEF funding will receive even more attention; the “use-it-or-lose-it” principle shall be enforced through regular reviews by the EU (Ouaki, 2011). The TEN-T Mid-Term Review for the current MFF period (2007-2013) concluded in 2010 that EUR 311 million would not be used within a reasonable timeframe (usually before the end of 2015, which equals the MFF + 2 years), which is why the money was released and made available for other TEN-T projects through new calls for proposals (European Commission, 2010d). In the future, a similar mechanism can be expected.

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<sup>10</sup> Apart from identifying the main nodes (as explained in the main text), the methodology includes a second step which is connecting the main nodes by multimodal links (road, rail, IWT), taking into account availability or feasibility, effectiveness and efficiency and preferably using existing infrastructure.

<sup>11</sup> Comprising “all Member States’ capitals, all MEGA cities according to ESPON and all other large urban areas or conurbations” (COM(2011) 650/2),

<sup>12</sup> Currently, there are 9 European Coordinators for specific Priority Projects that are the most complicated and show the least progress. In the new proposals, the EU coordinators will be responsible for the core network corridors, which are broader than the Priority Projects.

In the coming months, the Commission proposals will be debated upon by the Parliament and the Council of the European Union.

## 2.3. Financing of TEN-T

Major transport infrastructure projects require considerable investment. In the case of TEN-T in general and the larger projects of the core network in particular, this can place a high burden on the budgets of individual Member States. Therefore usually other investors are engaged to share the financial burden. These other financing sources for TEN-T include:

- EU funding (e.g. from the TEN-T programme, European Regional Development Fund (ERDF) or Cohesion Fund (CF));
- Loans from banks such as the EIB and EBRD or commercial banks;
- Private sector investments.

Except for grants, investments need to be paid back over the (economic) lifetime of the project. So ultimately the costs of the project are always paid by either the general tax payer or the users in the form of user charges (e.g. the French motorway tolls).

In this section we briefly summarise the current practice of financing of TEN-T projects. This will be done for the current MFF period 2007-2013 (section 2.3.1) and the next MFF period 2014-2020, which at this moment (June 2012) is still based on a proposal (section 2.3.2).

### 2.3.1. Financing of TEN-T 2007-2013

The TEN-T policy consists of various financial and non-financial instruments for supporting the development and integration of these main European transport networks. The non-financial instruments include, among others, technical support (provided by the TEN-T Executive Agency, EIB as well as EPEC and JASPERS (see also section 4.4)). In addition there are EU coordinators for the Priority Projects.

Among the financial instruments, the TEN-T programme supports hundreds of projects<sup>13</sup> (studies or works) in all EU Member States, covering all modes of transport (road, rail, maritime, inland waterway and air transport) as well as logistics, co-modality and innovation. However, since the inception of the TEN-T, the largest share in the financing of TEN-T infrastructure is from other resources. Also in the current MFF period 2007-2013 this has been the case. The total investment is expected to amount to EUR 390 billion, in which the share of other (national) resources in total financing is 73% (EUR 285 billion) (see Table 1 and Figure 4). The other 27% (EUR 105 billion) is financed by the EU (including EIB loans and guarantees).

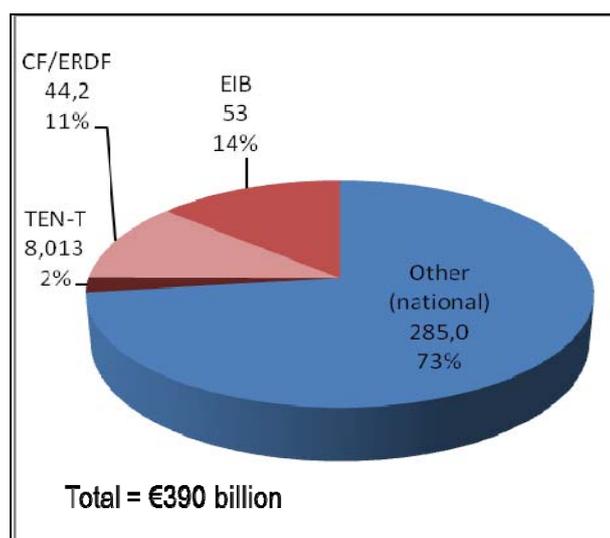
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<sup>13</sup> It must be noted here that large projects such as the current Priority Projects are cut down into smaller segments, which are funded by the TEN-T EA according to a multi-annual Work programme.

**Table 1: Financing of TEN-T (EUR billion, 2000-2013)<sup>14</sup>**

	TOTAL		PRIORITY PROJECTS		NON-PRIORITY PROJECTS	
	2000-2006	2007-2013	2000-2006	2007-2013	2000-2006	2007-2013
<b>Total cost</b>	<b>302</b>	<b>390</b>	<b>94</b>	<b>154</b>	<b>208</b>	<b>236</b>
EU-12	27	72		16		56
EU-15	275	318		138		180
<b>Total Community/Union contribution</b>	<b>71</b>	<b>105</b>	<b>31</b>	<b>47</b>	<b>40</b>	<b>58</b>
TEN-T	4	8	3	5	2	3
CF+ERDF	25	44	12	17	13	27
EIB loans & guarantees	41	53	16	25	25	28
<b>Other resources (national)</b>	<b>231</b>	<b>285</b>	<b>63</b>	<b>107</b>	<b>168</b>	<b>178</b>

Source: European Commission (2011a), own minor calculations, PPs exclude Galileo.

**Figure 4: Financing sources of investments in TEN-T (EUR billion and %, 2007-2013)**

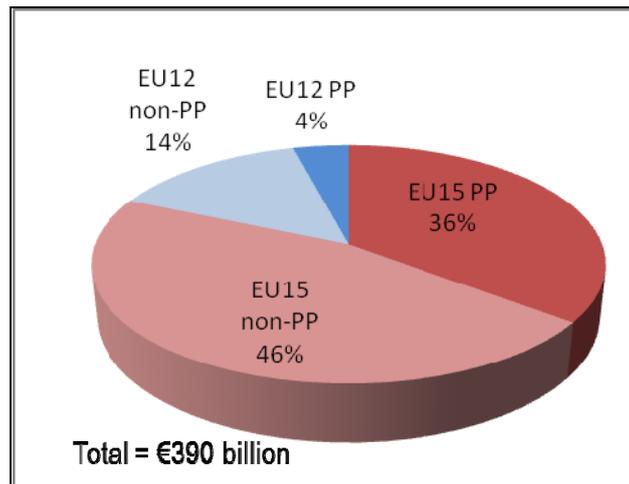
Source: European Commission (2011a).

One lesson that could be drawn from Figure 4 is that, given the fact that the EU financing instruments<sup>15</sup> and especially the TEN-T programme are relatively small, the strategic and operational alignment of these instruments is of vital importance.

<sup>14</sup> This information from the European Commission (DG MOVE) is the only rather detailed overview of TEN-T financing that has been made public. The numbers for the period 2007-2013 are estimates, as this period is not over yet. The total contribution of CF + ERDF in this table (EUR 44.2 billion) deviates from approved spending on TEN-T in the CF and ERDF in section 3.2.2, which totals EUR 37.7 billion. Part of this difference can be explained by the fact that for ports and airports, no distinction is made between TEN-T and non-TEN-T investment for these modes (see Table 7). Together, the approved budget for these is EUR 5.2 billion. The reader should bear in mind that it is not clear from the underlying figures of Table 2 whether "other resources (national)" contain 1) only public resources or also all private ones and 2) only national or also international sources.

<sup>15</sup> This consists of resources from the EU budget (TEN-T and CF/ERDF) and EIB loans and guarantees, whereas the term EU funding usually refers to the EU-budget.

**Figure 5: EU-12/EU-15 share in TEN-T financing (2007-2013)**

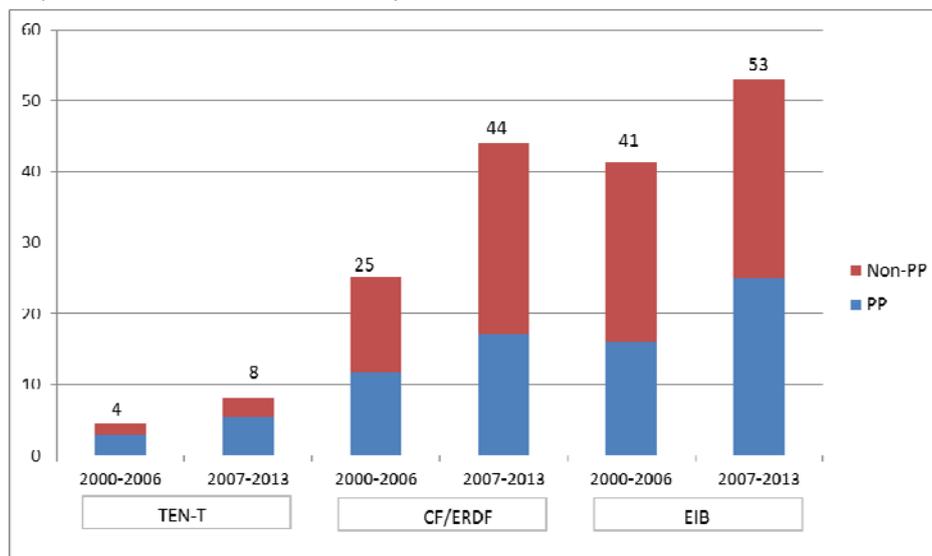


Source: European Commission (2011a).

It follows from Figure 5 that the bulk of the investments in the TEN-T (more than 80%, EUR 318 billion) are made in the EU-15 countries, while only EUR 72 billion is invested in EU-12 countries. In the EU-15, Priority Projects receive 43% (EUR 138 billion) of total EU-15 financing, whereas in the EU-12 countries this percentage is only 22% (EUR 16 billion) of total EU-12 financing.

To stimulate and encourage the delivery of the TEN-T by 2020 and in particular to facilitate financial viability for those cross-border transport links of high European added value, a range of EU financing instruments has been established. In addition to funding from the TEN-T programme and the Cohesion and Structural Funds, TEN-T projects can be financed by the EIB (through traditional loans and via innovative financing instruments<sup>16</sup>). Figure 6 provides a break-down of the contribution of the different EU instruments to TEN-T projects in the MFF periods 2000-2006 and 2007-2013.

**Figure 6: Breakdown of EU financing of TEN-T Projects (2000-2013, EUR billion)**



Source: [http://ec.europa.eu/transport/infrastructure/ten-t-funding-and-financing/funding\\_en.htm](http://ec.europa.eu/transport/infrastructure/ten-t-funding-and-financing/funding_en.htm).

<sup>16</sup> The term 'Innovative financing instruments' is used in this report to refer to any intervention other than grant funding or standard EIB/EBRD bank loans. Please note that the SFF/SA is sometimes referred to as an innovative financial instruments, sometimes not.

It follows from Figure 6 that the contribution of the TEN-T programme has been relatively small in both periods. In 2007-2013, the CF/ERDF and the EIB have provided the most EU financing.

### 2.3.2. Financing of TEN-T 2014-2020

In A Budget for Europe 2020, it is estimated that EUR 540 billion need to be invested into the TEN-T from 2014-2020. However, no arguments are put forward to support this claim. The pre-identified projects in the CEF proposal are estimated to require an investment of EUR 237.6 billion<sup>17</sup>.

Table 2 provides an overview of the current EU financing of TEN-T infrastructure (2007-2013) as well as the proposed EU financing for the period 2014-2020.

**Table 2: Overview of (proposed) EU financing of TEN-T infrastructure 2007-2020 (EUR billion)**

INSTRUMENT	2007-2013	2014-2020 (PROPOSED)
TEN-T programme/ CEF	8	31.7 (including 10 from CF)
CF + ERDF	44.2	Estimate : 41.1 <sup>18</sup>
EIB	53	Demand driven

Source: European Commission (2011a), COM(2011) 665/3 and own estimate.

It can be concluded that the proposed TEN-T programme for 2014-2020 - which is now incorporated in the CEF - was scaled up significantly compared to the current MFF period, when it was just EUR 8 billion. If adopted, the proposals indicate that in terms of total budget, the CEF will become more in line with the CF and ERDF. In Chapter 3, other significant changes compared to the previous MFF period will be discussed, not only with respect to the reform of the TEN-T programme but also concerning EU regional policy.

The impact of the recent economic crisis has put national public budgets under pressure and the funding gap has also received attention in the public consultations. As noted by Expert Group 5 (2010), Member States could raise infrastructure funding through user charges that are based on the internalisation of external costs. Furthermore, also applying user charges based on the infrastructure costs more commonly could increase infrastructure funding. However, these funding sources are politically sensitive, and they are part of a wider debate (see for example COM(2008)435). Still, user charges look set to play an increasingly important role in the innovative financing instruments going forward (see section 3.4 and 4.2.6).

<sup>17</sup> COM(2011) 665/3 page 85, see section 3.2.1 for a further elaboration.

<sup>18</sup> See information in factsheets in Section 3.2.2. This estimate is based on the total budget for the CF and ERDF proposed for 2014-2020 (EUR 252 billion), and the estimated share of spending on TEN-T (16.3%) within the current total budget of CF and ERDF (EUR 271 billion).

### 3. FINANCING INSTRUMENTS: TECHNICAL ASPECTS AND POLICY ISSUES

#### KEY FINDINGS

- Three types of EU financing instruments and sources exist: EU grant funding, EIB (EBRD) bank financing and innovative financial instruments.
- The proposals for the post-2013 MFF include some important changes. The TEN-T programme will be merged in the CEF and the Project Bond Initiative – if successful – is likely to replace the LGTT.
- With respect to the CF/ERDF, the most important changes compared to the previous programming period will be a strengthening of the strategic programming. However, how this will work in practice remains to be seen.
- PPPs are a way of structuring a project and attracting private sector finance. Although increasingly popular, it should be borne in mind that they are not a global panacea. Recent PPP projects have shown mixed results, many have been very successful but some have become financially unsustainable often due to the failure to generate traffic and others are perceived to have been renegotiated at a disadvantage to the public sector.
- Key issues with respect to the Project Bond initiative concern risk transfer and the high leverage attached to the innovative financing instruments. This leverage is very uncertain. However, if successful, project bonds could be a cost effective way of stimulating investments in TEN-T.

#### 3.1. Introduction

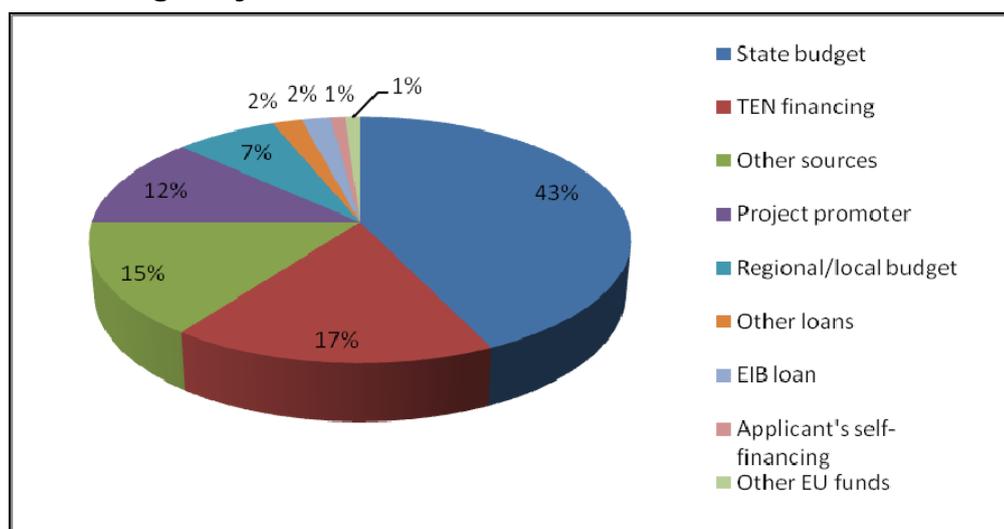
There are various sources and instruments that can be and are used for financing TEN-T infrastructure. The main financing sources are:

- Member States, at the national or sub-national level;
- Contributions paid from the EU-budget, often in the form of direct investment grants, capital contributions or operating subsidies;
- Public policy banks – the international ones are alternatively known as international financial institutions (IFIs) - such as the EBRD or the EIB;
- The project promoter;
- Commercial banks;
- The bond market;
- The private capital (equity) market; and
- User fees<sup>19</sup>.

Figure 7 takes a different categorisation but is very useful for gaining an understanding of the different TEN-T financing sources.

<sup>19</sup> User fees do not provide finance in the initial (construction) stage of the project. Therefore, they are rather a future financing source that can be used to repay loans, for example.

**Figure 7: Sources of financing of TEN-T projects (on-going and closed by 2010) managed by TEN-T EA**



Source: Panagopoulou (2011).

Turning from sources to the financing instruments themselves, the range available to European infrastructure projects is considerable. However, many of them are simply variants of each other. Although not exhaustive, the key instruments are described below.

- **Grants.** These are simply transfers made in cash, goods or services for which no repayment from the recipient is required. Despite conditions being attached to grants, there are sometimes concerns about the value that recipients place on 'free money'. Other issues surrounding grants include the potential for market distortions and the fact that donors' monitoring and controls may be weak once the grant has been disbursed (ODI et al, 2011).
- **Debt (loans or bonds).** These are transfers for which repayment is required. Bank loans come in various guises. Typically they are characterised by a face (or nominal) value which is the amount of money received by the borrower, an interest rate (the cost of borrowing – higher for high-risk undertakings) and maturity (or tenor) – the term of the loan over which the repayments are due. Short-term loans may require repayment within a year whereas long-term loans can stretch for 20 years; sometimes longer. Loans can also be categorised by where they sit in a company's or project's capital structure. The capital structure simply describes the financing mix and repayment priorities. A 'senior' loan is repaid first before 'subordinated' loans (sometimes known as junior or mezzanine debt). Furthermore, loans may be secured or unsecured. In case of secured lending, the borrower pledges a specific asset as collateral for the loan. In the event of default, the lender may take possession of the asset and sell it. Unsecured lenders do not benefit from such arrangements and commonly charge higher interest rates in response. Bonds are similar to loans insofar as they are simply another debt instrument. By issuing bonds (simply a form of 'I-owe-you'), investors (bondholders) – as opposed to banks – can invest in companies or projects.
- **Equity.** Equity is the provision of risk capital, normally by project stakeholders, parties which have an interest in the realisation of the project. A construction company, for example, may contribute equity to the financing structure of a PPP it is involved in. Equity can also be provided by third-parties. Infrastructure funds and – increasingly – pension funds are contributing equity to a number of transport projects

across Europe (and beyond). Equity represents the residual claim or interest of the most junior class of investors in a project (see Table 3). In the event of project distress, equity will be used first to solve any problems – thus providing a shield to finance providers further up the capital structure. Under normal circumstances, equity holders will only receive payments (dividends) if projects are performing in-line with or beyond expectations. Debt providers, on the other hand, are due repayments irrespective of project performance.

**Table 3: Infrastructure Finance: Illustrative Capital Structure**

RISK	CAPITAL STRUCTURE	PRIORITY OF PAYMENT
Low	Senior secured debt	First
↓	Senior debt	
	Subordinated debt	
High	Equity	Last

There are other financing instruments available to EU transport projects, the more common of which include:

- **Interest rate subsidies.** Grants can be and are provided in the form of interest rate subsidies or rebates. These subsidies are generally more useful in environments characterised by high or highly volatile interest rates.
- **Loan guarantees.** These are legally binding agreements under which a third-party guarantor (commonly a bank with a high credit rating) agrees for a fee to pay any or all of the amount due on a loan in the event of non-repayment by the borrower. The provision of a loan guarantee can encourage some banks to finance projects that they would otherwise avoid because of perceived credit risks.
- **Technical assistance.** Although not strictly a financing instrument, it is worth mentioning that grant funds can also be used to finance technical assistance and project feasibility studies. The EU already provides finance in the form of technical assistance to help transport projects during their early developmental stages and to prepare and structure them – appropriately – for other financiers and project participants later.

These financing instruments are commonly used in combination. Public-private partnerships, for example, typically employ a blend of bank finance (debt i.e. loans) and shareholder funds (loans and/or equity). Specific contractual provisions (and lender protections) incorporated in transaction structures allow many PPPs to be aggressively financed with a high proportion of debt (over 90%) and a much lower equity contribution (less than 10%).

Another form of blended finance which has become increasingly popular with the EU over recent years is called loan/grant blending (LGB; see Robinson and Bain, 2011 for full details). These arrangements commonly substitute for traditional grant finance alone. By incorporating a loan – generally of a small size – projects to be financed benefit from the usual upfront due diligence performed by lenders. This acts as a screening device; measuring the commercial viability of the project, evaluating the project counterparties and their capabilities and ensuring that projects are contractually and financially appropriately structured. And as lending institutions perform regular loan 'surveillance', loan/grant blending ensures that projects are the subject of ongoing scrutiny and monitoring.

Loan/grant blending also places responsibilities on recipients (borrowers) who have to comply with the terms of the loan. This instils financial discipline that otherwise might be absent, and can therefore be used for institutional development purposes. But perhaps most importantly,

loan/grant blending can be used in the long run as a technique to move away from grant-dependency by gradually, over time, increasing the loan component and reducing the grant. Recent reviews of the use of loan/grant blending by the EU have generally reported very positively (ibid). There is every indication that loan/grant blending will become increasingly prevalent in the future. Table 5 provides a summary overview of the main types of financing sources and instruments for investments in the TEN-T.

**Table 4: Financing sources and financial instruments (2007-2020)**

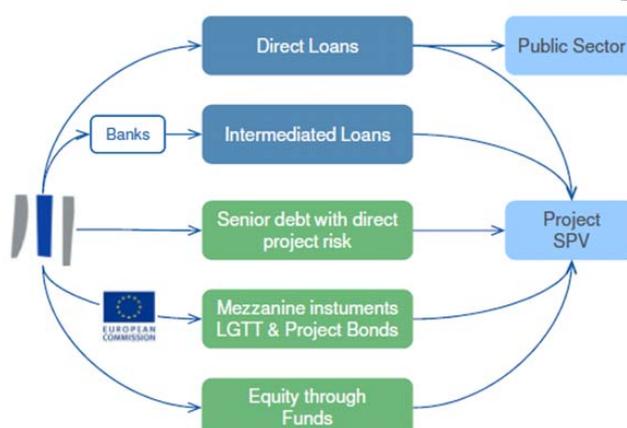
EU FUNDING	BANK FINANCING	PPPs AND INNOVATIVE FINANCING INSTRUMENTS
TEN-T programme (2007-2013) Connecting Europe Facility (2014-2020)	EIB (standard loans)	PPPs
ERDF	EBRD	LGTT EU Project bonds (2012-2013)
Cohesion Fund		Marguerite Fund SFF/SA

**Note:** These are not all financial instruments/sources for TEN-T, but only the ones that are discussed in this study.

The nature of these various options differs considerably. While most of EU funding are grants, the contribution from the banks is usually a loan. Although in both cases the costs are ultimately paid by either the general tax payer or the infrastructure users, the impact on government budgets is evident.

There is a trend to engage also private investors, usually in the form of public private partnerships (PPPs). To stimulate private investments, various innovative financing instruments have been developed, in which the EIB plays a role. In fact, the EIB plays several roles in TEN-T financing. It provides standard loans<sup>20</sup>, however, under the SFF/SA the EIB also provides other loans, namely those that are more risky than usual. Furthermore, the EIB plays a role in the LGTT and the Project Bond Initiative (see Figure 8 for an overview). In Figure 8, the beneficiary is either the public sector or a project SPV. This is a legal entity that is created specifically for the purpose of realising the project. This is typically done by companies in order to shield the company off from financial risk (e.g. in the case of failure of the project).

**Figure 8: Overview of the role of the EIB in TEN-T financing**



Source: Jennett (2011).

<sup>20</sup> Aside from its direct lending operations, the EIB provides 'Global Loans' (finance facilities administered through intermediaries i.e. third-party banks and financing institutions).

Table 5 presents the main characteristics of the financing sources and financial instruments mentioned in Table 4.

**Table 5: Main characteristics of TEN-T financing sources and financial instruments**

FINANCING SOURCE/ INSTRUMENT	TYPE OF FUNDING	BUDGET 2007-2013 (EUR BILLION)	PROPOSED BUDGET 2014-2020 (EUR BILLION)	MANAGEMENT	MAX. CO-FINANCING RATE****
TEN-T programme	Mainly grants	8	--	EC/TEN-T EA	50%
CEF	Mainly grants	--	31.7	EC/executive agency	50%
Marguerite Fund	Equity	1.5**	Not known	Core sponsors (banks)/EC	10%
LGTT/EU project bonds	Guarantees	1*** 0.23 for project bonds	Not determined yet, will fall under CEF	EIB/EC	20%
ERDF	Grants	81.7*	Not known ex ante	Member states/EC	85%
CF	Grants		Not known ex ante	Member states/EC	85%
EIB	Standard loans (80%) and innovative instruments	53	Demand driven	EIB <sup>21</sup>	75%
	SFF/SA loans		Demand driven	EIB	Max. EUR 300 million
EBRD	Loans	Not known	Demand driven	EBRD	N/a
National, regional, local governments	Grants	Not known	Not known	National, regional, local government	100%
	Loans				
	Guarantees				

**Source:** Fact sheets on the various financing instruments presented in section 3.2, 3.3 and 3.5 of this report.

\* Part of this is for non-TEN-T projects. Together, the ERDF and CF contribute around EUR 44 billion to TEN-T financing (which is approximately half of EUR 81.7 billion allocated to transport). See also footnote 61.

\*\* Of which 80 million comes from the TEN-T programme.

\*\*\* Of which 500 million comes from the TEN-T programme.

\*\*\*\* More information on the specific co-financing rates per spending category can be found in the factsheets in the remainder of this chapter.

Besides the financing sources mentioned in Table 5, a project can benefit from funding by commercial bank financing, bonds and equity (provided by project shareholders or third parties such as pension funds). As a result, the financing of a TEN-T project can become complicated (see Box 3.1 for an example).

<sup>21</sup> Note: EU Member States and the European Commission are represented in the EIB Board of Directors.

### **Box 3.1 Rail project Tours-Bordeaux**

[France, rail, ongoing, EUR 7.8 billion] part of PP3, [2005-FR-90601-S](#)

The Tours-Bordeaux railway PPP project is a good example of a project funded by different and diverse financing sources. It entails the construction of a High Speed Line between Tours and Bordeaux, which reduces the travel time for passengers and frees up space for freight trains on the existing track.

Financing sources (millions) that are combined in this project are:

- EUR 1,000 Réseau Ferré de France, RFF.
- EUR 3,000 Grants by the French state, local authorities and the EU.
- EUR 772 Shareholders' equity prefinanced by commercial banks and the EIB.
- EUR 1,672 Commercial bank loans of which 1060 guaranteed by the French State.
- EUR 757 Saving Funds (Caisse des Depots), guaranteed by RFF.
- EUR 400 EIB loans guaranteed by the French State.
- EUR 200 EIB (not guaranteed).
- Total financing = EUR 7,801 million (Verzier, 2011).

In addition to the sources listed above, there are three credit facilities. One of them is a LGTT 3.5 year credit facility of EUR 200 million.

The construction of this railway project (Phase 2: Tours-Angoulême) started in 2011, which means that it is too early to determine the success of this project (e.g. whether the construction will be on-time and on-budget). It will be interesting to see whether the LGTT will have to be used.

In the remainder of this chapter, the various types of financing sources and instruments are discussed, in section 3.2 (EU funding), 3.3 (lending by the EIB and EBRD), 3.4 (PPPs) and 3.5 (innovative financing instruments). The main characteristics are summarised in a factsheet, accompanied by a short discussion on the main issues identified in the on-going policy debate (the overarching issues and interactions are discussed in chapter 4). Furthermore, case studies are included to illustrate the main instruments and their policy issues.

## **3.2. EU grant funding**

As we have seen, the EU has various instruments to support the financing of EU infrastructure and the TEN-T in particular. In this section, we will discuss the TEN-T programme/CEF, the CF and ERDF.

### **3.2.1. TEN-T programme and Connecting Europe Facility**

In section 2.2, the background of TEN-T policy has already been discussed. The TEN-T policy is financially supported by means of the TEN-T programme, which currently finances transport infrastructure through different channels: co-financing of studies, direct grants for works, interest rate rebates on loans (including EIB loans), contribution to EIB for LGTT and risk capital participation (equity investment fund).

Projects receiving financing from the TEN-T programme are managed by the TEN-T EA. The contribution of the TEN-T programme to the total financing of TEN-T projects managed by the TEN-T EA is 17 percent (see Figure 7). Apart from financial support, the Commission also provides non-financial support, for example through the European PPP Expertise Centre (EPEC) and direct advice at the project level (Panagopoulou, 2011).

TEN-T PROGRAMME/ CONNECTING EUROPE FACILITY <sup>22</sup>	2007-2013	2014-2020
Definition/ Objective	"To establish a complete and integrated trans-European transport network, covering all Member States and regions [...] thereby maximising the value added for Europe of the network" (COM(2011)650/2).	"To accelerate the infrastructure development that the EU needs to reach the Europe 2020 Strategy's objectives as well as the "20-20-20" energy and climate change targets" (COM(2011) 665/3).
Legal basis of the instrument (where relevant)	Articles 170 and 172 of TFEU  Regulation (EC) No 680/2007, laying down general rules for the granting of Community financial aid in the field of the trans-European transport and energy networks.  Decision 661/2010 on Union guidelines for the development of the trans-European transport network.	Articles 170 and 172 of TFEU.  Proposal for a Regulation of the European Parliament and of the Council, establishing the Connecting Europe Facility (COM(2011) 665/3).  The proposal for a Regulation on TEN-T guidelines (COM(2011)650/2).
Geographical coverage	The TEN-T network in the EU-27, comprising of a comprehensive network on which 30 Priority Projects are located.	The TEN-T network in the EU-27 consists of a comprehensive network and its core network. On the latter, 10 core network corridors will be designated.
Total budget allocated	EUR 8.013 billion.  The contribution of the EC to the LGTT, the Marguerite Fund and the Project Bond Initiative take up max. EUR 580 million of this.	EUR 50 billion, of which EUR 31.7 billion for TEN-T infrastructure (incl. EUR 10 billion earmarked in the Cohesion Fund)
Budget management (centralised/ decentralised)	The TEN-T programme is centrally managed. The Commission (DG MOVE) sets the policy framework. The TEN-T Executive Agency is responsible for the day-to-day management.	The management structure proposed in the CEF proposal is similar to the current one. In addition to the 'own' funding, the EUR 10 billion of the Cohesion Fund will be centrally managed by DG MOVE as well. The EC will be supported by an executive agency <sup>23</sup> .
Forms of available project finance (e.g. loans, grants)	<ul style="list-style-type: none"> <li>• Co-financing of studies</li> <li>• Direct grants for works</li> <li>• Interest rate rebates on loans (including EIB loans)</li> <li>• Contribution to EIB for LGTT and Project Bond Initiative (max. EUR 500 million)</li> </ul> <p>Risk capital participation (Marguerite Fund, EUR 80 million)</p>	Similar to the 2007-2013 period. The instruments of the CEF for infrastructure will include grants, as well as 1) a risk-sharing instrument covering loans and bonds (similar to the Project Bond Initiative) 2) an equity instrument to develop EU-wide risk capital markets (COM(2011) 662).

<sup>22</sup> The information in this factsheet is based on COM(2011)650/2, COM(2011) 665/3, and European Commission (2011c).

<sup>23</sup> The executive agency is not specified in the proposal but we expect it to be similar to the TEN-T EA, except that it will facilitate the implementation of projects in all three sectors (transport, energy and ICT).

TEN-T PROGRAMME/ CONNECTING EUROPE FACILITY <sup>22</sup>	2007-2013	2014-2020
Main eligibility criteria	Project selection criteria include: economic viability, socio-economic impact, environmental consequences, the need to overcome financial obstacles (European Commission, 2011c).	(Pre-identified) projects of common interest (high EU added value) are eligible, which remove bottlenecks, contribute to sustainable transport and improve interoperability. These projects will almost exclusively lie on the core network. <sup>24</sup>
Max. co-funding rate	<p>The maximum co-funding rate depends on the subject:</p> <ul style="list-style-type: none"> <li>• Studies: 50%</li> <li>• Works: 30% for cross-border sections, 20% for other priority projects and 10% for non-priority projects</li> <li>• ERTMS: 50%</li> <li>• Road, air, IWT, maritime and coastal traffic management systems: 20%</li> </ul>	<p>The maximum co-funding rate depends on the subject</p> <ul style="list-style-type: none"> <li>• Studies: 50%</li> <li>• Works on rail and IWT 20%, except in case of bottlenecks (30%), or cross-border sections (40%)</li> <li>• ERTMS: 50%</li> <li>• Traffic management systems, freight transport services, secure parking on the road core network, Motorways of the Seas: 20%</li> <li>• Inland connections to ports and airports, noise reduction measures for rail freight and development of ports and multi-modal platforms: 20%</li> </ul> <p>These rates may be increased by up to 10%-point in case of actions having cross-sector synergies, reaching climate mitigation objectives, enhancing climate resilience or reducing GHG emissions. In case of the EUR 10 billion reserved under the Cohesion Fund, maximum co-financing rates will be equal to those of the Cohesion Fund.</p>

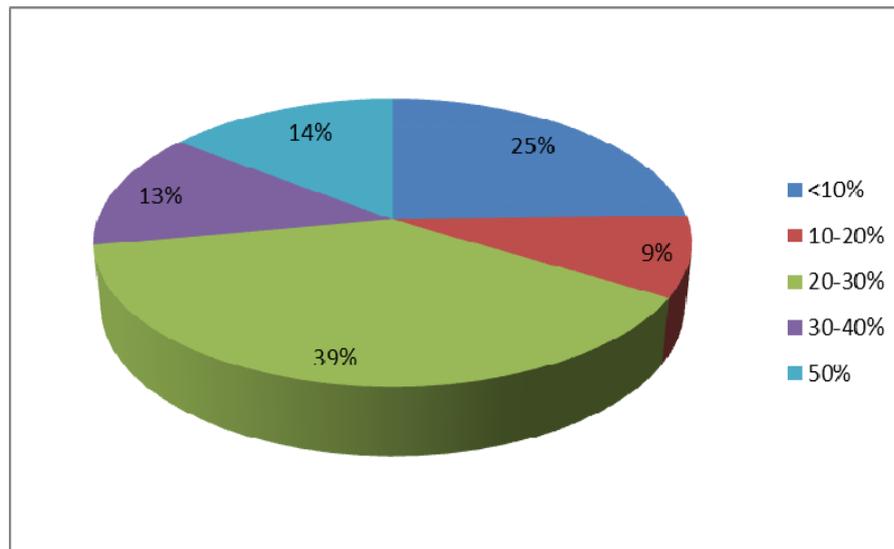
Section 2.2.2 introduced the problems that the TEN-T programme is currently facing:

- Co-funding rates are low, particularly for large infrastructural works, where the maximum co-financing rate is 30%. This is illustrated by Figure 9.
- There is a large financing gap.
- Cross-border links are missing, especially for rail and inland waterway transport.
- The intermodal use of the network is suboptimal. This despite the fact that the rail and IWT sectors are large beneficiaries of the TEN-T programme, receiving 61% and 9% of total funding of EUR 7.2 billion, respectively<sup>25</sup>.
- Interoperability (particularly for rail) is to some extent lacking.

<sup>24</sup> Although the objectives are clearly laid out in the proposals for the CEF and the TEN-T guidelines, the project selection process remains intransparent to us.

<sup>25</sup> See Figure 17 in Annex I.

**Figure 9: TEN-T funding of MAP projects, by TEN-T co-financing rate (2007-2013)**



Source: Mid-term Review of MAP projects (October 2010).

The proposed Connecting Europe Facility is the successor of the TEN-T programme, in the sense that it will absorb the TEN-T programme. It combines different types of financing: the (former) TEN-T programme, Cohesion funding and innovative instruments. Of the total CEF budget, EUR 31.7 billion will be reserved for investments in TEN-T.

CEF is designed to overcome key problems of TEN-T in particular regarding missing cross-border links, intermodality, interoperability (particularly for rail) and last but not least, the financing gap. The new Connecting Europe Facility proposal – set out in section 2.2.3 – tackles these issues in various ways, including:

- The 'patchwork' of Priority Projects will be built out to a single EU-wide Core Network and ten multimodal cross-border Core Network Corridors, which will be platforms for cooperation among Member States, users, regions, etc.
- The CEF Regulation – if adopted – will set criteria by means of the TEN-T guidelines on what each project receiving funding from the CEF should feature at minimum, such as being intermodal and interoperable.

It is proposed by the Commission that 80-85% of the CEF budget with respect to transport (EUR 31.7 billion, including the EUR 10 billion contribution from the CF) is allocated to pre-identified projects of common interest on the core network<sup>26</sup> in different categories (no further allocation is made to e.g. projects on the 10 core network corridors). This is not to say that the pre-identified projects necessarily get funding as they still have to apply for funding in the regular way: through calls for proposals. The list should rather be considered as a preliminary list of projects for the multi-annual work programme. The Commission has estimated that these pre-identified projects of common interest require a total investment of about EUR 237.6 billion<sup>27</sup> (COM(2011) 665/3):

<sup>26</sup> Transport investments of the CEF will be governed by the new TEN-T guidelines, which determine that projects will be selected through calls for proposals. These programmes are in turn based on Annex Part I: list of pre-identified projects on the core network in the field of transport (COM(2011) 665/3). It is not clear to us on the basis of which methodology these projects have been identified. It appears as if being on the core network corridors is enough to become a pre-identified project.

<sup>27</sup> Note, these are current prices. All other figures mentioned in this paragraph, such as the 31.7 billion Euro and 10 billion Euro from the Cohesion Fund mentioned in the factsheet, are expressed in 2011 constant prices.

- Horizontal priorities:
  - Projects on the 10 Core Network Corridors
  - Innovative Management & Services (such as SESAR, ERTMS)
- Other sections on the Core Network (not part of the Core Network Corridors).

The remaining 15-20% of the budget will be allocated to other projects:

- Innovative instruments managed by the EIB, which can be used to support the core network but also comprehensive network projects.
- New projects that are currently not on the list of pre-identified projects, but will apply in the course of the coming years to the annual calls for proposals.

The CEF transport budget is expected to finance EUR 150 billion of transport infrastructure investment with a budget of EUR 35.7 billion, according to the CEF proposal (page 85, all in current prices):

- EUR 2.3 billion allocated to innovative financial instruments will leverage EUR 40 billion of investments. However, no legal maximum to the total share of innovative financial instruments in the CEF budget is foreseen.
- EUR 11.2 billion funding from the Cohesion Fund will leverage EUR 11.5 billion of investments<sup>28</sup>
- EUR 22.2 billion of CEF funding will leverage EUR 98.5 billion of investments (with an average co-funding rate of 20%).

Some critical notes are in place, however. The uncertainty in these numbers is large, mainly due to the high leverage attributed to the innovative financial instruments. The extent to which this is realistic will be discussed in more detail in section 3.5.2.

### **3.2.2. Cohesion Fund and ERDF**

The current programming period for the ERDF, the European Social Fund (ESF)<sup>29</sup> (which are together referred to as the 'Structural Funds') and the Cohesion Fund runs from 2007 to 2013 and is the latest in a series of programming periods for these funds. Together these funds are an important element of the EU's Cohesion Policy. For the current programming period, the ERDF and Cohesion Fund are established by separate Regulations ((EC) 1080/2006 and (EC) 1084/2006). The two funds, and the ESF, are also covered by common general provisions and common implementing rules that are set out in other Regulations ((EC) 1083/2006 and (EC) 1828/2006), respectively). In October 2011, the Commission published a series of proposals for the equivalent Regulations for these funds and for the common provisions for the next programming period, which will run from 2014 until 2020 (COM(2011)612, COM(2011)614 and COM(2011) 615<sup>30</sup>), all of which will be adopted under the ordinary legislative procedure. More detailed implementing rules are likely to be published by the Commission after the final versions of the three Regulations have been adopted.

An overview of the key elements, and some of the main differences, between the current programming period and the proposals for the 2014-2020 programming period, is given in the factsheets below.

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<sup>28</sup> This comes down to an average co-funding rate of around 50% for the CF, which seems reasonable as the maximum co-funding rate is 85%.

<sup>29</sup> Note that the European Social Fund is not relevant in the context of this study, so is only mentioned in passing for the sake of completeness, where appropriate.

<sup>30</sup> An updated version was published in 2012.

COHESION FUND <sup>31</sup>		
Definition/ Objective	Assists eligible Member States to invest in transport and environmental infrastructure	
	2007-2013	2014-2020
Legal basis of the instrument (where relevant)	Article 161(2) of the TEC Regulation 1084/2006 of 11 July 2006 establishing a Cohesion Fund	Proposed legal basis: Article 177(2) of TFEU. Regulation 1084/2006 would be repealed by the proposed Regulation on the Cohesion Fund (COM(2011) 612)) <sup>32</sup> .
Geographical coverage and eligibility criteria	Member States with an average GNI/capita for 2001 to 2003 of less than 90% the EU-25 average in the same period <sup>33</sup> . For the 2007-13 period, the eligible Member States were the EU-10, plus Greece, Portugal and Spain, although in Spain's case this was on a transitional basis <sup>34</sup> . Subsequently, funds were also allocated to Romania and Bulgaria <sup>35</sup> . The Cohesion Fund and the structural funds had three objectives for the 2007-13 programming period: "Convergence", "Regional competitiveness and employment" and "European territorial cooperation" <sup>36</sup> ; the Cohesion Fund as such targets only the first one.	Member States with a GNI/capita of less than 90% the EU-27 average <sup>37</sup> . The eligible Member States will be decided upon once the Common Provisions Regulation enters into force. The Cohesion Fund and the structural funds would have two goals for the 2014-2020 programming period: "Investment for growth and jobs" and "European territorial cooperation" <sup>38</sup> ; the Cohesion Fund as such would target only the first one.
Total budget allocated (ex ante)	EUR 70 billion <sup>39</sup> With the underlying data obtained for this study, it is not possible to identify how much CF expenditure was on transport infrastructure; only the combined amount on both funds (see Table 6).  With respect to transport, assistance is given to actions in the following areas: <ul style="list-style-type: none"> <li>• Trans-European transport networks, particularly priority projects of common interest</li> </ul>	EUR 68.7 billion <sup>41</sup> . There is no ex ante decision on the amount of funding for transport.  The investment priorities relating to transport are: <ul style="list-style-type: none"> <li>• Supporting a multi-modal Single European Transport Area by investing in the Trans-European Transport Network;</li> <li>• Developing environment-friendly and low carbon transport</li> </ul>

<sup>31</sup> Except where otherwise indicated, the information comes from COM (2011) 612 and Regulation (EC) No 1084/2006.

<sup>32</sup> Note that the Articles quoted in this section set the aims of the Cohesion Fund. They differ as the Lisbon Treaty is now in place compared to 2006.

<sup>33</sup> Article 5(2) of Regulation (EC) No 1083/2006.

<sup>34</sup> Commission Decision 2006/596 drawing up a list of Member States eligible for funding from the Cohesion Fund for the period 2007-2013.

<sup>35</sup> Commission Decision 2007/91 amending Decision 2006/594 fixing and indicative allocation by Member State commitment appropriations for the Convergence Objective for the period 2007-2013 as concerns Bulgaria and Romania.

<sup>36</sup> Article 3(2) of Regulation (EC) No 1083/2006.

<sup>37</sup> Article 82(3) of the proposed Regulation on common provisions (COM (2011) 615/2).

<sup>38</sup> Article 81(2) of the proposed Regulation on common provisions (COM (2011) 615/2).

<sup>39</sup> European Commission (2012) "The Funds"; see [http://ec.europa.eu/regional\\_policy/thefunds/funding/index\\_en.cfm#1](http://ec.europa.eu/regional_policy/thefunds/funding/index_en.cfm#1).

COHESION FUND <sup>31</sup>		
	<ul style="list-style-type: none"> <li>(in the environment area outside of the TEN-T networks): Rail, river and sea transport, intermodal transport, management of road, sea and air traffic, clean urban transport and public transport<sup>40</sup>.</li> </ul>	<p>systems including promoting sustainable urban mobility; and</p> <ul style="list-style-type: none"> <li>Developing comprehensive, high quality and interoperable railway systems<sup>42</sup>.</li> </ul>
Budget management (centralised/ decentralised)	<p>Budget management is decentralised, as it is up to the Member States (or delegated management authorities) to allocate funds to projects.</p> <p>The management responsibilities are shared, as the Commission negotiates and approves the Operational Programmes proposed by Member States and allocates resources to them. It is also involved in programme monitoring, paying out approved expenditure and verifying the control systems. The programmes are implemented on the national or subnational level. Managing authorities are responsible for selecting and implementing projects. The exception to this is for major projects, i.e. projects that cost more than EUR 50 million, which need to be approved by the Commission.</p>	<p>Budget management would be decentralised (for the funds not ring-fenced to the Connecting Europe Facility), as it would be up to the Member States (or delegated management authorities) to allocate funds to projects.</p> <p>The management responsibilities would be shared, as the Commission would negotiate and approve the Operational Programmes proposed by Member States and allocate resources to them. It would also be involved in programme monitoring, paying out approved expenditure and verifying the control systems.</p>
Forms of available project finance (e.g. loans, grant, equity)	Grant-based financial support	
Main eligibility criteria	<p>Projects are eligible if they meet the eligibility criteria set within the respective Operational Programmes, which have been proposed by the Member States and approved by the Commission. They must also comply with General Regulation 1083/2006 and the Cohesion Fund Regulation 1084/2006.</p>	<p>Projects would be eligible if they met the eligibility criteria that are to be set within the respective Operational Programmes, which would be proposed by the Member States and approved by the Commission. They would also have to comply with the Regulations proposed by COM (2011) 615 and COM (2011) 612.</p>
Max. Co-funding rate	85% <sup>43</sup>	85% <sup>44</sup>

<sup>40</sup> Article 2(1) of Regulation 1084/2006.

<sup>41</sup> COM (2011) 612.

<sup>42</sup> Article 3(d) of COM (2011) 612.

<sup>43</sup> See Annex III of Regulation (EC) No 1083/2006.

<sup>44</sup> See Article 110 (3) of COM (2011) 615.

EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF) <sup>45</sup>		
Definition/ Objective	Aims to strengthen economic, social and territorial cohesion in the EU by redressing regional imbalances.	
	2007-2013	2014-2020
Legal basis of the instrument (where relevant)	Article 160 of the TEC Regulation 1080/2006 of 5 July 2006 on the ERDF.	Article 176 of TFEU Regulation 1080/2006 would be repealed by the proposed Regulation on specific provisions concerning the ERDF (COM (2011) 614) <sup>46</sup>
Geographical coverage	All regions in the EU. The ERDF targeted three objectives for this programming period: "Convergence", "Regional competitiveness and employment" and "European territorial cooperation" <sup>47</sup> .	All regions in the EU. The ERDF would have two goals for this programming period: "Investment for growth and jobs" and "European territorial cooperation" <sup>48</sup> .
Total budget allocated (no ex ante allocation for transport)	EUR 201 billion <sup>49</sup> . With the underlying data obtained for this study, it is not possible to identify how much ERDF expenditure was on transport infrastructure; only the combined amount on both funds (see Table 6).	EUR 183.3 billion <sup>50</sup> . There is no ex ante decision on the amount of funding for transport.
Budget management (centralised/ decentralised)	Budget management is decentralised, as it is up to the Member States (or delegated management authorities) to allocate funds to projects.  The management responsibilities are shared, as the Commission negotiates and approves the Operational Programmes proposed by Member States and allocates resources to them. It is also involved in programme monitoring, paying out approved expenditure and verifying the control systems. The programmes are managed on the national or subnational level. Managing authorities are responsible for selecting and	Budget management would be decentralised, as it would be up to the Member States (or delegated management authorities) to allocate funds to projects.  The management responsibilities would be shared, as the Commission would negotiate and approve the Operational Programmes proposed by Member States and allocate resources to them. It would also be involved in programme monitoring, paying out approved expenditure and verifying the control systems. .

<sup>45</sup> Except where otherwise indicated, the information comes from COM (2011) 614 and Regulation (EC) No 1080/2006.

<sup>46</sup> Note that the Articles quoted in this section set the aims of the ERDF. They differ as the Lisbon Treaty is now in place compared to 2006.

<sup>47</sup> Article 3(2) of Regulation (EC) No 1083/2006.

<sup>48</sup> Article 81(2) of Regulation (EC) No 1083/2006.

<sup>49</sup> European Commission (2012) "The Funds"; see [http://ec.europa.eu/regional\\_policy/thefunds/funding/index\\_en.cfm#1](http://ec.europa.eu/regional_policy/thefunds/funding/index_en.cfm#1).

<sup>50</sup> COM (2011) 614.

EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF) <sup>45</sup>		
	implementing projects. The exception to this is for major projects, i.e. projects that cost more than EUR 50 million, which need to be approved by the Commission.	
Forms of available project finance (e.g. loans, grant, equity)	Grant-based financial support	
Main eligibility criteria	Projects are eligible if they meet the eligibility criteria set within the respective Operational Programmes, which have been proposed by the Member States and approved by the Commission. They must also comply with General Regulation 1083/2006 and ERDF Regulation 1080/2006.	Projects would be eligible if they met the eligibility criteria that would be set within the respective Operational Programmes, which would be proposed by the Member States and approved by the Commission. They would have to comply with the Regulations proposed by COM (2011) 615 and COM (2011) 614.
Max. Co-funding rate	<ul style="list-style-type: none"> <li>• 85% for the Cohesion Fund countries (see above)<sup>51</sup></li> <li>• 75% for other Member States for the Convergence objective</li> <li>• 50% for other Member States for the Regional competitiveness and employment objective<sup>52</sup></li> </ul>	<ul style="list-style-type: none"> <li>• 85% for outermost regions</li> <li>• 75% to 85% for less developed regions (depending on GDP of the Member State and the eligibility for Cohesion Fund)</li> <li>• 60% for certain transition regions</li> <li>• 50% for certain more developed regions<sup>53</sup></li> </ul>

One of the two main aims of the current Cohesion Fund (and the proposed fund for 2014-2020; see below) is to give assistance to the area of the TEN-T. Under the second aim, which focuses on the environment, it is also possible to provide assistance for other types of transport project, such as intermodal transport, interoperability, clean urban transport and public transport<sup>54</sup>. Investments in transport are currently one of the eleven priorities for the Convergence Objective of the ERDF and could include investment in the TEN-T network, as well as integrated strategies for clean transport<sup>55</sup>, while clean and sustainable public transport and investments in non TEN-T infrastructure could be funded under the Regional Competitiveness and Employment objective<sup>56</sup>.

Hence, it is theoretically possible for TEN-T projects, including priority projects, to be funded under both the Cohesion Fund and the ERDF. However, there is no ex ante allocation of expenditure to the TEN-T. In the course of the negotiations with the Commission, the Member States put forward their priorities, including those for transport, which are in turn

<sup>51</sup> See Annex III of Regulation 1083/2006; the rates quoted are valid for all Cohesion Fund countries except for Spain, where the ceiling was lower at 80% or 50% depending on whether a region was a phasing-in region or not.

<sup>52</sup> See Annex III of Regulation 1083/2006; although maximum rates were different for the outermost regions of Spain, France and Portugal.

<sup>53</sup> See Article 110 (3) of COM (2011) 615; other than for actions contributing to the goal of "European territorial cooperation" see Article 84 (8) of COM (2011) 615.

<sup>54</sup> See Article 2 of Regulation (EC) No 1084/2006.

<sup>55</sup> See Article 4(8) of Regulation (EC) No 1080/2006.

<sup>56</sup> See Article 5 of Regulation (EC) No 1080/2006.

discussed with DG REGIO and DG MOVE. While the Commission has to approve the respective Operational Programmes, it is the Member States' Managing Authorities that select the projects in line with the selection criteria agreed in the Operational Programmes. The Commission only has the opportunity to comment on the major projects (i.e. those whose total exceeds EUR 50 million) that are proposed, an indicative list of which can be included in the relevant Operational Programmes. On the basis of an appraisal of each major project, the Commission adopts a Decision, which includes the co-financing rate to be applied and plans for the financial contributions from the ERDF or the Cohesion Fund<sup>57</sup>. The TEN-T Guidelines are used to guide which transport projects are eligible for expenditure, but these are not as strong as they could be and hence the prioritisation of transport projects is an issue within the current programming period (see Section 4.3.1)<sup>58</sup>.

There is no ex ante allocation of expenditure to the TEN-T. The expenditure approved for each of the funding categories, including those explicitly relating to the TEN-T, under the Cohesion Fund and the ERDF can, therefore, only be estimated once all of the Member States have developed their Operational Programmes and after these have been approved by the Commission. For this study, data were provided by DG Regio on:

1. The expenditure indicated by the approved Operational Programmes 2007-13; and
2. The figures for expenditure that has been allocated to projects up to the end of September 2010 for the ERDF and Cohesion Fund combined.

With respect to the first, we estimate that a total of EUR 81.7 billion was approved for the transport expenditure categories<sup>59</sup>, while concerning the second, by the end of September 2010, EUR 42.4 billion of the approved expenditure on the transport categories had been allocated to projects (see Table 7). As can be seen in Table 7, roads receive a higher level of both approved and allocated expenditure than rail, in contrast with the TEN-T programme (see Figure 17). Additionally, within roads, more resources have been approved and allocated for other types of roads (in total) than to TEN-T motorways. Until the end of September 2010, the graphs also show that the absorption rates (i.e. allocated over approved expenditure) for road projects was better than for rail projects (at around 64% compared to 39%).

It is, however, not possible to identify from these data the total amount of expenditure either allocated or approved for TEN-T generally, or for TEN-T priority projects specifically, as expenditure is only separated into TEN-T and other expenditure for some of the transport modes and there is no split by priority project.

Figure 10 shows that a relatively high share of the CF and ERDF transport expenditure has been allocated to projects in the EU-12, which is in line with the objectives of the two funds. However, it is worth noting that to date, more resources have been allocated to other transport than to the TEN-T<sup>60</sup>. These issues are relevant for the discussion of the alignment of the various EU funds (see Section 4.2). The modal shares of both the approved and allocated budgets are shown in Table 7, while the split between the EU-15 and the EU-12 is given in Figure 10 and Table 8.

<sup>57</sup> See Article 41 of Regulation (EC) No 1083/2006.

<sup>58</sup> Interview with DG Regio.

<sup>59</sup> In other words, expenditure allocated to categories 16 (Railways), 17 (Railways (TEN-T)), 18 (Mobile rail assets), 19 (Mobile rail assets (TEN-T)), 20 (Motorways), 21 (Motorways (TEN-T)), 22 (National roads), 23 (Regional/local roads), 24 (Cycle tracks), 25 (Urban transport), 26 (Multimodal transport), 27 (Multimodal transport (TEN-T)), 28 (Intelligent Transport Systems), 29 (Airports), 30 (Ports), 31 (Inland waterways (regional and local)), 32 (Inland waterways (TEN-T)) and 52 (Promotion of clean urban transport) of Annex II, Part A of Regulation (EC) No 1828/2006.

<sup>60</sup> Note that, as is clear from the previous footnote, for some modes there are separate categories for the TEN-T investment, as opposed to non TEN-T investment, whereas for others no such differentiation is made.

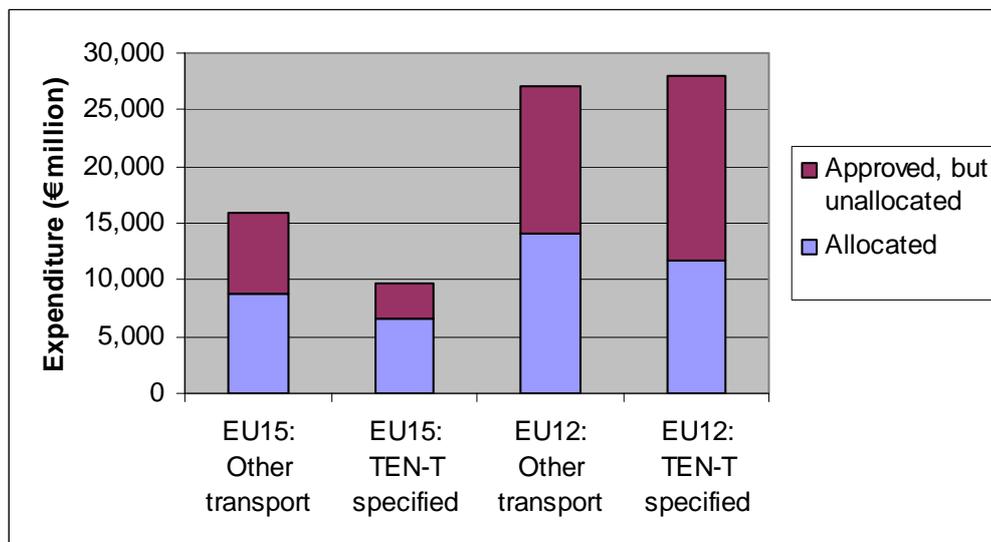
**Table 6: Expenditure approved and allocated (by the end of September 2010) for transport split by category of transport expenditure<sup>61</sup>**

MODE	CODE	APPROVED (EUR MILLION)	ALLOCATED (EUR MILLION)	ALLOCATED/ APPROVED (%)
Railways	16	4,002	1,461	36.5%
Railways (TEN-T)	17	18,819	7,286	38.7%
Mobile rail assets	18	559	540	96.6%
Mobile rail assets (TEN-T)	19	694	71	10.2%
Motorways	20	5,135	1,882	36.7%
Motorways (TEN-T)	21	17,247	10,803	62.6%
National roads	22	7,728	4,592	59.4%
Regional/local roads	23	9,800	8,253	84.2%
Cycle tracks	24	618	306	49.4%
Urban transport	25	1,835	922	50.2%
Multimodal transport	26	1,629	581	35.6%
Multimodal transport (TEN-T)	27	449	41	9.1%
Intelligent transport systems	28	1,066	79	7.5%
Airports	29	1,830	866	47.3%
Ports	30	3,352	1,603	47.8%
Inland waterways (regional/local)	31	273	61	22.1%
Inland waterways (TEN-T)	32	598	133	22.3%
Promotion of clean urban transport	52	6,109	2,915	47.7%
<b>Total</b>		<b>81,744</b>	<b>42,394</b>	<b>51.9%</b>

**Note:** The 'approved' funding is the total funding approved by the Commission when it approves the Operational Programmes, i.e. the total amount that is expected to be spent on each mode in the programming period. This does not amount to an ex ante allocation. The 'allocated' funding is the total funding that has so far been committed to projects, and is therefore less than the amount of approved funding.

**Source:** Data from DG Regio (November 2011).

<sup>61</sup> The same comment applies as for Table 1 and 6. The total estimated contribution of CF + ERDF in Table 1 (44.2 billion Euro) deviates from approved spending on TEN-T in the CF and ERDF in this table, which totals EUR 37.7 billion. Part of this difference can be explained by the fact that for ports and airports, no distinction is made between TEN-T and non-TEN-T investment for these modes (see Table 6). Together, the approved budget for these is EUR 5.2 billion.

**Figure 10: Allocated and approved (by the end of September 2010) expenditure by EU-15 and EU-12 (by TEN-T and other transport expenditure)**

**Note:** The definitions of "approved" and "allocated" funding are as in the note for Table 7.  
**Source:** Data from DG Regio (November 2011).

**Table 7: Data underlying Figure 10**

	EU-15: OTHER TRANSPORT	EU-15: TEN-T SPECIFIED	EU-12: OTHER TRANSPORT	EU-12: TEN-T SPECIFIED
Allocated (EUR million)	8,849	6,657	14,176	11,637
Approved, but unallocated (EUR million)	7,076	3,010	12,897	16,375
<b>TOTAL</b>	<b>15,925</b>	<b>9,668</b>	<b>27,073</b>	<b>28,012</b>

**Note:** The definitions of "approved" and "allocated" funding are as in the note for Table 7. The figures in this table do not include expenditure on cross-border projects, which are specified separately in DG Regio's figures; the cross-border expenditure is therefore not allocated to a particular Member State. In Table 7, expenditure on cross-border projects is included in the expenditure by mode. This is the reason why the figures in the rows of this table do not add up to the totals of the figures in the respective columns of Table 7.

**Source:** Data from DG Regio, (November 2011).

In October 2010, the Commission set out the conclusions of its fifth report on economic, social and territorial cohesion (COM (2010) 642). These concluded that Cohesion Policy had been successful in creating jobs, building infrastructure and improving environmental protection, particularly in the less well developed regions. However, in light of the challenges facing the EU, it concluded that there was still a need to:

- Concentrate resources on the objectives and targets of the Europe 2020 Strategy;
- Commit Member States to implement the reforms needed for Cohesion Policy to be effective; and
- Improve the effectiveness of Cohesion Policy with an increased focus on results.

In response to these concerns, the Communication launched a consultation on how:

- Cohesion Policy might be made more effective and its impact improved in order to enhance its European added value;
- The governance of Cohesion Policy could be further strengthened; and
- The delivery system could be streamlined and made simpler.

In the public consultation on the conclusions of the fifth Cohesion Report, there were few comments relating to transport. The proposed extension of the proposed Common Strategic Framework to different funds was welcomed, as many consultees (particularly local and regional authorities) called for greater coordination of Cohesion Policy with other EU policies, including its transport policy (SEC (2011) 590). Some respondents called for supporting transport and mobility to be one of the priorities of Cohesion Policy, although others considered that other priorities were more important.

The Commission published its proposals for the 2014-2020 programming period in October 2011 (COM(2011)612, COM(2011)614 and COM(2011)615<sup>62</sup>). As with the current programming period, the proposals for 2014-2020 are that the Cohesion Fund should again support two main areas: investments in the environment; and in the TEN-T. As with the current ERDF, one of eleven priorities of the proposed ERDF Regulation for 2014 to 2020 is “promoting sustainable transport and removing bottlenecks in key networks”. This will support the same three categories of transport investment to be supported by the Cohesion Fund, as listed above, as well as:

- Enhancing regional mobility through connecting secondary and tertiary nodes to TEN-T infrastructure.

For the Cohesion Fund and ERDF, the budget shares for transport will only be known once the Member States’ Operational Programmes have been approved by the Commission, as they were in the current period. Similarly, there is no proposed ex ante split between modes, for TEN-T projects or for innovative financial instruments, for the 2014 to 2020 programming period for either the Cohesion Fund or the ERDF.

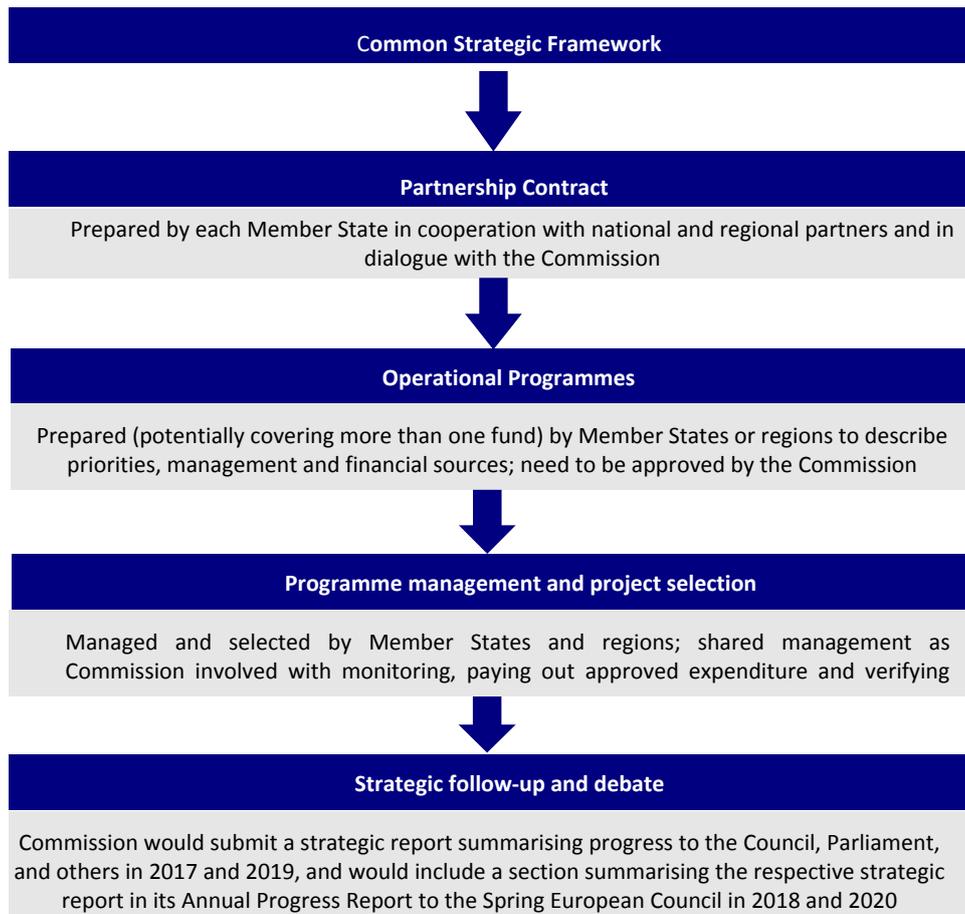
From the perspective of this study, the most important proposed change compared to the previous programming period would be a strengthening of the strategic programming. The previous approach – in which each Member State developed a National Strategic Reference Framework that was to be consistent with a set of Community Strategic Guidelines proposed by the Commission – would be replaced by a stronger strategic framework. In this respect, there are two important new elements: the Common Strategic Framework (CSF<sup>63</sup>) and Partnership Contracts. The CSF would translate the objectives of Europe 2020 into priorities. Once the Regulations have been adopted, each Member State would be responsible for preparing a Partnership Contract covering all CSF Funds, in cooperation with relevant national and regional partners and “in dialogue” with the Commission. Each Contract would set out the respective commitments of regional and national partners and the European Commission and be linked to the objectives of the Europe 2020 Strategy. These would be supported by Operational Programmes, which, as in the current programming period, will remain the main management tool and would translate the strategic documents into concrete investment opportunities. These would be developed on the basis of the respective Partnership Contracts. Figure 11 presents a schematic overview of all five levels of programming.

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<sup>62</sup> An updated version was published in March 2012.

<sup>63</sup> The funds covered by the draft Common Provisions Regulation – which also includes funds directly targeting the agriculture and fisheries sectors – are referred to as the CSF Funds, as these are all covered by the CSF. A first version of it has been published in early 2012, SWD(2012)61.

**Figure 11: Schematic overview of the five levels of programming (proposed for 2014-2020)**



**Source:** Based on Munch (2010),  
Adapted so it takes account of changes proposed by the Commission for 2014-2020.

A second important proposed change would be the strengthening of measures to improve performance, which would include ex ante conditionality. For example, in order for Member States to avoid suspension of funds under the sustainable transport thematic objective, they would in the end have to have comprehensive national transport plans in place that take account of mobility, sustainability and greenhouse gas reductions<sup>64</sup>. Conditionality would be used both to improve the operational alignment of the funds, as well as the administrative capacity (see Sections 4.3 and 4.4, respectively). The Commission is also proposing that conditionality be used with respect to Member States' macro-economic policies. In this respect, the proposal would allow the Commission to request that a Member State reviews and proposes amendments to its Partnership Contract, and relevant Operational Programmes, in support of relevant Council Recommendations or to maximise the impact on growth and competitiveness of the relevant CSF Funds<sup>65</sup>.

The final proposed change of relevance to this study is the framework that would be put in place to support the use of new financial instruments. Within the current programming period, there has been some use of the financial instruments that were defined as innovative within this study (see the list in Section 3.1) to complement the traditional grant-based approach of the funds. With respect to transport, of the instruments listed in Section 3.1,

<sup>64</sup> See Annex IV of COM (2011) 615.

<sup>65</sup> See Article 21 of COM (2011) 615.

LGTT, SFF/SA and PPPs<sup>66</sup>, which DG REGIO does not consider to be an innovative financial instrument<sup>67</sup>, have been used for transport within the current programming period. The current Regulation ((EC) No 1083/2006) does not foresee the possibility of using Cohesion and Structural funds to develop risk-sharing instruments for transport infrastructure projects<sup>68</sup>. In order to address this, the European Commission has proposed that a framework would be put in place for the use of financial instruments in order to address issues that arose in the course of the current programming period and to extend the application of financial instruments to all types of investment and beneficiary. This would include enabling access to financial instruments set up at the European level, the implementation of which could be entrusted to the EIB or equally to other international financial institutions<sup>69</sup>. Hence, in the future, there is likely to be an increasing use of such instruments for transport infrastructure projects. Within the proposed CF and ERDF Regulation, there is no proposed allocation of funds to the innovative financial instruments; whether it is appropriate to apply a financial instrument will be assessed on a case-by-case basis<sup>70</sup>.

### 3.3. Bank financing

#### 3.3.1. European Investment Bank (EIB)

The EIB provides the SFF/SA (described here) and the LGTT, and invests in equity funds including the Marguerite Fund. The LGTT and the Marguerite Fund are summarised in factsheets in section 3.5. This section first considers the EIB's support through long term loans to bridge financial gaps and accelerate the completion of the TEN-T (EIB, 2009). Attention thereafter turns to the SFF/SA.

EIB	CHARACTERISTICS
Definition/Objective	"The EIB furthers the objectives of the European Union by making long-term finance available for sound investment".
Legal basis of the instrument (where relevant)	Article 308-309 of the TFEU;The EIB statute, 2009
Geographical coverage	The EU-27, the enlargement area of SE Europe and external provision in Asia, Africa, Caribbean, Pacific and Central America
Total budget allocated 2007-2013 2014-2020	<ul style="list-style-type: none"> <li>Approximately EUR 53 billion<sup>71</sup> (for TEN-T alone), of which 80% standard loans and the remainder innovative financial instruments</li> <li>Demand-driven</li> </ul>
Budget management (centralised/ decentralised)	Centralised management by EIB board in which all EU Member States are represented
Forms of available project finance (e.g. loans, grant, equity)	Commercial long term loans, plus various innovative instruments discussed in section 3.5.

<sup>66</sup> Risk-sharing instruments have been used for non-transport projects, however.

<sup>67</sup> Rather, PPPs are considered to be a way of structuring a project.

<sup>68</sup> Interview with DG Regio. The study is based on these general assumptions. However, due to the crisis an exception has been introduced, see: <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/12/383>.

<sup>69</sup> SEC(2010)613.

<sup>70</sup> Interview with DG Regio.

<sup>71</sup> Follows from Table 1 (source: European Commission 2011a).

EIB	CHARACTERISTICS
Main eligibility criteria	<p>The general appraisal of the EIB includes:</p> <ul style="list-style-type: none"> <li>• A cost benefit analysis (including local and environmental costs/benefits), in which “the extent to which a project applies the user and polluter pays principles shall also be taken into consideration”</li> <li>• An estimation of the absolute and relative (to baseline) GHG emissions</li> </ul> <p>In the new lending policy (2011), the required expected economic rate of return, including externalities, is differentiated across modes<sup>72</sup>. Projects in public transport, rail, inter-modal and waterborne transport are accepted with lower returns than road and aviation projects.</p>
Max. co-funding rate	Normally restricted to 50% of the total investment; for some TEN-T projects it may reach as high as 75% (EIB, 2004).

In addition to funding TEN-T priority projects the EIB also funds projects which are integral parts of the TEN-T. The non-priority projects are often more straightforward to appraise and to demonstrate that they satisfy the eligibility criteria. A significant number of the projects that receive loans from the EIB are an integral part of the TEN-T but are not included on the TEN-T priority list. The EIB also offers loans for non TEN-T projects.

EIB standard loans represent the majority of EIB’s lending and contribute close to 80% of the EIB’s overall TEN-T lending volume (the other 20% is made up of EIB SFF/SA loans and innovative financial instruments, such as the LGTT). Over the period 2004-2009 the EIB has increased its financing of TEN-T projects (see Table 8). In 2009 the EIB financed EUR 11.9 billion of TEN-T infrastructure within the EU. This reflects increasing pressure on the Bank to fill the liquidity gap left by commercial lenders in the wake of the global financial crisis. It follows from Table 8 that the contribution of the SFF/SA has been minor, and that the majority of the EIB financing goes to non-priority projects.

Over the period 2004-13, the Bank has committed to investing at least EUR 75 billion on TEN-T projects.

**Table 8: Financing of TEN-T (senior loans and the SFF/SA) by the EIB (2004-2009, EUR billion)<sup>73</sup>**

	2004	2005	2006	2007	2008	2009
<b>Total financing</b>	6.6	7.3	7.9	8.3	9.9	11.9
Senior loans	6.6	7.1	7.9	7.8	8.3	11.1
SFF/SA	0.0	0.2	0.0	0.5	1.6	0.8
<b>Type of projects financed</b>						
PPs	2.2	2.9	2.7	3.1	3.2	1.8
Other projects	4.4	4.4	5.2	5.2	6.7	10.1

Source: Carty, 2010.

<sup>72</sup> The document does not specify the required rates of return.

<sup>73</sup> As mentioned in the main text, the EIB also finances TEN-T projects via e.g. the LGTT. This table should not be interpreted as the total EIB financing of TEN-T projects.

In 2010, the rail, urban and road sub-sectors each received approximately one quarter of the EUR 14.5 billion allocated to the transport sector, while the remaining quarter went to air, maritime and inter-modal projects (EIB, 2011).

In December 2011, the Board of the EIB adopted a new lending policy, after an extensive public consultation (EIB, 2011). The EIB transport lending policy is built upon both TEN-T policy and Regional Policy of the EU and centres around the following policy objectives:

- The increase of growth and employment potential (support to TEN-T and the knowledge economy);
- Economic and social cohesion; and
- Environmental sustainability (support to sustainable transport modes, public and waterborne transport).

The transport lending policy adopted in December is very much a policy document, in the sense that the project selection criteria are described in very general terms. The main difference with the previous lending policy is the incorporation of the EU 2020-strategy (including a stronger focus on sustainability). Due to the lack of detail it is not clear to us if in the future, the EIB will invest more in line with the proposed TEN-T guidelines in which the focus lies on the core network (COM(2011) 650/2).

In terms of operations signed by the EIB between 2007 and 2011 the modal share is as follows:

- For the EUR 66.6 billion for transport in the EU, 27.6% went to rail, 32.9% to roads and motorways, 8.8% to air, 6.7% to maritime, 23.8% to urban and 0.2% to "other".
- For the EUR 44.4 billion for TEN-T in the EU, 35.6% went to rail, 38.3% to roads and motorways, 11.8% to air, 7% to maritime, 6.3% to urban and 1% to "other"<sup>74</sup>.

### 3.3.2. The EIB's Structured finance facility/Special activities (SFF/SA)

The SFF/SA, renamed Special Activities, was established in 2001 to provide additional support for priority projects through instruments with a risk profile that is higher than the standard normally accepted by the EIB. It enables the EIB to participate on an equal basis with other senior lenders; assuming construction and operation risks. Recently (2010/11) the bank reclassified its Structured finance facility products (and lower graded loans) – i.e. EIB-own initiatives – as 'Special Activities'.

SFF/SA	CHARACTERISTICS
Definition/Objective	To generate significant value added by the provision of additional support for priority projects through instruments with a risk profile that is higher than the standard normally accepted by the bank
Legal basis of the instrument (where relevant)	The EIB statute, 2009
Geographical coverage	EU-27
Total budget allocated 2007-2013	See Table 8 for the contribution of the SFF/SA to TEN-T financing for the years 2004-2009.

<sup>74</sup> Email exchange between the EIB and the European Parliament of March 2012. Please note that, while the data used in this paragraph are linked to each other (i.e. 27.6% of EUR 66.6 billion) it is not sure, to what extent they relate to the other data presented throughout the report and thus potential calculations have to be handled with care.

SFF/SA	CHARACTERISTICS
Budget management (centralised/decentralised)	Managed by the EIB
Forms of available project finance (e.g. loans, grant, equity)	Large long maturity loans with fixed or variable rates
Main eligibility criteria	European added-value and contribution to the sustainable development of transport
Max. co-funding rate	Lending is capped at EUR 300 million per project.

Projects normally considered too risky for standard EIB loans are also often unattractive to the private sector and hence are unlikely to be able to utilise the PPP approach. Using SFF/SA makes a project more likely to be bankable to potential private sector partners.

### 3.3.3. The European Bank for Reconstruction and Development (EBRD)

The EBRD is a European public-policy bank headquartered in London. It was established in 1991 – with a strong private-sector focus – primarily to assist countries' transition to open market economies. Its region of operation stretches from central Europe and the Western Balkans to central Asia (including nine Member States; the ten new Central and Eastern European Member States with the exception of the Czech Republic). The Bank is not active in the Western European Member States.

The Bank is owned by 61 countries, the European Union and the EIB. Its focus is on general lending operations (loans) rather than specific instruments or financing initiatives – e.g. lending to a national road agency (against a sovereign guarantee) or lending directly to PPP projects on TEN-T corridors on a market-rate, project finance basis within a syndicate of banks.

The EBRD regards the transport sector as being critical for regional integration with and within Europe, and the development of the economies/markets of its countries of operations. As such, transport is a particularly important sector for the Bank, representing around 15% of the EBRD's total lending portfolio (2010). The Bank supports projects and operations in aviation, ports, railways, roads, shipping and logistics; including TEN-T projects (often co-financed by the EIB and sometimes by EU grant funds). In terms of TEN-Ts, the EBRD has financed just under EUR 4 billion, of which about EUR 3.4 billion in roads (see Table 12 in Annex I).

In 2010, the EBRD invested EUR 1.3 billion in 24 transport projects (40-45% in roads and 30-35% in rail). The Bank supported the upgrade of key approach roads in Kiev, connecting Ukraine with its neighbours in the east of Europe. It also provide track renewal financing in Macedonia as well as supporting renewal of over 100 kilometres of rail track in Serbia.

EBRD	CHARACTERISTICS
Definition/Objective	"The EBRD supports projects from central Europe to central Asia; fostering transition towards open and democratic market economies. Its investment focus is primarily on private sector clients."
Legal basis of the instrument (where relevant)	The EBRD was first proposed by the (then) French president at the European Parliament in 1989 – and became established in 1990 with the signature of its agreement by 40 countries, the EC and the EIB.
Geographical coverage	29 countries from central Europe to central Asia; with a focus on central,

EBRD	CHARACTERISTICS
	south-eastern and eastern Europe, the Baltic states and the Caucasus, Russia and central Asia.
Total budget allocated	Since 1991 the EBRD has supported 3,268 projects through a cumulative business volume of EUR 65 billion (total project value EUR 190 billion). 200 transport projects have been supported (business volume of EUR 8 billion; project value of EUR 31 billion). Financing transport infrastructure represents around 15% of the bank's total portfolio. Just under EUR 4 billion was spent on TEN-T.
Budget management (centralised/ decentralised)	Centralised. Project initiation is a bottom-up process with projects coming through the Banking teams. They are scrutinised by an Operations Committee (composed of departments across the Bank e.g. credit analysts, economists etc.). Most projects are then sent to the Board for the ultimate lending decision.
Forms of available project finance (e.g. loans, grant, equity)	Loans (generally at market rates).
Main eligibility criteria	Projects must be located in an EBRD country of operations, have strong commercial prospects, involve significant equity contributions (from the project sponsor), benefit the local economy and develop the private sector, and satisfy banking/environmental standards.
Max. co-funding rate	n/a

At the time of writing, the EBRD's operations policy for the transport sector was under review in view of a new strategy in 2012. Discussions with senior representatives suggested that, looking forward, the Bank will continue to support private sector involvement particularly in the European road, rail, intermodal and maritime sectors – specifically including an increase in its lending operations in Candidate Countries (such as Turkey). The EBRD recently contributed equity to a French infrastructure fund – which supported the R1 PPP road project in Slovakia – and might consider direct equity injections in the future. However given that the European debt markets remain thin at this point in time, debt funding continues to be the Bank's priority.

### 3.4. PPPs

#### 3.4.1. Introduction

Member States face constraints on their public sector budget both internally and externally. The internal issues relate to competing claims for priority funding for aging populations and the quality of life, security concerns and the need for sustainable and environmentally acceptable practices, amongst others. External issues concern the weakness of the global economy and the pressures of the Eurozone crisis. Given the very significant investments required for completing the TEN-T, the use of private capital should be encouraged to enhance access to the supply of funding from the private sector.

The engagement of private investors can be operated alongside other financing instruments providing a form of blended finance<sup>75</sup>. PPPs not only afford access to private sector debt funding from investors seeking a rate of return but also provide access to private sector entrepreneurship and risk management skills. The aim of a PPP is to promote efficiency in the provision of facilities and/or services through risk sharing and the application of private sector

<sup>75</sup> An example of blended finance would be a bank loan provided in conjunction with a grant (loan/grant blending).

expertise. PPPs range from the provision of financing, design, construction, renovation, operation and maintenance of an infrastructure asset to the supply of a service normally delivered by the public sector (See Box 3.2 on the main types of PPPs<sup>76</sup>). From the private sector viewpoint a PPP must be a commercial investment project with a strong rationale and a robust and stable long-term cash flow.

### Box 3.2 Main types of PPPs

There are a large number of variations to PPP projects but these can be grouped into four main categories: Private finance only – referred to sometimes as Build-Operate-Transfer (BOT); Public-Private finance; Design-Build-Finance-Operate (DBFO) privately financed but remunerated by shadow tolls, and public finance construction with private finance operation. In addition, for the upgrading of existing transport corridors there is increasing interest in Transfer-Operate-Transfer, (TOT), whereby an existing facility is tolled, upgraded and operated before the completed facility is transferred back to the public sector.

The revenue stream on PPP projects can be provided by user charges (revenue generating) or by government charges. The latter can be based on usage (the revenue based schemes) or alternatively on the performance of the facility; that is the time and the percentage of the facility which is available for use (the availability or performance based schemes).

It is important that PPPs should not be seen as a global panacea and there are clear circumstances when this form of financing should not be adopted. PPP projects have to be commercially viable which tends to favour projects which solve existing capacity and demand problems rather than those completing a proposed transport network. However, the use of appropriate financial instruments can help to make otherwise unattractive projects bankable. The private sector requires a robust and long term revenue stream from the project, from users, or government or in combination. Projects should be capable of being structured to allow the private sector flexibility to be able to use its expertise to employ innovative and/or cost effective solutions.

The blending of innovative and EU and EIB financing instruments with a PPP acts to reduce the risk profile and hence increase the bankability of the project. The LGTT, as recommended by Expert Group 5, (European Commission, Expert Group 5 Final Report 2010) is designed to attract funding from the private sector. Although it is too early to make a full assessment, the use of the Marguerite Fund to supply equity finance is also potentially attractive. In 2010 the TEN-T Executive Agency's annual call included support for feasibility studies for projects with PPP potential. Finally the Cohesion and Structural Funds can be used to cover some of the construction costs of non-revenue generating projects<sup>77</sup> and to cover funding gaps in revenue generating projects. The blending of the innovative financing instruments with private finance reduces the risk exposure and improves the creditworthiness thereby acting as an effective multiplier, leveraging funds which would otherwise not be accessible and at a lower rate of interest.

Many detailed reviews have been undertaken of the range of types of PPPs, from fully private financed concessions to projects with virtually full public sector funding, with the majority of projects lying in between these extremes (Mackie et al, 2006). TEN-T projects can be revenue generating or non-revenue generating. An example of the latter is the first tranche

<sup>76</sup> In the Box the phrase 'shadow toll' is used. This refers to arrangements under which private investment is reimbursed through payments from the public sector based on asset usage.

<sup>77</sup> Projects that do not generate user fees, for example.

of DBFO highways in the UK which utilised a government-paid shadow toll-based payment mechanism (Bain and Wilkins, 2002). In the next section (Application of Public-Private Partnerships (PPPs) 3.4.2) a broader introduction is given to the application of PPPs in general.

### **3.4.2. Application of Public-Private Partnerships (PPPs)**

PPPs offer access to private sector finance and expertise and are a key component in the future delivery of the TEN-T. However, PPPs are implemented to different degrees, utilise a wide range of different formats and are regulated by different Member States' legislation. A significant number of PPP projects have transferred, at various stages, to public sector ownership, sometimes requiring the public to impose user charges. This complex structure makes it difficult to present a fact sheet on PPPs. In this section case studies will be presented to illustrate a number of current issues with PPP projects. The case studies represent projects that have been constructed already some years ago, as it usually takes some years before a realistic evaluation can be made.

#### **Risk transfer**

Christopher Hurst (EIB) at the 2011 TEN-T days in Antwerp claimed that in the past, PPPs have been used too often simply to get investments off the public sector's balance sheet. It should be borne in mind that availability-based or shadow-toll PPPs do not reduce the pressure on the budget in the long term (as they rely on state – not user – payments). In the end, only 2 groups pay:

- Users (in the case of revenue generating projects)
- Tax payers (in the case of non-revenue generating projects)

PPPs are usually regarded as "off-balance sheet" financing but this is dependent upon the classification under the European System of integrated economic Accounts, ESA 95, which is a mean of assessing risk transfer from the public sector to the private sector (European Commission, Expert Group 5 Final Report 2010). In the current financial crisis, the opportunity to deconsolidate PPP investments is of increasing significance but this is off-set by a need for transparency in funding. ESA 95 if implemented in full would mean that almost all PPP investments would be on-balance sheet, irrespective of risk transfer. This is long overdue as the off-balance sheet accounting treatment of PPPs has been a distraction in debates about effective procurement policy (with some politicians and much of the public suspicious about attempts to 'hide' public sector debt) (Aitken, 2008 and Bain, 2009d).

Riihinen (2011) illustrates the importance of risk transfer in a recent rail project in Finland. The Kokkola-Ylivieska double track PPP project was cancelled because bidders had concerns about projects risks (which would have been transferred to the service provider). During negotiations, risks had been transferred back to the federal transport agency. There had been a lack of a satisfactory method to deal with reductions in track availability, as the threat of severe penalties involved the risk of bankruptcy. Eventually, the decision was made to switch to traditional procurement. In general, the benefits from risk transfer are smaller for projects that do not allow for freedom and innovation in design (Riihinen, 2011).

EPEC could be to assist government officials and/or bidders in a concession on risk transfer. However its PPP focus might not always be appropriate. Going forward, an advisory body that provided broader, more general procurement advice (not specifically PPP advice) may be a more appropriate and useful policy intervention.

## User charging

The majority of transport PPPs, particularly in the highways sector, generate revenue normally via the imposition of a user charge. The charge to end-users may account for all or only part of the revenue generation. Policy directives call for increasing consideration of externalities in pricing schemes related to transport, as well as the use of pricing as an instrument of demand management. The mechanism of covering all infrastructure costs (and in particular the costs of constructing new infrastructure) by user charges is particularly suitable for roads but is more difficult to apply to many railway or waterway schemes. As railway and waterway options form the majority of the core Trans European Network schemes due to be completed by 2030, thought may have to be given to new ways of attracting private sector finance and PPPs.

At a basic level the user charges are taken in whole or in part as income to finance the debt and interest payments of the capital and operational investments. In the case of the River Tagus Vasco de Gama Bridge (De Lemos, Eaton, Betts and De Almeda, 2004) and of the Norwegian Ring Road Tolls (Odeck and Brathen, 2002; Ramgedi, Minken, and Ostonone, 2004), a further objective was the raising of seed capital for future infrastructure investment. Charges can also be used to support decarbonisation and environmental policies typically dealing with traffic congestion and green behaviours.

PPP funding has to consider the robustness of future revenues as the project has to be “bankable” which is a core requirement for any non-recourse financing investment. The revenue stream is dependent upon the users and many projects have suffered from over optimistic assessments of traffic volumes. This issue has been widely researched (Flyvberg et al, 2004; Bain, 2009). The case study of the Betuwe rail project illustrates the need for adequate preparation and the public sector contribution to attract a private investor (TEN-T Executive Agency, 2000 and Koppenjan, and Leijten, 2005).

### **Box 3.3 - Case Study Betuwe Line freight railway link**

[Netherlands, Railway, 1992, EUR 4.7 billion, Priority Project 5]

The Betuwe rail line (TEN-T PP 5), is a 160km rail link, dedicated for freight and connecting the Port of Rotterdam to the German border as part of the Rotterdam – Genoa corridor. After a limited review of alternative options, this project was approved in 1992 and it was envisaged that there would be a financial contribution of about 30% from the private sector. However no private sector partner could be engaged and the project had to be funded 100% by the public sector.

The project was investigated by the Netherlands Court of Audit in 2000 and it was found that the strategic choice of rail was made first but that this decision should not have removed the obligation for the public promoter to ensure the value and cost-benefit of the component scheme projects. Freight forecasts varied widely. Unclear objectives and incomplete feasibility studies were found to be contributory factors to the difficulties and strong environmental concerns significantly increased the cost of construction. An initial forecast of 40 million tonnes by 1998 was put back to 2020. The capacity of the German section of the line was not formally considered. Other rail branches and a logistics centre originally part of the overall corridor development were abandoned. The line opened on time in 2007 at a cost of EUR 4.7 billion but revenues did not cover operating costs. Nevertheless the rail infrastructure now exists, offering competition with road and inland waterways and offering green benefits for freight transport. However, the cross border connection at the German side is still a severe bottleneck for optimal use.

In PPP projects the long term commitment of the government is essential to the success of the project. Many of the failures of PPP projects can be directly linked to a change of - or lack of commitment from - the government. There is no single factor which initiates a change of commitment; it may be the broad-based trend towards greater democratisation, especially at local level, and decentralisation, accompanied by growing pressures for greater public transparency of reporting, accountability of performance, public consultation, resolution of conflicts, amongst others.

These issues can be exacerbated by the lack of “willingness-to-pay” from end-users, who in turn put pressure on elected representatives, (Rose, and Masiero, 2010). A case study of the M1 toll road in Hungary illustrates many of these points. Unacceptably high user charges resulted in criticism of the PPP approach and in concerns that payment for the risks of the project from a private sector investor are transferred to the public, who are the end-users (Orosz, 2001, Timar, 1996, and Joosten, 1999).

**Box 3.4 Case Study M1 Hungary**  
(Hungary, Road, 1994, EUR 329 million)

As an emerging CEE country Hungary did not possess the financial capacity to fund the construction of major highway schemes. The M1 motorway linking Budapest and the Austrian border and links to Vienna was selected as a priority project. A decision was made to adopt a PPP procurement approach for this project. Elmka the first SPV concession company in Hungary was awarded the contract to finance, build, and operate the M1/M15. EBRD provided support for the leading syndicate bank which ensured that foreign debt could be secured. The international debt was based in German Marks and US Dollars while revenues were to be collected in local currency.

The project was completed on time and within budget but soon after opening it was noticed that traffic volumes were below the levels expected during the feasibility studies. Elmka used the agreed tariff arrangements in the concession to charge tolls that were considered excessive by the public. Public protests increased and the Hungarian government allow the concession to be challenged in court. The concession could not be sustained under these circumstances. Finally Elmka’s debts were converted into sovereign debt and the company was superseded by a state owned SPV NyuMA. The shareholders of Elmka suffered substantial losses, estimated at about EUR 60 million, and received no compensation. The toll rates were reduced by nearly 50% which resulted in an increase in traffic of between 15% and 20% but an overall reduction in revenue of over 45%. However the project still continues to be an integral part of the Hungarian motorway system.

Interestingly the M5 toll motorway in Hungary had a similar tariff and similar public resistance to high toll levels but was not challenged formally in the courts. The concession structure was re-negotiated in 2004 and the M5 toll has continued to operate successfully.

**Non-revenue generating PPPs**

Non-revenue generating PPPs, such as the DBFO shadow toll road have been successful in times when the economy was buoyant and the demand from road users was increasing. Nevertheless many governments have concerns over shadow tolls relating to the mortgaging of future payments over long periods of time constraining the flexibility of the transport budget, (Heald 2003, Edwards et al 2004, Bain 2009b). The short case study below of the SCUT motorways in Portugal illustrates the financial risk associated with this type of investment, (Bain 2009a, OECD 2011, Cruz and Marques 2011). In difficult economic times consideration may be given to public sector funding of the design and construction phase of a

project with a PPP concession to cover operation and maintenance. This limits the financial exposure to the Member State whilst maximising the entrepreneurial skills of the private sector during the period of the concession.

### **Box 3.5 - Case Study Portuguese SCUT Motorways**

[Portugal, Road, 1996; EUR 3 billion]

This case study summarises Portugal's shadow toll road PPP programme. The programme ran into financial trouble and represents a very useful PPP lesson.

The Portuguese Government initiated an ambitious programme of motorway construction in 1996/97 to improve accessibility and promote regional development. The roads are known as SCUTs (Sem Custos para os Utilizadores – no cost to the users), and were developed under a highway concession model which employed a shadow toll-based payment mechanism. Under shadow tolling, the government – as opposed to users – reimburses the concessionaire for their initial capital outlay based on traffic volumes using the road. However this placed future financial obligations on the Portuguese which, in aggregate – because of the scale of the highway improvement programme and because of unforeseen cost/schedule overruns – became unsustainable. A number of the PPP motorways experienced significant cost and schedule overruns due to delays in the environmental approval process and with the issuing of environmental consents. Separately, the licensing regime had been strengthened in ways which later turned out to be incompatible with the contractual schedules contained in the original road concession agreements. This led to claims for compensation from the concessionaires for contracts which – because of ineffective bidding competitions – were already expensive in terms of construction and financing costs.

In the early years, government payments to the SCUT concessionaires represented 0.04% of GDP but even though the traffic volumes fell considerably below the forecast values the step-ups in the financing documents saw this increase tenfold to 0.4% in 2008 (representing about EUR 700 million per year). This is a major commitment to one small part of the economy which the government simply could not afford. Today, the concessions are being renegotiated and plans to introduce user-paid tolls on some of the SCUTs are being advanced.

Portugal now has a motorway network that, given the timescale involved, could not have been envisaged under traditional contracting arrangements. However – like some others – it found that in the absence of user-charges, over-ambitious PPP programmes with their not inconsiderable future financing obligations, similar to mortgage payments, place severe constraints on future public sector budgets.

### **Administrative capacity/complexity**

By the nature of revenue generation from a PPP transport project, the concession normally has a lengthy duration and covers several of the interfaces in the project life cycle. Furthermore, in terms of major European transport corridors the individual projects in themselves tend to be large and complex. Consequently thought needs to be given as to how to select the most appropriate approach for the procurement and delivery. The HSL case study shows how the best of intentions, to reduce the time from inception to operation, caused further difficulties, (Euromoney, 2004). Separating the design and construction from the requirements of the operators resulted in re-work and changes. The same objective could have been delivered by dividing the project into sections with each section having integrated design build and operate responsibilities.

### **Box 3.6: HSL Zuid Railway**

[Netherlands, Railway, 2001, EUR 6.8 billion, part of PKBAL]

HSL Zuid, is a high speed railway linking Amsterdam with the Belgian border and is a part of the larger PKBAL priority rail network. In 2001 it was funded as a PPP with an EIB EUR 400 million loan. A PPP was adopted as it was felt this had the capability to enhance the value for money invested in the project. However after less than one year of operation the operator is facing bankruptcy.

Rather unusually a decision was made to sub-divide the project into three separate but interrelated segments; Substructure, Train Operating Franchise and Train Operating Service. To try to accelerate the project the Substructure segment was procured as seven civil engineering design and build contracts. The operating partnership consisted of Dutch National Rail and Royal Dutch Airlines KLM. Infrastructure Provider Infrasppeed was awarded a 25 year operational concession valued at EUR 2.6 billion. This contractual structure caused friction between the builders and the operators whereas in a more conventional PPP these interfaces would all have been managed by the SPV.

Despite Project Finance magazine selecting the project as "PPP Deal of the Year" and the fact that it only took five months to financial closure the project is in difficulty. The fragmentation of the procurement route was a factor but the most significant aspect is the reduced levels of ridership, some services operating at 15% of their capacity, and hence a reduced and unsustainable revenue generation capability.

A common complaint of PPP projects is that many public sector procurement organisations lack the skills and experience to manage and negotiate with the private sector effectively. Consequently many changes result in extra costs and risks being incurred by the public sector. However as the Member States and the EU gain greater experience of blending finance with the private sector the efficiency and effectiveness of these partnership is likely to improve. Given the scale of investment required and the financial constraints on Member States the integration of private sector funds and expertise is vital in delivering the TEN-T. There are concerns over risks and costs being transferred to the end-users or the public and over the acceptability of incurring long term liabilities from shadow toll (and similar) charging arrangements but the public sector is getting better at addressing these issues, as evidenced by the increasingly detailed and authoritative policy guidance updates published by Member States governments<sup>78</sup>.

A lack of experience and expertise is frequently cited as a type of "soft barrier" to cross border projects. Member States have a variety of discrete institutional and procedural arrangements and there are legal separation of powers and competition between levels, (Guhnemann et al 2006). The combination of public sector and private sector requirements of PPP projects that need to be satisfied impose an additional administrative burden on public sector officials. Unsurprisingly public sector organisations are sometimes perceived as lacking the necessary regulatory and negotiation skills to cope with these fragmented non-uniform systems. There are no "easy" pilot projects but both practice and expertise will improve with time and with the number of projects sanctioned and completed. When using the PPP structure a particular criticism has been that private promoters have been able to transfer risk and obtain higher payments due to ineffective negotiation of the concession.

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<sup>78</sup> A typical example of which would be the 2008 and 2010 PPP policy updates issued by H M Treasury in the UK.

Also on the side of the private sector, administrative capacity is an issue. PPP projects require a significant investment in tendering by the private sector to engage in the procurement process. The internal costs of a conventional, construction-only contract are considered to be of the order of half of one per-cent (of total project costs) for a low risk project, whilst the costs of tendering for a PPP may be up to an order of magnitude greater. This level of investment cannot be recouped by the private sector organisations without a reasonable chance of success on a number of future PPP projects. It is not economically viable for an organisation to prepare for a single PPP and hence it has been proposed to establish a pool of competent private sector promoters able to tender for a “pipeline” of potential PPP projects .

### 3.5. Innovative financing instruments

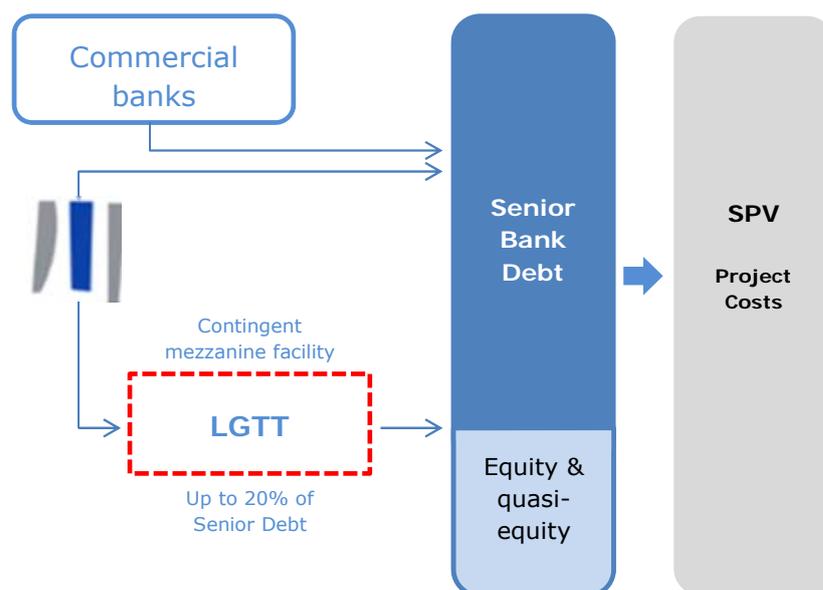
The following innovative financing instruments are considered:

- The Loan Guarantee Instrument;
- EU Project Bonds;
- The Marguerite Fund.

#### 3.5.1. Loan Guarantee Instrument for Trans-European Transport Network Projects (LGTT)

Launched in January 2008, the LGTT was specifically designed to encourage and promote private-sector involvement in the financing of the TEN-T projects. The instrument was set up jointly by the EIB and the EC. The guarantee instrument facilitates investment by improving the ability of a borrower to meet senior debt servicing obligations. The most difficult period is normally the early-operational phase of a revenue-generating transportation project, which is why the LGTT provides guarantees for senior bank debt against this demand risk of up to 20% of total senior debt. The LGTT allows the EIB to accept exposure to higher financial risks than under its normal lending operations during the first five, occasionally seven, years of project operations. Figure 12 schematically shows how the LGTT instrument functions.

**Figure 12: Schematic representation of the LGTT**



Source: Jennett (2011).

As of mid 2011, six projects had employed the LGTT facility (two road projects each in Portugal and Germany, one in Spain and a high-speed rail project in France) and a further 11 were reported to be in the 'pipeline'.

LOAN GUARANTEE INSTRUMENT FOR TRANS-EUROPEAN TRANSPORT NETWORK PROJECTS (LGTT)	CHARACTERISTICS
Definition/Objective	Part of the EU's TEN-T programme that is specifically designed to provide (partial) protection from revenue shortfalls during a transport project's early operating ('ramp-up') stages.
Legal basis of the instrument (where relevant)	Regulation (EC) No 680/2007, laying down general rules for the granting of Union financial aid in the field of the TEN-T and TEN-E
Geographical coverage	The EU-27
Total budget allocated 2007-2013  2014-2020	<ul style="list-style-type: none"> <li>• EUR 1 billion, EUR 500 million each from the EIB and the EC. Up to the time of drafting this report, the EC has contributed EUR 155 million to the LGTT, out of the TEN-T programme.</li> <li>• In the period 2014-2020, the LGTT instrument is likely to be aligned with (or merged into) the post-2013 successor of the Project Bonds initiative.</li> </ul>
Budget management (centralised/decentralised)	Centralised by the EIB.
Forms of available project finance (e.g. loans, grant, equity)	Stand-by liquidity facility guaranteed by the EIB, the risk capital for which is jointly provided by the EIB and the EC.
Main eligibility criteria	Income-generating TEN-T projects.
Max. co-funding rate	The stand-by liquidity facility will normally not exceed 10% of total senior debt (up to 20% in exceptional circumstances). Maximum ceiling of EUR 200 million per project.

In the context of PPP projects the LGTT is used to ensure investment grade funding which is necessary to attract finance from the private sector. LGTT is cheaper than equity and this has an important influence on affordability and bankability (European Commission, 2010, Expert Group 5 Final Report).

It should be noted that the contribution of the EC to the LGTT scheme is fixed, so the exposure of the EU budget to risk is strictly limited to this contribution. This is important, since the EU budget is not allowed to be in deficit.

Table 9 presents an overview of the 6 signed operations for the LGTT up to the time of drafting this report (see Annex I for an overview of the LGTT project pipeline).

**Table 9: LGTT signed operations (as of mid-2011)**

PROJECT	SECTOR/COUNTRY	LGTT AMOUNT (EUR MILLION)	AVAILABILITY PERIOD START
IP4 Amarante-Vila Real PPP (TEN)	Road/Portugal	20.0	2015
Autobahn A-5 PPP (TEN)	Road/Germany	25.0	2021
Baixo Alentejo PPP (TEN)	Road/Portugal	25.0	2014
Eix Transversal C-25 PPP (TEN)	Road/Spain	70.0	2018
Autobahn A8 (II) PPP TEN	Road/Germany	59.6	2016
LGV SEA	Rail/France	200.0	2015

Source: Loan Guarantee Instrument for TEN-T Projects, Mid-Term Review, EIB (July 2011).

In Expert Group 5 (see section 1.1), it has been suggested that the LGTT should be extended in the future to cover projects that rely not only on user charges, but also on availability and/or performance-based payments from state agencies. In fact, the Project Bond Initiative intends to do this (see section 3.5.2).

### 3.5.2. EU Project Bonds

Since 2000, more than EUR 100 billion have been raised on the capital markets for infrastructure investment (Jennett, 2011). Since the crisis however, the project bond market for transport infrastructure has been practically non-existent since transport investments currently involve long lending and too much risk for most investors. This is the case because large 'monoline insurers' that in the past improved the credit quality of transport project bonds are no longer in existence.

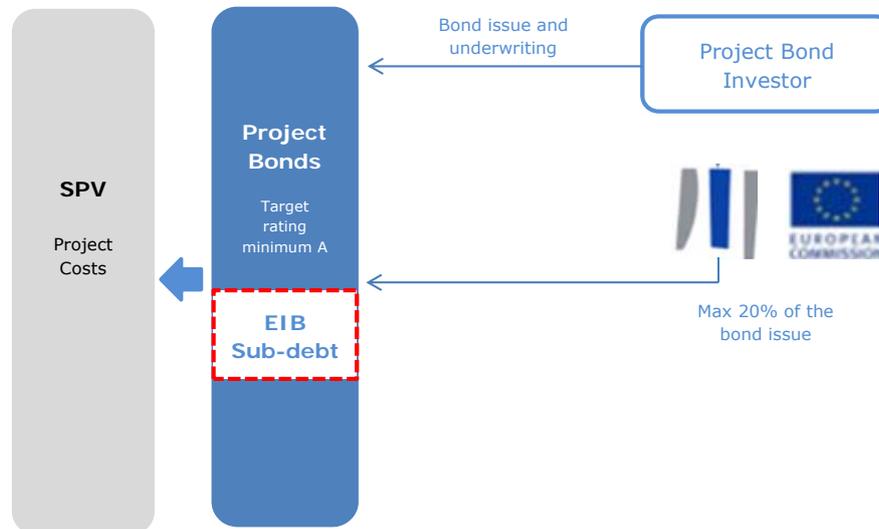
The EU Project Bond Initiative intends to at least partially close the transport investment financing gap by attracting private sector investment. The aim of this initiative is to make project bonds attractive to a large investor base, including institutional investors such as pension funds. It has been noted that project bonds could be interesting to institutional investors since infrastructure can provide a natural hedge against inflation for investors (user charges generally rise with inflation). Secondly, they need long-term assets to match long-term liabilities (promises to pay future pensions). Finally, they could be used to diversify their portfolio (Jennett, 2011)

EU PROJECT BONDS	CHARACTERISTICS <sup>79</sup>
Definition/Objective	Improving the credit rating of project bonds, with the purpose of making them more attractive to investors, including institutional investors such as pension funds.
Legal basis of the instrument (where relevant)	Articles 172 and 173(3) of the TFEU. Proposal for a regulation amending Decision No 1639/2006/EU and Regulation (EC) No 680/2007 (COM(2011) 659).
Geographical coverage	EU-27
Total budget allocated 2007-2013 2014-2020	<ul style="list-style-type: none"> <li>• Pilot phase (2012-2013): EUR 230 million (EUR 200 million from the LGTT budget, which in turn originates from the TEN-T programme, EUR 20 million from the Competitiveness and Innovation Framework Programme budget and EUR 10 million from the TEN-E budget).</li> <li>• Not specified, depending on outcome of project review in second half of 2013</li> </ul>
Budget management (centralised/ decentralised)	Centralised, at EIB level. The EC participates in steering committees and supervisory bodies. In the future, other IFIs might be involved.
Forms of available project finance (e.g. loans, grant, equity)	<p>There are two variants: 1) Standby loan facility: The EIB will create a facility, which can be drawn upon by the project company in times of financial distress. It is envisaged that this facility will cover up to 20% of the senior debt. This should improve the credit rating of the project bonds up to investment grade for institutional investors (A- to AA), as it increases the chance that they will be repaid (i.e. reduce the default probability). When the facility is used, the loan becomes so-called subordinated debt, which is only repaid if the other senior creditors have been repaid. 2) The second variant entails the supply of subordinated debt up to 20% of total senior project debt already at the start of the project.</p> <p>The supply of subordinated debt by the EU will not influence traditional equity requirements. The role of the EU in the project bond initiative is to share the risk with the EIB by providing a fixed capital contribution to the EIB</p>
Main eligibility criteria	Eligibility is determined by the TEN-T, TEN-E and eTEN guidelines. "Project would need to provide stable and strong cash flows in addition to being economically and technically feasible" (SEC(2011)1237) Cash flows may be from user charges and/or government charges, whereas under the LGTT only revenue generating projects (with user charges) are eligible. Projects should also satisfy EIB's standard assessment criteria, being: technically robust, financially sound, economically worthwhile, environmentally sustainable (Jennett, 2011).
Max. co-funding rate	Proposal: 20% of senior project debt

<sup>79</sup> For project bonds, this means the latest Commission Proposals.

A schematic representation of the Project Bond Initiative is provided in Figure 13. The EIB subordinated debt shown in this figure can both be funded (provided at the start) and unfunded (stand-by facility).

**Figure 13: Schematic representation of the Project Bond Initiative**



Source: Jennett (2011).

The Project Bond Initiative (PBI) intends to broaden the scope of the current LGTT instrument. Whereas the LGTT focused on bank lending, the PBI is shifting the focus to the capital markets in response to the unwillingness/inability of banks to lend large amounts of long-term money due to the crisis. Furthermore, the LGTT instrument finances projects that rely on user revenues, and the current financial crisis has a negative impact on traffic forecasts. Therefore, the Project Bond Initiative intends to also finance projects that rely on government charges. Here, we will discuss different issues.

First of all, the success of project bonds depends on private sector involvement but it is difficult to predict how investors will perceive project bonds (in terms of rate of return, risk). Therefore, it is also difficult to determine whether there will be sufficient future private investor demand for project bonds. Part of the uncertainty lies with the ratings by the large credit rating agencies. Credit rating agencies are cautiously positive about the Initiative, but note the details are very important and that the proposal (COM(2011) 659) does not yet provide sufficient detail. Furthermore, each project will have to be assessed on its own merits (see e.g. Moody's, 2011). The pilot phase will make it clearer how large the role of this instrument could be in the future. For the period 2014-2020, it is currently estimated that EUR 2 billion will be allocated to innovative financial instruments, but there is no legal maximum. To date, credit rating agencies and financial commentators have been cautious in their assessments of these Project Bonds, their possible role and their likely impact.

### Risk

The Project Bond Initiative envisages the EU and EIB to carry part of the project risk. The contribution of the EU is fixed and should lie at around one third of the guarantee provided, so the exposure of the EU budget to risk is strictly limited to this contribution. This is important, since the EU budget is not allowed to be in deficit. The EU provides this contribution to the EIB and the EIB is then exposed to the actual risk of having to provide liquidity in times of need. In normal times the EIB should easily be able to carry this risk (e.g. by adhering to its internal assessment procedures), but in case of large-scale default, the burden will sooner or later be borne by the shareholders, which are the EU Member States.

TEN-T projects can apply for this Project Bond Initiative. There are not many TEN-T projects that are economically viable without national government support in some form or the other. The Project Bond instrument is proposed to also cover projects based on availability and/or performance-based payments from state agencies. This raises a number of questions. Not only are long term Member State payment obligations unattractive in the current financial climate, but unlike user charges state payments are not exposed to 'ramp-up' risk in the first years of a project. If state payments are impaired, this is because of serious problems with the construction and/or operation of the project or political issues.

The risk of moral hazard - Member States engaging in prestigious projects that they cannot afford, while the EIB provides a (partial) guarantee - is limited by the design of the instrument, since the guarantee only covers 20% of senior debt. Private investors may be very cautious of such projects in countries with a low sovereign credit rating. Furthermore, it is not likely that projects are accepted by the EIB, since the funds are limited and they should be channelled towards the most viable projects. Overall, the share of availability based projects in the instrument is expected to be low<sup>80</sup>.

### **Market failure**

"Innovative financial instruments [...] aim to correct market failures/imperfections that give rise to an insufficient funding of such areas from market sources, for instance because the field is perceived as too risky by the private sector" (COM(2011)662). The Commission sees risk aversion as market failure, but a lack of funding due to risk aversion is not a market failure as such. After all, a decision whether or not to fund a project is always made on the basis of some form of risk assessment. If the funding decision is negative, this implies that the risks are large and it is perfectly rational to decide not to fund. Risk aversion is only a market failure when there are information asymmetries involved. In other words, the project company has more information about the project than investors and it is not able to provide this information in a convincing manner. As we are currently in a financial crisis risk aversion can be considered a problem that should be overcome as long-term scenarios are now more uncertain, but in normal times we should be careful that projects that do not have convincing long-term benefits (revenues) might simply be projects that should not be funded (see chapter 4 for a discussion on cost-benefit analyses).

### **Leverage**

The partial guarantee provided by the EIB could bring about private sector investment that otherwise might not have taken place. The EC expects the Project Bond initiative to create a multiplier effect of 15 to 20 times although the exact 'leverage' is uncertain (SEC(2011)1237). This estimate is based on experience with the LGTT instrument. One project funded by the LGTT is the Autobahn A8 in Germany, which provided a leverage of about 19 times: the total cost was EUR 562 million, while the EU contribution through the LGTT was EUR 30 million (total LGTT contribution of EUR 59.6 million, of which half paid by the EC). Another example is Tours-Bordeaux (see Box 3.1), in which the leverage was 39 times the LGTT contribution of EUR 200 million (on a total investment of EUR 7.8 billion). Furthermore, additional leverage is expected when repayments and interest are reused. But up to now, there is not enough experience with such instruments to provide a good estimate of the leverage. Finally, when calculating the leverage one should question whether the investment would otherwise have taken place (i.e. is it additional?). In the case of the Autobahn A8 and the LGTT, a substantial share of the total cost of EUR 562 million would

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<sup>80</sup> This paragraph is based on personal communication with DG MOVE.

have been granted/lent by parties without the LGTT. Only the additional lending is interesting from the perspective of the Project Bond Initiative.

### **Basel III**

Finally, it should be noted that Basel III (the new international regulatory framework for banks, which will be gradually implemented between 2013-2018) will have an influence on private sector involvement. According to the Initiative, Basel III is expected to reduce bank appetite for project finance deals and increase lending prices (SEC(2011)1237). Basel III will result in a marked increase in the capital that banks will be required to hold, causing pressures on lenders and borrowers including an adverse effect on PPP project financing (as PPP have up to now mainly been financed by banks). In our opinion, it is too early to say whether this will be significant or lead to developments in the bond market.

To conclude, although there are a number of critical issues with respect to the Project Bond Initiative, it is likely that it will be able to support more projects with the same budget when comparing it to grant-based instruments. This is even more so because the guarantee will not be granted for free, but will be sold under 'market conditions'<sup>81</sup>. This means that the EU contribution can be infinitely 'recycled' (used again after a guarantee period is over), provided that the height of the guarantee premium paid reflects the actual default risk. It is worth having a pilot phase to gather more experience with this particular financial instrument.

### **3.5.3. Marguerite Fund**

This equity fund, the Marguerite Fund (the European Fund for Energy, Climate Change and Infrastructure), was launched following an initiative endorsed during the second half of 2008 by the Economic and Financial Affairs Council (ECOFIN) and the European Council as part of the European Economic Recovery Plan (EERP). A cornerstone of that Plan is to reinforce Europe's long-term competitiveness by combining EU policies and funds to help Member States maintain (or bring forward) investments particularly in energy and 'priority' (including transport) infrastructure.

The Marguerite Fund's six core sponsors are:

- The EIB;
- Caisse de Dépôts et Consignations (CDC);
- Cassa Depositi e Prestiti (CDP);
- Kreditanstalt für Wiederaufbau (KfW);
- Instituto de Credito Oficial (ICO); and
- Powszechna Kasa Oszczędności (PKO).

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<sup>81</sup> Sentence based on personal communication with DG MOVE.

MARGUERITE FUND	CHARACTERISTICS
Definition/Objective	The Marguerite Fund is an equity fund established to invest in the European transport, energy and renewables sectors (particularly TEN-T and TEN-E projects). Secondary objectives include a target net return (on investment) of 10% - 14%.
Legal basis of the instrument (where relevant)	The Fund is a Luxembourg SICAV-FIS* structure in the legal form of a corporation (Société Anonyme).
Geographical coverage	EU-27
Total budget allocated	Fund raising commenced in late 2009 with a first close being completed in March 2010. Six core sponsors contributed EUR 600 million in equal portions and the EC contributed a further EUR 80 million (out of the TEN-T programme) which, with the participation of additional investors, brought the initial commitment to over EUR 700 million. A 20 year life is anticipated for the fund, with a target fund size of EUR 1.5 billion and a final closing expected in 2012.  No TEN-T projects have been supported yet by the Marguerite Fund.
Budget management (centralised/decentralised)	The investment activities of the fund are managed by an advisory team based in Luxembourg. The fund has a management board that is comprised of one representative from each of the core sponsors (and two from the advisory team and three independent experts) and a supervisory board (including one representative from the EC). An investment committee (comprised of two of the advisory team and the three independent experts), which is a sub-committee of the management board, makes all investment and divestment decisions.
Forms of available project finance (e.g. loans, grant, equity)	Equity.
Main eligibility criteria	Medium and large scale predominantly (65%) greenfield infrastructure projects in the transport (TEN-T), energy (TEN-E) and renewables sectors.
Max. co-funding rate	The fund has a target of EUR 1.5 billion (before end 2012). Maximum single investment 10% of the target.

\* SICAV-FIS = Société d'Investissement à Capital Variable (basically an investment fund with variable capital).

The Fund recruited its advisory team and started working on deal-flow in October 2010. It signed its first two deals (in the renewables sector) in 2011 and expects to sign others (in transport, energy and renewables) before the end of 2012. Fundraising with other institutional investors (both private and public) continues with a EUR 1.5 billion target fund size and final close expected in 2012. The investment period (the period during which investors' commitments can be drawn by the Fund to make investments) runs to mid-2016 (with extension possibility). It specifically targets TEN-T projects supplying an equity investment instrument for long term public and private institutional investors.

## 4. INTERACTION BETWEEN FINANCING INSTRUMENTS

### KEY FINDINGS

- The identification of a core TEN-T network in the proposed guidelines, the centralised management under the CEF of a larger budget and ex ante conditionalities in Cohesion Policy should all help to improve the prioritisation and implementation of TEN-T projects, particularly cross-border, on the ground.
- The new proposals raise the maximum co-financing rate for TEN-T projects in the cohesion countries and also remove barriers to the use of innovative financing instruments for transport infrastructure, both of which should help to stimulate more TEN-T transport projects.
- Currently there is no harmonised methodology for assessing the climate impact and economic impacts of TEN-T projects. In order to ensure that the TEN-T policy truly contributes to its main objectives, stronger and more specific requirements on the economic and GHG impacts of new infrastructure and the methodology for assessing these impacts are recommended.
- Applying user charges and the internalisation of external costs can play a key role in both infrastructure use and infrastructure financing, by optimising the use of infrastructure, raising revenues that can be used for (cross)financing new infrastructure and helping to engage private investors.
- Under the current Cohesion and Structural Funds funding rules, the revenues from user charges are subtracted when calculating the total project sum eligible for co-funding. In this way, the current rules discourage the application of user charges and indirectly favour road infrastructure (EU Member States are obliged to charge at least the marginal infrastructure cost to the users of railways, while for road and inland waterways there are no such obligations).
- The link between the various objectives could be strengthened by either explicitly requiring user charges in the eligibility criteria for (some types of) projects, by taking account of them by prioritising EU funding or by differentiating the maximum co-funding rates to net GHG impacts.
- There are administrative requirements imposed by the various options for structuring and funding projects, but many of these are important in delivering a successful project and ensuring that EU funds are spent well and appropriately.
- The Regulations themselves are constantly being reviewed in order to remove unnecessary administrative burdens, and this is the case with the proposed Regulations which, for example, include measures to simplify the way in which the funds are administered.
- Administrative capacity has been an issue in the past in relation to project development and management, and can be expected to be so in the future, if the use of PPPs and innovative financial instruments increase.
- Technical support is available, either through the funds themselves, or through initiatives such as JASPERS and EPEC, and an increasing amount of experience is available, on which project applicants can draw to improve the structuring, planning, financing and managing of successful transport infrastructure projects. The Commission's proposal to include, and address, administrative capacity as an ex ante conditionality should also be beneficial in this respect.

## 4.1. Introduction

The financing of TEN-T depends on the various sources discussed in the previous chapter. However, for an effective financing framework, not just the efficiency and budgets of the individual instruments count, but also the way they are aligned and work together. In this chapter, the interactions between the various instruments are discussed focusing on the following aspects:

- Strategic alignment (section 4.2): to what extent do the various instruments improve the overall effectiveness or work in opposite directions?
- Operational alignment (section 4.3): how could the operational procedures of the various EU funds be further aligned and simplified?
- Administrative capacity (section 4.4): how could problems of limited administrative capacities in Member States be overcome?

## 4.2. Strategic alignment of financing instruments

### 4.2.1. Context: TEN-T as part of a broader strategy

The TEN-T policy debate takes place in the context of the wider European policy framework which is focused on sustainable growth. From the perspective of transport, the focus is on transport's role in contributing to such growth while taking into account climate change and other environmental considerations. In this respect, key policy documents are the Europe 2020 Strategy and the 2011 White Paper on Transport.

#### Europe 2020 Strategy

In 2010 the Commission presented the Europe 2020 Strategy, COM(2010) 2020, a strategy for smart, sustainable and inclusive growth. The strategy includes targets for employment, innovation, climate change, education and poverty. In the context of the TEN-T, the most relevant targets are the reiteration of the EU objectives of achieving a 20% GHG reduction (compared to 1990 levels), a 20% share of renewables and 20% energy savings by 2020.

One of the seven so-called Flagship Initiatives under the Europe 2020 strategy is "Resource efficient Europe" which aims at supporting the shift towards a resource efficient and low-carbon economy, which includes the following relevant priorities:

- Mobilising EU financial instruments (structural/cohesion funds, the TEN-T programme and EIB/IFI lending) as part of a consistent funding strategy, that pulls together EU and national public and private funding;
- Enhancing a framework for the use of market-based instruments;
- Accelerating the implementation of strategic projects with high European added value to address critical bottlenecks, in particular cross border sections and inter modal nodes.

#### 2011 White Paper on Transport

The 2011 White Paper on Transport aims at improving the mobility within the EU by further developing seamless and multimodal connections between all Member States. It builds on both the Europe 2020 Strategy and the long term climate policy presented in the Roadmap for moving to a low-carbon economy in 2050, COM (2011) 112. It included for the first time specific GHG reduction targets for the transport sector: a 60% reduction in 2050 compared to

1990 levels. This is part of the broader strategy for decarbonising the European economy from the Roadmap 2050, which aims at a 80 to 95% reduction of GHG emission in 2050, again compared to 1990 levels. For the transport sector, the GHG emissions have increased by about 35% over the last two decades, which means that the 2050 target corresponds even to a 70% reduction compared to the current level.

The White Paper mentions ten goals for achieving a competitive resource efficient transport system in order to achieve the 60% GHG reduction target (see annex II). The completion of the TEN-T core network in 2030 and comprehensive network in 2050 is one of these. Some of the other goals make clear that also a strong modal shift is a key element in the strategy: "30% of road freight over 300 km should shift to other modes such as rail or waterborne transport by 2030, and more than 50% by 2050". In addition it says that "by 2050 the majority of medium distance passenger transport (300 to 1000 km) should go by rail".

The White Paper also aims at "moving towards full application of 'user pays' and 'polluter pays' principles and private sector engagement to eliminate distortions, including harmful subsidies, generate revenues and ensure financing for future transport investments."

The modal shift goals formulated in the White Paper require a strong development of infrastructure, particularly for rail and waterborne transport modes. In addition, investments in traffic management, interoperability and ITS are imperative for meeting the objectives of the White Paper.

In order to reach the White Paper objectives, the policy for financing the TEN-T should be fully aligned with the underlying strategic objectives. In the on-going debate, the main issues regarding strategic alignment are the following:

- Is the definition of the TEN-T network and planning approach in line with the Europe 2020 and White Paper targets?
- To what extent are there differences between the funding/financing policies of the EU, the EIB and EBRD and the Member States with regard to the type of transport infrastructure projects (share of various transport modes) that are supported?
- Is there sufficient priority given to the PPs compared to other parts of the TEN-T?
- How can the various types of EU support and other financing sources be prioritised to projects with the highest added value in terms of GHG reduction, economic growth and the internal market?
- How could the full application of 'user pays' and 'polluter pays' principles contribute to engaging the private sector by generating revenues from user charges?

These subjects are discussed in more detail below.

#### **4.2.2. Definition of the network and planning approach**

As explained before, the proposal for the TEN-T guidelines COM(2011) 650/2 defines a dual layer structure: the comprehensive network and the core network. For both of them, the proposed definitions and priorities include optimal integration of transport modes, cross-border connections, deployment of intelligent transport systems and decarbonisation. The core network corridors should consist of two and preferably three transport modes.

The priorities mentioned in the proposed guidelines seem in line with White Paper and Europe 2020 objectives. However, it is not clear to what extent the proposed core and comprehensive network:

- Facilitate the modal shift targets of the White Paper;
- Would contribute to the decarbonisation targets.

From the impact assessment of the White Paper (SEC(2011)358) it is not clear what capacity of the core and comprehensive networks would be required for enabling the modal shift targets of the White Paper. A recent study has shown that these targets would require a very strong development of rail infrastructure (Boer et al., 2011). A check on the required infrastructure capacities for the various transport modes could be useful to detail the investments needed in the various modes in line with the modal shift targets.

Whether the investments will help to meet the decarbonisation and macro-economic targets will not just depend on the modes that are invested in, but also on what efficiency improving technologies (ITS, user charges, etc.) are implemented. The net contribution of the networks will depend heavily on these types of implementation issues. In section 4.2.5 we discuss mechanisms for assessing the GHG impacts and macro-economic benefits of projects.

For the Cohesion and Structural Funds, a first version of the Common Strategic Framework SWD(2012) 61 was published in March 2012 intended to further break down the objectives of Europe 2020. Concerning the purpose of this study, it foresees the following key actions for the ERDF and the CF:

- *"Core TEN-T infrastructure covering road, rail and sea transport, as well as multimodal and interoperable modes bringing high net benefits to society;*
- *Core TEN-T railway infrastructure, secondary connectivity, upgrading of dense railway networks, the European Rail Traffic Management System (ERTMS) and other investments to improve interoperability, and capacity-building for planning, implementing and managing projects, and for risk and disaster management;*
- *Innovative road pricing, user charging systems and traffic management, and in fuelling and charging infrastructure for new carbon-free vehicles for urban transport;*
- *Integrated, sustainable and accessible urban mobility concepts in cities, city-regions and metropolitan areas, leading to reduced GHG emissions, in particular through sustainable urban transport plans , including facilitating use of public transport, cycling and walking;*
- *The removal of bottlenecks in inland waterways while minimising substantial modifications to riverbeds, and supporting investments to render fleets more environmentally friendly as well as investment in River Information Systems."* (SWD(2012) 61 final, p. 23).

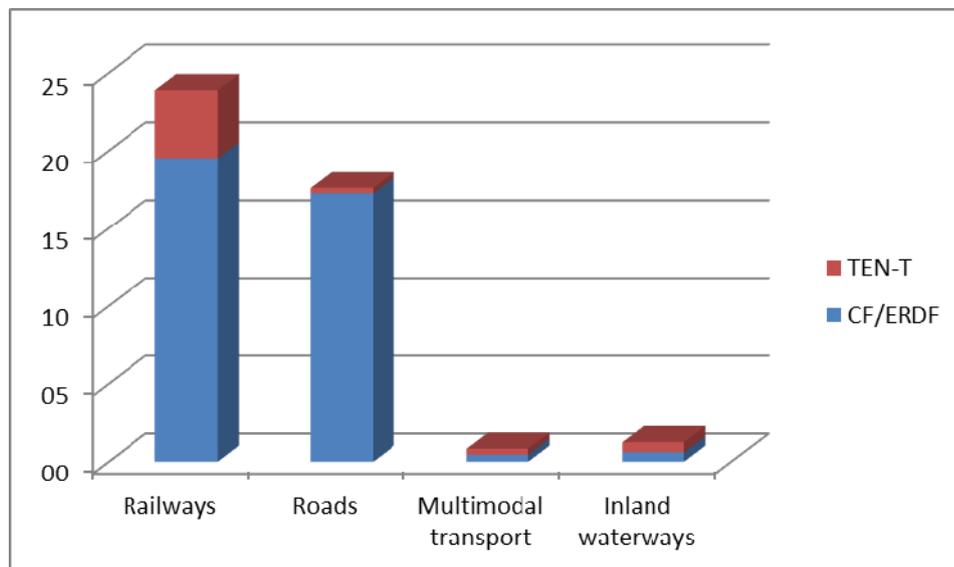
The EIB has just revised its policy on lending for transport, which does not set out any particular priorities. However, the new policy does bring the Bank's transport lending policy in line with the emerging EU policy framework, including Europe 2020 and the Transport White Paper. It also notes the importance of TEN-T policy and Cohesion Policy in guiding the Bank's lending, for which new proposals were published by the Commission in 2011 (see Sections 3.2.1 and 3.2.2). Although the Bank's revised transport lending policy does not explicitly

mention low carbon, or decarbonising transport, it makes many references to the need to address climate change, including that the Bank's lending strategy must respond to the EU's environmental and climate change policy. It notes that the fight against climate change is one of the Bank's priorities and in this respect it is seeking to invest at least 25% of its new commitments in projects expected to make a significant contribution to climate change mitigation or adaptation. The mainstreaming of climate change into the Bank's project appraisal will be developed further in the coming years. The Bank also has a climate action indicator in its Corporate Operational Plan to which rail and inland waterway projects would normally contribute, while road projects would normally not (EIB, 2011).

#### 4.2.3. Prioritising transport modes

Figure 14 shows the amounts of the CF/ERDF and the TEN-T programme for the TEN-T network concerning the various transport modes (approved funding). When looking at Figure 14 it becomes clear that the contribution from the TEN-T programme in absolute amounts is small compared to that of the CF/ERDF. The share of the TEN-T programme is relative large in the case of investments in multimodal transport (46%) and inland waterways (52%). On the other hand, in the case of roads (2%) and railways (18%), the share of the TEN-T programme is very small as the funding comes to a very large extent from the CF/ERDF. These differences can be explained by the different budget sizes, as well as the objectives of the funds, which will be discussed in this section in more detail.

**Figure 14: Allocation of approved EU financing on the TEN-T network, per mode (2007-2013, EUR billion)<sup>82</sup>**



Source: DG Regio and TEN-T EA (2011a); own adaptations (see footnote).

The total allocated project funding from the TEN-T programme (EUR 7.2 billion) mainly concerns rail (61%) and inland waterway (9%) infrastructure<sup>83</sup>; only 6% is spent on road

<sup>82</sup> For this graph, information is combined on a) how the TEN-T programme has so far actually been allocated to projects (as reported in Figure 17, please see Annex) with b) information on how the CF/ERDF budgets have been allocated to TEN-T projects in the OPs (the third column of Table 6). These are not fully comparable since they have a different measurement basis as a) concerns the amount that has been de facto allocated to projects as reported in 2011 (which is 7.2 billion Euro out of 8 billion Euro), while b) concerns the total planned (approved) amounts within the OPs to TEN-T projects. Therefore, this figure should be interpreted as an approximation of the modal parts.

<sup>83</sup> Based on same data set as used for the graphs in section 3.2.

and aviation. Of all Cohesion Fund and ERDF allocated project funding for TEN-T 59% concerns motorways, 40% railways and 1% inland waterways. Also EIB financing concerns significant shares of road transport and aviation (37% to roads and motorways, 22% to rail, 9% to maritime and intermodal, 12% to air and 19% to 'urban'); this information refers to total transport spending, and not to TEN-T in particular (EIB, 2010b). Also the first experiences with LGTT were all on road infrastructure projects.

More in general it can be observed that in most EU 12 countries, where transport was a priority, little progress in completing projects was made by the end of 2009. The situation is similar in EU 15 countries, where the transport projects funded are predominantly in regions assisted under the Convergence Objective (Walsh, 2011). The Synthesis Report on Achievements of Cohesion Policy (2010) concluded that progress is very slow in the rail sector in all EU10, and only significant in Slovakia, Czech Republic and Lithuania. In addition, it concluded that interventions in airports/ports are very diverse – but raise questions whether public investment is justified. The same conclusion was drawn for co-financing high speed rail.

The significant differences in the shares of the various modes raise the question of whether the spending of the various EU instruments should be regarded as complementary or rather as contradictory.

In order to answer this question, it should be noticed that different instruments may have different aims. This is to some extent true for the various EU instruments which finance transport infrastructure. The Cohesion Fund is targeting development in Member States with relatively low income levels (GNI per inhabitant of less than 90% of the EU average). Upgrading and extending all types of transport infrastructure, including motorway networks, fits well within this objective.

The TEN-T policy is driven by both economic and sustainability considerations. The TEN-T network has been defined as being multimodal: rail, water and road, but the TEN-T programme is mainly used for developing the non-road parts of this. The proposed new TEN-T guidelines do not explicitly prioritise non-road modes, but indirectly they do. This is in line with the priorities and spending in the current and last financing periods.

So, where the Cohesion Policy helps to complete and improve networks of all transport modes in the countries eligible for the Cohesion Fund, including road networks in regions where these are less well developed, the TEN-T programme is more focused on rail and waterway infrastructure. However, as the comprehensive network of TEN-T includes an EU-wide motorway network, Cohesion Fund spending on motorways still fits within the multimodal network approach of the TEN-T policy as defined in the TEN-T guidelines. So, the differences in priorities can be explained from the objectives and both contribute to the development of the comprehensive network. However, to be consistent with the priorities mentioned in the proposed new TEN-T guidelines, more emphasis on multimodal and low-carbon transport could be expected as these are likely to be needed for meeting the ambitious Europe 2020 and 2030/2050 White Paper targets.

Reaching the ambitious goals for modal shift and GHG reduction of the 2011 White Paper requires a huge break in the current trends. Particularly for achieving the modal shift goals, a strong development of the rail and waterborne infrastructures is a clear precondition. When in parallel to the development of rail and waterborne transport infrastructure long distance motorway networks are also developed, this certainly affects the competitive position of these non-road modes. Therefore, although the development of motorway networks in the

countries eligible for the Cohesion Fund might be justified to support economic growth and cohesion, it will make it more difficult to reach the modal shift targets of the White Paper. When growth can also be stimulated by developing non-road networks, this is more in line with the White Paper targets. In the light of these targets, the absence of high quality motorways in some regions could be regarded as an opportunity to develop a more efficient and low carbon transport system than currently exists in the richer countries. Particularly in the countries eligible for the Cohesion Fund, a stronger prioritising of low-carbon transport may help to avoid a lock-in in a relatively energy and carbon intensive transport systems.

#### **4.2.4. Prioritising PPs and the core network**

Regarding the issue of prioritising PPs, it is clear that there are significant differences as well. As can be seen from Table 2, two thirds (67%) of the TEN-T programme is spent on PPs, while for the Cohesion Fund and ERDF this share is only 38%. Of the EIB lending for TEN-T, almost half (47%) is foreseen for PPs.

In the new proposals the ambition is to complete the core network before the end of 2030 and the comprehensive network by 2050. So, for the shorter term, the core network has the highest priority. Given the huge investments needed for the core network and problems with financing some of the PPs in the current and previous financing periods, spending a higher share of Cohesion Fund and ERDF on the core network seems in line with these priorities. However, a balanced approach remains important as it is to be acknowledged that the core network can only operate well if it is embedded in a proper and well-developed comprehensive network. Particularly for the countries eligible for the Cohesion Fund, these other parts are often not yet fully developed.

The approach proposed for the revised TEN-T guidelines is also beneficial for prioritising transport investment within the Cohesion Fund and, to a lesser extent, the ERDF. The definition of the core network projects in general, and their cross border corridors in particular, within the revised TEN-T proposal will help the Commission and other funders to prioritise their spending to ensure that it delivers projects of European added value. The proposed ring-fencing of EUR 10 billion of the Cohesion Fund for TEN-T networks within the CEF should be understood within this context as it is a way to better align the prioritisation of the various funds, both in the sense of prioritising intermodal and cross-border connections and prioritising the core network.

For Member States that are eligible for the Cohesion Fund it can be attractive to apply for support from the EUR 10 billion that are planned to be ring-fenced for the CEF, because the maximum co-funding rates are higher than for the other CEF calls and the competition will be lower because of the much lower number of countries that can apply. The possible fear of these countries that the ring-fencing of the EUR 10 billion is a way to shift money from EU-12 to EU-15 countries is not justified, as the eligibility criteria of the Cohesion Fund still apply.

It should be noted that national priority setting has historically had a larger influence on infrastructure investment than EU priority setting. This can for a large part be explained by the fact that EU funds are a minor share in the overall project financing, while Member States are usually responsible for a much larger share. The definition of the core network could help to streamline all financing sources, as long as it also reflects the priorities of the various Member States.

This leaves the question whether there are sufficient mechanisms to ensure that the investments are in line with the underlying strategic objectives of TEN-T, or, in other words, whether this approach matches with the ambitious modal shift and sustainability objectives of the White Paper. This is discussed in the next section.

#### **4.2.5. Mechanisms for prioritisation in line with underlying objectives**

It can be argued that also a shift to rail and waterborne transport modes is not an aim in itself but should be regarded within the context of the decarbonisation of transport. The true contribution of the development of these modes to the decarbonisation of transport depends on local and regional circumstances. There is quite some evidence (OECD, 2009; OECD, 2010) that in some cases, the development of high speed rail networks does to some extent reduce the demand for air traffic, but at the same time also results in a shift from regular rail transport to high speed services and even induces additional transport demand. This reduces the net effect on GHG emissions savings. Essen et al. (2011) showed that when the passengers in a high speed line come in equal shares from aviation, cars, regular rail and induced transport demand (which is in line with the experience of some of the existing lines), there still is a net GHG reduction, but much smaller when such unintended shifts are not included. It should be borne in mind that in specific cases investments in rail or waterborne infrastructure may lead to additional emissions, particularly when the new investments induce mainly additional transport demand and not much modal shift from road and air transport (Skinner et al, 2010).

Similar considerations may be found for economic development. The macro-economic benefit of infrastructure development projects is caused by the added value of additional traffic. However, there are various cases where the traffic forecasts of TEN-T projects appeared to be huge overestimations after the project was completed. Some examples were in the cases included in chapter 3.4 (e.g. the SCUT motorways in Portugal, the M1 motorway in Hungary, the high speed rail link between Amsterdam and Paris) or can be found in Bain (2009c). In such cases, the net macro-economic benefits, the other underlying objective of developing TEN-T projects, may be much smaller than expected.

The fact that both the net GHG impacts and economic benefits of TEN-T projects are not guaranteed in any case, is a strong argument for assessing both climate and economic impacts of TEN-T projects.

Despite the fact that an Environmental Impact Assessment is already required, there is currently no harmonised methodology for assessing the climate impact of TEN-T projects. Also for the assessment of the economic impacts of TEN-T projects it currently lacks a uniform methodology that needs to be followed. For many PPs it turns even out to be hard to find the results of the Cost Benefit Analysis or multi-criteria analysis on the (socio-economic) costs and benefits.

The proposal for the TEN-T guidelines COM(2011) 650/2 would require all projects of common interest (this is the entire comprehensive network and any measures providing the efficient management and use of such infrastructure) to have a positive net present value from a cost benefit analysis. However, they do not put any conditions or requirements on the way this should be carried out and on the types of costs and benefits to be taken into account.

The assessment of impacts on GHG emissions are currently not well integrated in transport infrastructure project appraisal. This is not only true at a European level but also at most national and local levels. Carbon proofing or carbon rating is a way to take the effect on GHG

emissions into account in infrastructure project decisions. It could be integrated in the wider infrastructure project appraisal process. Preferably, this should be done at an early stage in the process as the GHG impacts are highly dependent on the overall design of a project. For example, electrification of railway lines or including a road pricing scheme are effective ways of reducing the GHG impacts of new infrastructure. Also the GHG impacts of the construction, operation and management phase are in some cases relevant to be considered (Essen et al, 2011)

The Commission announced in 2011 that it aims at making carbon proofing part of the decision process for investments (EC, 2011). A methodology for this has not yet been selected.

In the proposed TEN-T guidelines, there would be an incentive for prioritising greenhouse gas reducing projects. According to the proposal the co-funding rates “may be increased by up to 10%-point in case of actions reaching climate mitigation objectives, enhancing climate resilience or reducing GHG emissions”. This would not apply to the already much higher maximum co-funding rates of the EUR 10 billion ring-fenced from the Cohesion Fund. The effectiveness of the higher maximum co-funding rates depends on the way the climate impacts would be assessed. Neither the TEN-T proposal nor the proposals for the Cohesion and Structural Funds mention a methodology for doing this or specify a carbon rating mechanism that would be applied. In addition, the effectiveness of the 10%-point maximum rates depends on whether the actual co-funding rates would exceed the regular maximum co-funding rates.

In this respect it is important to highlight that both the economic and climate impacts of transport infrastructure projects depend strongly on the traffic impacts. Those are usually estimated by traffic models. However, the scope and quality of such models varies considerably and few models used can capture all of the relevant response mechanisms of new infrastructure.

Hence, in order to ensure that the TEN-T policy truly contributes to its main objectives, a more developed assessment of the economic and GHG impacts of new infrastructure could be considered. This could include harmonisation and strengthening of the procedures for assessing economic and climate benefits of investments in the project appraisal phase. In this respect, the EIB’s commitment to strengthen its appraisal procedures to further mainstream climate change is worth noting and worth monitoring (see Section 3.3.1).

Prioritisation does not only concern various links or modes but could also be on the choice between constructing/upgrading a physical link and developing ways to make better use of the existing infrastructure capacity, such as:

- Putting more focus on ITS, interoperability and traffic management to guarantee that the infrastructure structure capacity is used to its full potential.
- Ensuring that the available infrastructure capacity is optimally used, balancing the societal cost and benefits for the users, e.g. by applying user charges.
- Putting more focus on integrating investment policy and pricing policy: pricing can help to reduce risks and so convince private investors, is rational in an economic sense and can contribute to internalisation of external costs.

The second and third issue are discussed further in the next subsection.

#### **4.2.6. User charges and internalisation of external costs in relation to engaging the private sector**

Applying user charges and the internalisation of external costs can play a key role in both infrastructure use and infrastructure financing. Moreover, they are key elements in the broader EU transport policy and can contribute to both decarbonisation of transport and improving the economic efficiency of the transport system as a whole (see Section 4.2.1).

A critical distinction to be made here is the difference between user charges and availability or performance-related payments from the government to the company. User charges are a funding solution that introduces 'new' money to help pay for infrastructure. Availability or performance-based payment mechanisms are simply financing solutions which re-shape the timing of public sector payments (they do little – if anything – to reduce the aggregate public sector obligations).

There are various links between user charges and infrastructure financing to be considered:

- User charges can optimise the use of infrastructure and so limit the need for additional capacity. Flat user charges can reduce vehicle-kilometres by optimising load factors or vehicle utilisation and in the long term reduce distances travelled. In addition user charges that are differentiated by time of the day, location or vehicle characteristics can shift some traffic from peak to off-peak hours and improve environmental performance of vehicles, particularly at locations that are most sensitive to pollution or noise (e.g. urban areas).
- Revenues from user charges can be earmarked to finance other infrastructure. This can be infrastructure for the same mode of transport or for other modes (cross financing).
- User charges can help to engage private investors and are often part of PPP concessions.

Given the positive interactions between user charging and infrastructure financing and their potential for contributing to the same underlying objectives, an important question is whether the financing framework stimulates the development of user charges and internalisation. The proposed TEN-T guidelines do not propose any stimulation of user charges. They just define equipment for the levying of user charges as part of transport infrastructure making these eligible for the grants of the CEF.

Under the current Cohesion and Structural Fund rules, the revenues from user charges are subtracted when calculating the total project sum eligible for co-funding. In this way, the current rules discourage the application of user charges. Article 54 of the new proposal COM(2011) 615 still includes this approach and there is no clear exception for transport infrastructure. In this context it is important to highlight that EU Member States are obliged to have user charges for rail infrastructure, while for road and inland waterways this is not the case.

For these reasons, the link between the different objectives could be strengthened in various ways:

- Explicitly requiring user charges or internalisation of external costs in the eligibility criteria for (some types of) projects;

- Taking account of them by prioritising EU funding, either directly or indirectly by a carbon rating mechanism (user charges on new and/or existing infrastructure can have positive impacts on the GHG impacts of a project);
- Linking the co-funding directly or indirectly to the inclusion of user charges.

### 4.3. Operational alignment of EU funds

This section focuses on the interaction between the TEN-T and Connecting Europe Facility, both managed by DG MOVE, and the Cohesion Fund and ERDF, which are the responsibility of DG REGIO. However, there is some mention of the innovative instruments, where this is relevant.

Within the current programming period, there is already a fair amount of operational cooperation between DG REGIO and DG MOVE. DG REGIO consults DG MOVE before making recommendations on major transport projects, while DG REGIO is consulted on the annual work programme of the TEN-T Executive Agency (TEN-T EA). Both DGs also work together to align technical assistance (see Section 4.4). However, one of the challenges with respect to aligning the operational elements of the funds is linked to the differences in the way in which the funds are managed: the TEN-T programme is managed centrally, whereas the Cohesion Policy operates under shared management. Within the current programming period, there are a number of problems that have been identified and which the Commission's new proposals are trying to address. These include:

- The prioritisation of TEN-T projects and low numbers of mature projects (see Section 4.3.1); and the
- Co-financing and eligibility of projects (4.3.2).

While the proposed Regulations would appear to have addressed some of these barriers, whether the practice will be different remains to be seen. First, the proposed Regulations will be amended by the Parliament and the Council in the course of the ordinary legislative procedure and care will need to be taken by the two institutions to ensure that the elements of the current proposals that address these barriers are retained. Second, once adopted the Regulations only set the high level framework within which the TEN-T, CEF and Cohesion Policy would operate. While setting the right framework is important, the details of the documents as well as the various project appraisal and assessment processes of the various actors will also be fundamentally important to ensuring that the operational barriers are overcome and that the projects implemented are consistent with the strategic framework, as discussed in Section 4.2.

#### 4.3.1. Prioritising projects

Within the current programming period, one of the main problems from an operational perspective has been the ability to prioritise projects, particularly TEN-T projects of European interest. In order to prioritise such projects within Cohesion Policy, the TEN-T guidelines play an important role. However, as noted in Section 3.2.2, it is the Member States that select and manage the projects within Cohesion Policy, even though it is the Commission that selects the TEN-T projects. The TEN-T guidelines for the current programming period are not sufficiently prescriptive, so the Commission has had difficulty in using these as the

justification to argue that Member States should propose more projects of European priority instead of projects that are more national in character.

Within the current programming period, there have also been delays in implementing projects. This was caused in part by delays in agreeing the EU Budget and the adoption of the respective legislation, which therefore contributed to delays in the publication of the Community Strategic Guidelines and the various Operational Programmes. Another issue was a lack of administrative capacity in some cases, particularly with respect to rail projects (COM (2010) 111; see Section 4.4). Additionally, there have been problems due to there being an insufficient number of projects that have been sufficiently well developed to be able to receive funding, i.e. there is often a lack of a mature project pipeline.

The proposed Regulations would address these problems in a number of ways. First, the proposed revised TEN-T guidelines explicitly identify a core network, supported by a comprehensive network, which should enable the better prioritisation of projects of European priority. Second, there would be a larger budget that would be centrally managed, including the EUR 10 billion from the Cohesion Fund. An Executive Agency would manage the CEF. Officially, no decision has been made about this agency, but it is likely that the CEF would be managed by the TEN-T Executive Agency. In this respect, the implementation of cross-border projects should be improved. Calls for projects to be funded from the CEF will be launched centrally and the eligible countries would have to submit proposals. In this way, projects would effectively be competing against each other, so the ones that best fit the criteria of the CEF, and also which are more mature, would be more likely to be funded, which should improve implementation on the ground. Third, under the Commission's proposals, Member States would be required to meet a number of ex ante conditionalities in order to avoid suspension of access to funds from the ERDF and Cohesion Fund under a certain objective. For example under the transport objectives, Member States would have to have national transport plans in place that take account of mobility, sustainability and greenhouse gas reductions (see Section 3.2.2) and which would prioritise investment.

As noted above, it is likely that there will be an increased use of innovative financial instruments under the current proposals for the 2014-2020 programming period. The proposed Regulations for the SCFs and CEF would allow the use of innovative financial instruments for all types of investment, including for transport infrastructure. It is not possible to be too prescriptive about the type of project in which such instruments can be used, so the decision as to whether or not to use innovative financial instruments would need to be taken on a case-by-case basis.

#### **4.3.2. Co-financing and eligibility of projects**

One of the issues under the current programming period is that the maximum co-financing rates under the TEN-T programme and the ERDF/Cohesion Fund are different. Co-financing under the Cohesion Fund and ERDF is high for projects funded in poorer and less developed Member States; the rate can be as high as 85% under the current programming period and the Commission has proposed that similar rates would apply for the 2014-2020 period. The Commission has proposed that the same maximum co-financing rate of 85% would also apply to the EUR 10 billion of the Cohesion Fund ring-fenced for the CEF. Hence, any eligible TEN-T projects within the countries concerned could be subject to this proposed maximum co-financing rate, which should increase their attractiveness for potential project applicants. For such projects, the remaining 15% could be covered from a country's national funds, bank finance or other sources.

Finally, all of the instruments covered in the study have the potential to support the development of transport infrastructure, while many of the instruments focus on supporting TEN-T projects in particular. As both the Connecting Europe Facility and the EU project bonds are designed to support TEN projects, eligibility for both from the transport perspective is determined by whether projects are part of the TEN-T network. Other funds and instruments are broader than simply TEN (or TEN-T).

While the Marguerite Fund has been created to provide equity for medium- and large-scale greenfield projects, it could be used for non-TEN projects. Additionally, the barriers to the use of innovative financial instruments for transport infrastructure projects in the current ERDF and Cohesion Fund Regulations have been removed by the Commission in their new proposals for the next programming period. Hence, more obstacles to the investment in, and use of innovative financial instruments for, TEN-T transport infrastructure would be removed by the new proposals.

In the 2014-2020 programming period, the intention is that the ERDF would in principle not be used to fund large infrastructure such as TEN-T in the more developed Member States; national funds tend to drive investment in transport infrastructure in these countries. In the less developed Member States, the Cohesion Fund is expected to continue to play a significant role in funding heavy infrastructure in the 2014-2020 programming period. The EIB and EBRD are also likely to play a significant role, both with respect to loans, but also with respect to co-financing initiatives, which are likely to increase in the new programming period.

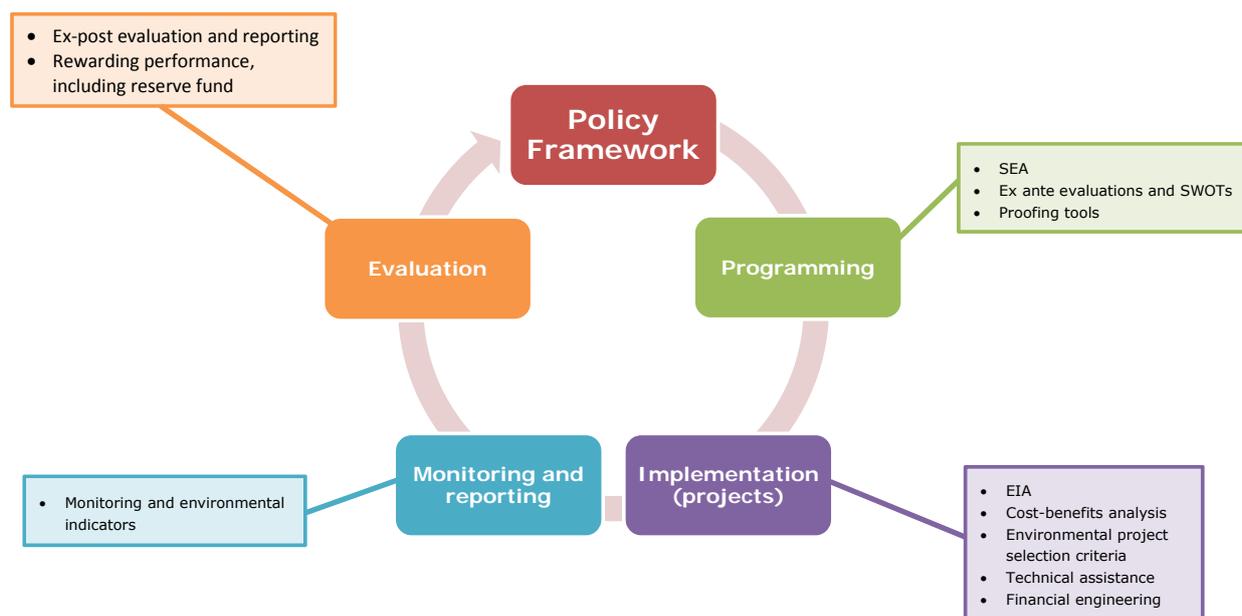
#### **4.4. Administrative requirements and capacities of Member States**

It is important that the management, allocation and monitoring of EU funds is undertaken appropriately and effectively. Similarly, the planning, structuring, coordination, financing and managing of transport infrastructure projects, particularly those that involve a PPP or other financial instrument, require a lot of administrative work. This is not to say that these are necessarily burdens in the negative sense of the word; rather that these administrative requirements are worthwhile if the project is successful and are important in ensuring that the funds are spent in the right manner. On the other hand, it is important to take action to reduce unnecessary administrative burden, where this is possible. These issues will be discussed in Section 4.4.1.

The administrative requirements of Cohesion Policy funds and of transport infrastructure projects can be significant, which raises issues with respect to administrative capacity. This is discussed in Section 4.4.2.

##### **4.4.1. Administrative requirements**

The Cohesion Policy cycle has a number of distinct phases. Many of the steps of the distinct phases shown in Figure 15 need to be undertaken within Member States (with oversight from the Commission in many cases). The policy framework itself includes the respective National Strategic Reference Framework (in the current programming period) and would include the proposed Partnership Contracts in the 2014-2020 period. Hence, there are a number of processes that need to be followed and documents that need to be produced in order to obtain funding from the Structural Funds and the Cohesion Fund.

**Figure 15: EU Cohesion policy cycle and associated tools**

Source: Hjerp et al, 2011.

As can be seen in Figure 15, at each stage there are various processes or tools that can be, or in many cases have to be, applied. The programme-level SEA (Strategic Environmental Assessment) and the project-level EIA are governed by the respective EU legislation and the way in which these have been implemented in Member States. Undertaking these assessments sometimes proves to be challenging for Member States in the context of Cohesion Policy and can delay the implementation of projects. However, these assessments are an important part of the process to ensure that the Cohesion Policy programmes and projects are not unnecessarily detrimental to the environment. Indeed, the revised TEN-T Guidelines underline that EIAs and other assessments of the potential impacts of the projects on the environment should be undertaken for TEN-T projects (COM(2011) 650/2).

For the design, construction and operation of transport infrastructure projects, it is possible to identify a number of main stages through which public authorities have to pass. If the transport infrastructure project is also to benefit from a grant under Cohesion Policy and/or a PPP is to be applied, then the stages become more complex and the administrative requirements increase. Figure 16 provides an illustration of the main stages, and sub-stages, of a design, build and operate PPP infrastructure project. These stages are not necessarily unique to this type of PPP and it can be expected that additional administrative challenges might arise with the application of other innovative financial instruments, such as those discussed in Section 3.5.

**Figure 16: Illustration of stages in a DBO PPP infrastructure project**

Source: PWC (2010a).

One of the main administrative challenges with respect to applying for a Cohesion Policy grant and a PPP for a particular project is coordinating the grant application with the tendering process for the PPP. While applications for grants must be consistent with the requirements of the respective Operational Programmes, all tendering processes for PPP contracts must be consistent with EU public procurement Directives<sup>84</sup>. In themselves, both of these processes can be challenging from an administrative perspective. Hence, if they are to be undertaken in parallel, good and early planning is fundamentally important.

As the grant application process is the less flexible and more complex process, the PPP should be treated as co-financing to a grant and included in the Operational Programme from the outset. However, it is still difficult in practice to schedule the submission of a grant application in a way that works well with the PPP procurement process. This underlines the

<sup>84</sup> European Parliament and Council *Directive 2004/17/EC coordinating the procurement procedures of entities operating in the water, energy, transport and postal services sectors*; European Parliament and Council *Directive 2004/18/EC on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts*. Note: these directives are currently under revision.

importance of allocating resources and providing focused technical assistance to help to blend PPPs more successfully with EU structural and cohesion funds (EPEC, 2010).

Both of the options of coordinating a grant application and PPP tendering – either submitting the grant application before or after the PPP contract has been awarded to the preferred bidder – have their advantages and potential problems. If the grant application is submitted before the PPP contract is awarded, the process can be quicker and the grant application can be taken into account by tenderers for the PPP contract. However, if the bids are not in line with the estimates used in the grant application, there is a risk that the grant received would not be of the correct amount and there could be a need to re-submit the grant application. On the other hand, while waiting for the award of the PPP contract before applying for the grant will lengthen the timescales involved, it would mean that the grant application would be submitted in the full knowledge of the content of the PPP contract; this would thus increase the chances that the grant would be awarded. However, in both cases, early and regular communication between the public contracting authority that hopes to be the beneficiary of the grant and the Managing Authority and the Commission can help to overcome the potential problems (PwC, 2010b).

While combining grants and PPPs can prove challenging, advice on the development of a PPP programme or on overcoming institutional barriers to PPPs can be sought from many sources (including EPEC, as long as one of the authorities concerned is a member; see Box 4.1). Additionally, or alternatively, technical assistance on the design of a project involving a PPP can be sought from JASPERS (see Box 4.2).

**Box 4.1: European PPP Expertise Centre (EPEC ; EPEC, 2011)**

The European PPP Expertise Centre (EPEC) aims to increase the capacity of its members, all of which are from the public sector, to enter into PPPs. Its members include the EIB and the European Commission, as well as national and regional authorities that are responsible for PPPs. It is a joint initiative of the EIB, the Commission, EU Member States and Candidate Countries. While private sector organisations cannot be members, EPEC members and its Executive regularly engage with the private sector.

EPEC's members share their experiences and work with the EPEC Executive to identify best practice to address issues of common concern. The Executive provides a helpdesk facility for its members, which can either provide a rapid response or re-direct the caller to other members with the relevant expertise. The Executive also has some capacity to work with its members, e.g. to help a country set up a PPP programme, to refine policy or analyse institutional bottlenecks. It does not, however, advise on individual projects.

The legislation governing the Structural Funds and Cohesion Fund over the various programming periods have been constantly reviewed and amended in order to try to reduce the unnecessary administrative burden on Member States and on beneficiaries. Measures in the proposed Regulations for 2014-2020 that aim to reduce administrative burden include:

- Simplifying the administration of the funds in order to reduce administrative costs and minimise the risk of errors. The proposed new common provisions would focus on ensuring that the administrative costs are proportionate and on harmonising, as far as possible, the rules governing all of the CSF funds.
- Adopting a risk-based approach to financial management and control to replace the previous obligatory review by the Commission. This means that smaller programmes would be exempted from a Commission review, which would enable the Commission to target its resources more efficiently, e.g. where there are higher risks.

- Increasing the amount of information exchanged and managed electronically by enabling beneficiaries to submit information electronically.

#### 4.4.2. Administrative capacity

Where a funding programme or an infrastructure project imposes administrative requirements on public authorities, there is often the issue of administrative capacity, particularly in smaller countries, or in countries that do not have experience with a particular type of instrument or type of funding. The issue of the administrative capacity of the relevant authorities has been a theme of previous ex ante and ex post evaluations (Ecorys, 2006<sup>85</sup>; SDG, 2010<sup>86</sup>).

Particularly in the EU-12, there is often limited public sector capacity to deliver complex projects structures, such as those that involve PPPs, both at the national, and even more so at the regional and local levels. The officials responsible for administering EU funds and those planning and procuring PPPs are often different, which makes it difficult for the necessary public-private partnership to work. While, under the current programming period, it has proved to be more straightforward to use instruments such as LGTT and the rest of the TEN-T programme with PPPs, it has proved more challenging to use PPPs with Structural Funds and Cohesion Fund (EPEC (2010)).

Ecorys (2006)<sup>87</sup> concluded that the availability of private finance was not a problem; rather one of the main problems was the lack of capacity in many public authorities to prepare projects that are suitable for private finance. To resolve this problem, the report recommended that the Commission set up a well staffed and centrally positioned Task Force to prepare and implement a mutually agreed list of TEN-T projects. The second main recommendation of the report was that guarantees should be used more widely to enhance the bankability of PPP projects.

In the current programming period – where the use of PPPs and other financial instruments for transport has been limited – there have been problems with delivering some projects, in particular TEN-T rail projects, which has at least in part been a result of a lack of the necessary administrative capacity. If the Commission's proposals for the 2014-2020 period were approved, then there would be a much higher use of PPPs and other innovative financial instruments to support transport infrastructure projects. As many Member States are not familiar with such instruments, there will be capacity issues that will need to be overcome. While some Member States have set up PPP units, there is still likely to be a need to support some beneficiaries, particularly rail companies. Within regions, the issue of administrative capacity can be even more important, as typically a region might procure only one or two PPPs. Hence, there is often no time to build up capacity at the regional level, which underlines the need for centralised support, which could even include the secondment of national PPP experts to the regions.

In this respect, JASPERS (see Box 4.2) and the EPEC (see Box 4.1) can be useful sources of technical assistance. JASPERS in particular helps applicants in developing projects that include PPPs and other innovative financing instruments and to make sure that these projects are developed in a manner that is consistent with the requirements of the respective EU

<sup>85</sup> Ecorys (2006) *Strategic Evaluation on Transport Investment Priorities under Structural and Cohesion Funds for the Programming Period 2007-2013*, for European Commission's DG Regio, contract number 2005.CE.16.AT.014. Synthesis and national reports; see: [http://ec.europa.eu/regional\\_policy/sources/docgener/evaluation/pdf/strategic\\_trans.pdf](http://ec.europa.eu/regional_policy/sources/docgener/evaluation/pdf/strategic_trans.pdf).

<sup>86</sup> SDG (2010) *Ex Post Evaluation of Cohesion Policy Programmes 2000-06 co-financed by the ERDF (Objectives 1 and 2) – Work Package 5a: Transport*, for European Commission's DG Regio, contract number 2009.CE.16.AT.017.

<sup>87</sup> Ecorys (2006).

funds. In the current programming period, JASPERS has helped to develop projects and thus has helped to develop more mature projects. It is likely to play a similar role in the 2014-2020 programming period and should contribute to improving the project pipeline (also, see Section 4.3.1). Under the 2014-2020 programming period, there is also likely to be greater cooperation between JASPERS and the TEN-T EA, particularly in light of the EUR 10 billion of the Cohesion Fund that is proposed to be administered centrally, probably by the TEN-T EA. Additionally, in order to give a priority to improving administrative capacities, under both the ERDF and Cohesion Fund, there is a thematic objective of enhancing institutional capacity and efficient public administration in the relevant authorities.

**Box 4.2: Joint Assistance to Support Projects in European Regions (JASPERS; Robinson and Bain, 2011)**

The Joint Assistance to Support Projects in European Regions (JASPERS) initiative is a joint initiative of the European Commission (DG REGIO), EIB, EBRD and KfW (Kreditanstalt für Wiederaufbau), a German government-owned development bank. JASPERS supports the successful implementation of Cohesion Policy by providing targeted specialist technical support to assist with the preparation of projects in the EU-12 and Croatia. The support is provided free of charge and is geared towards increasing the absorption rates of these EU funds. It is funded by the Commission and by contributions of the other partners in the form of staff time.

The Commission has recently launched an evaluation of the JASPERS initiative (see European Commission, 2011d).

Finally, the Commission is proposing to include certain ex ante conditionalities in Partnership Contracts with the aim of improving administrative capacity in order to increase the effectiveness of cohesion policy. These would target the Member States, such as the EU-12, where capacity has been an issue to date. One of the conditionalities that the Commission is proposing to apply is that there is a "strategy for reinforcing the Member States' administrative efficiency, including public administration reform" (COM(2011) 615 final/2, p. 148) in place. If there is not, the Member State will have to identify the barriers and then DG REGIO will work with the country to develop an action plan to overcome the problems<sup>88</sup>. In this respect, the respective Partnership Contracts could act as a type of checklist to identify where countries need technical assistance, which could come from technical assistance under the funds or from JASPERS. This should help to overcome some of the problems that have been experienced, particularly with respect to TEN-T railway projects, within the current programming period.

In relation to the use of innovative financial instruments, in its Communication on innovative instruments (COM(2011)622), the Commission notes that experience with the use of the innovative financial instruments (covered by the Communication) in the 2007-2013 programming period can be built upon. Where the implementation of innovative instruments has been entrusted to financial institutions, such as the EIB, this provides the necessary assurances in terms of sound financial management and adequate procedures. Their day-to-day management lies with managers or committees with the appropriate expertise. However, the Commission has maintained control and influence on the policy objectives and strategic direction by being involved in the governance structures of the centrally managed EU instruments. In this way the necessary expertise is applied in the day-to-day management, while the Commission remains involved in strategic and operational oversight.

<sup>88</sup> Interview with DG Regio.

## **5. FUTURE SCENARIOS AND POLICY RECOMMENDATIONS**

### **5.1. Introduction**

This final chapter brings together the main findings of this study. Section 5.2 summarises the main problems experienced with the financing of TEN-T during the current financing period, the main issues that came out of the stakeholder consultation process and how the Commission Proposals try to tackle these.

Next, in section 5.3, the main conclusions and recommendations with regard to the Commission Proposals are summarised.

Finally in section 5.4, the Commission Proposals will be placed in a broader perspective. In particular, there may be various reasons why the pathway laid out in the proposals will face constraints or difficulties. This could include similar problems as were faced in the current financing period, such as insufficient financial resources, delays with finalising projects in time or all types of problems with regard to the coordination between the various Member States, institutions and financing instruments. However also new issues may arise, e.g. related to the financial crisis or the challenges of the energy and climate policy.

### **5.2. How the Commission proposals address the main issues**

The TEN-T policy has a long history, starting in the mid-eighties. The central objectives have remained the same: supporting the economic development and the deepening of the internal market by ensuring seamless transport connections between the various Member States. Over the last decades, additional objectives in the field of energy and climate, in particular the decarbonisation of the transport sector, have become prominent.

The TEN-T policy has contributed to the completion of many transport infrastructure projects. However, the development does not fully match its primary objectives and overall it is seriously delayed compared to what was envisaged. As discussed in Chapter 2, main challenges regarding the further development of TEN-T include poor interconnection of the various TEN-T elements in particular missing cross border connections, interoperability problems (e.g. within the rail network), slow development of intelligent transport systems and a lack of intermodal integration.

First of all, adequate project definition, preparation and administrative capacity are key factors. They are difficult to improve at the EU level and have to some extent been addressed in the proposals. However they would deserve more attention.

Some of these issues are related to the problem of insufficient financial resources. In addition, the assessment made in chapter 4 shows that the allocation of the available EU resources might be targeted more effectively on those parts of the network that have the highest EU added value, in particular cross border and multi-modal connections.

The Commission's proposals for future TEN-T and Cohesion Policy appear to address many of the barriers experienced within the current programming period. Both policies are aligned strategically with the emerging policy framework that encompasses the Europe 2020 strategy

and the Transport White Paper, which aim to deliver mobility while taking account of the EU's fight against climate change and other environmental commitments and policies. Similarly, a number of barriers to the effective operation of the TEN-T and Cohesion Policy have been removed, while action is being taken to ease the administrative burden and to improve administrative capacities. Similarly, the EIB has better aligned its transport lending policy with the policy framework set by the Europe 2020 strategy and the White Paper, while it is planning to further develop its project appraisal and monitoring processes.

Concerning the part of the Cohesion Fund which are proposed to be ring-fenced for the CEF, the new proposals raise the maximum co-financing rate for TEN-T projects in the countries eligible. Furthermore barriers to the use of innovative financial instruments for transport infrastructure are removed. Both should help to stimulate more TEN-T projects.

To some extent also the "environmental" and decarbonisation dimensions are already included in the emerging framework, e.g.:

- Proposed TEN-T Guidelines
  - State that the TEN-T shall contribute to the objectives of low carbon and clean transport and environmental protection (Article 4(1)(b)).
  - Article 42 contains various requirements for environmental assessment
- CPR, ERDF and CF proposals also:
  - Have low carbon objectives
  - Require Member States to have a transport plan in place that has taken account of sustainability and GHG emissions.

### **5.3. Conclusions and recommendations with regard to the Commission proposals**

From the analysis made, the following recommendations were identified for further improving the Commission proposals for the new TEN-T Guidelines, the Regulation establishing the CEF and the Regulations for the CPR, ERDF and CF:

- Detail of the subsequent documents that are to be developed deserves attention.
- The criteria and mechanisms used for prioritising the spending of the EU funds could be further improved and elaborated.
- The proposals could also be further improved with regard to stimulating the application of user charges and the internalisation of external costs.
- The use of innovative financing instruments has advantages and is worth to apply in a pilot phase. However, overcoming regulatory and legal barriers, resolving administrative capacity issues are at least as important. This would deserve more attention in the proposals.

Each of these recommendations is further elaborated below.

**The detail of the subsequent documents that are to be developed**

Experience with previous programming periods suggests that putting the correct framework in place is a necessary, but not sufficient, condition for delivering the right type and portfolio of projects on the ground. Of equal, if not more, importance is the detail of the subsequent documents that are to be developed. These include the delegated legislation produced by the Commission, the detail of the Partnership Contracts agreed with the Member States, as well as the project selection, appraisal and assessment processes put in place by the various stakeholders, such as the Managing Authorities, the Executive Agency which should in the future be responsible for the CEF implementation, the EIB and other international financing institutions. These are all important for ensuring that the network that emerges is consistent with the aims of the overarching policy framework.

**Criteria and mechanisms for prioritisation of the spending of EU funds**

A key element in the new approach is the stronger prioritisation of resources for infrastructure investments. Particularly the definition of the core network can be seen as an attempt to focus the efforts and financial resources on the most important connections. Also the proposed ring-fencing of EUR 10 billion of the CF for the CEF is a way to achieve a stronger prioritisation of the available resources.

This approach can be characterised as 'the network is leading'. After defining the network that is to be completed, the focus is on how this can be achieved. In this approach, the definition of the network is crucial. This has been done by engaging stakeholders in an extensive stakeholder consultation process. The Commission proposals explicitly mention that the core network that is proposed is well supported by public stakeholders. With the completion of the network as a clear target, the policy is designed to gather and prioritise sufficient financial resources to complete this network before the end of 2030 (core network) and 2050 (comprehensive network).

It can be noticed that this approach proposed by the Commission has some important advantages:

- It provides clarity and certainty to Member States, investors and other stakeholders on the network that is to be completed.
- It provides a clear focus on the main network (particularly the Core Network), which is expected to have the highest added value for the EU and therefore reduces the risk of a patchwork of poorly interconnected projects.
- It gives a clear focus on cross border connections, interoperability and intermodal connections.
- It reduces the risk of inefficient and ad-hoc prioritisation and limits the room of undesirable lobbying of regions and Member States for inclusion of their specific projects without taking sufficient account of the broader interests of the EU as a whole.
- The proposed network corridors stimulate improved coordination, which is also an important element for developing the network.

At the same time, the proposed approach also has some risks and challenges, in particular:

- There may still be insufficient financial resources. It may be difficult to increase EU resources to sufficiently high levels and also engaging private investors might turn out

to be more difficult than envisaged. In addition the gathering of sufficient financial resources may be hampered by the current financial crisis.

- There is a risk of not meeting decarbonisation targets. This depends heavily on the net carbon effects of the developments, which in turn depends on the detail of how the networks are developed: e.g. what additional transport capacity is provided for each transport mode, how does the environmental performance of each mode develop, to what extent are ITS, user charges and other efficiency measures implemented and last but not least how large are the effects of the additional capacity on the overall transport demand (so-called rebound effects).
- There may be a risk of over-investing in certain areas or modes when the final network is leading and when there are insufficient checks on the estimated net economic benefits of individual projects.
- The structure of the core network corridors is not fixed and the success will therefore depend on the strength of the EU coordinators.

Because of these risks and challenges, it is recommended to improve and further elaborate the criteria and mechanisms used for prioritising the allocation of EU funds. Section 5.4 includes suggestions how this could be done.

#### **Stimulating the application of user charges and internalisation**

The proposals could also be further improved with regard to stimulating the application of user charges and the internalisation of external costs. It is clear that user charges and internalisation can play a key role in both infrastructure use and infrastructure financing. They can optimise the use of infrastructure, raise revenues that can be used for (cross)financing new infrastructure and help to engage private investors. However, under the current Cohesion and Structural Funds rules, the revenues from user charges are subtracted when calculating the total project sum eligible for co-funding. In this way, the current rules discourage the application of user charges and indirectly favour road infrastructure (EU Member States are obliged to have user charges for rail infrastructure, while for road and inland waterways this is not the case). This issue does not seem to be adequately solved in the proposals and it is recommended to improve the proposals in this respect.

#### **The use of innovative financing instruments and PPPs**

In addition, the innovative instruments deserve particular attention, because of the large role attributed to them by the Commission. This approach has certainly advantages, in particular the following:

- Engaging private investors may help to close the funding gap and speed up the completion of the network.
- It may help to reduce the financial burden for the public sector (as long as guarantees are not drawn upon frequently).
- Projects could profit from the financial discipline of private investors and the markets in general, which may help to prioritise projects that are from the societal macro-economic perspective viable.
- It can be an effective way of using public money: large impacts from relatively small EU contributions.

On the other hand it is clear that 'financial innovation' can not solve the more fundamental challenges. It is no panacea for speeding up the development of strategic (possibly high-risk) transport investment. Overcoming regulatory and legal barriers, resolving administrative capacity issues are at least as important.

In addition, the following issues are to be considered in this context:

- PPPs are not suitable for every type of project. The use of a PPP is particularly advantageous when the design of the project allows for freedom by the construction company. In that case, risk transfer is beneficial. PPPs should not be adopted to get projects off the balance sheet, as has happened in the past.
- In the case of the Project Bonds, it is clear that the risk for the EU budget is well shielded off. The risks resulting from the guarantees for the private investors are rather carried by the EIB. In the proposals it is not made explicit what market failures are corrected by these guarantees. This is an issue that deserves further attention. It should be noticed that the guarantees from the public sector (EIB) may somehow reduce the critical assessment of the markets as some of the risks are transferred from the private to the public sector. We conclude that the Project Bonds Initiative is in itself interesting and promising, but careful monitoring in the pilot phase is strongly recommended.
- There is a broad range of 'innovative financial instruments', some of which overlap. This is already very confusing for people (national politicians, beneficiaries etc.). There is a need, before developing new instruments, to take stock of what already exists and consolidate and/or streamline to some extent.
- PPPs have a role, but are only beneficial if PPP processes are supported by good procurement advice. That may result in a PPP but other methods of procurement should always be fully explored. Otherwise Member States will just put forward projects that can be PPP'd (not necessarily those that are really needed).
- Great care needs to be taken with PPPs that depend on availability and/or performance-related payment mechanisms, as programmes that depend extensively on them can become financially unsustainable.
- The EIB has a role to play as a partner organisation, but other International Financing Institutions (e.g. the World Bank, a larger role for the EBRD) should also be considered by EU policy makers. The EIB's recent focus on lending targets should be redirected to public policy targets (i.e. quality, not quantity, of lending).

#### **5.4. Less resource-intensive scenario**

The Commission proposals are ambitious and start from a clear pre-defined network which has various pros and cons. However, the pathway laid out in the proposals may face constraints or difficulties. Over the last decades, the TEN-T policy did not fully deliver what it intended to do and the new proposals might not be able to fully solve effectively all challenges and problems from the past. A key issue is that the TEN-T network, both the core and the entire comprehensive network, require huge investments. History has proven that it is very difficult to gather sufficient resources and in the current era this may be even more

challenging. So, in the case that either public or private investments are more limited than envisaged in the proposals, there may be a need for considering alternative solutions.

In this section, we will discuss what an alternative scenario could be considered in the light of these constraints.

First of all, in such case, stronger prioritisation of various TEN-T projects will be needed. Generally, such prioritisation should be in line with the primary objectives of the policy, i.e. maximising EU added value and contributing to decarbonisation of the transport sector. The proposals clearly mention these objectives, but they do not yet include clear mechanisms for stronger prioritising, i.e. project assessment and selection/eligibility on the basis of economic contribution and decarbonisation. This could be done as elaborated in section 4.2.5:

- By defining a clear carbon rating methodology.
- By defining a clear and strict CBA methodology.
- Require that both types of methodologies are based on identical traffic forecasts resulting from certified traffic modelling, and that they are carried out and validated by independent bodies that have no direct or indirect interests in the project. There are some intrinsic uncertainties of long term traffic modelling that are not easily solved. However requiring that carbon and economic effects should be based on the same traffic forecasts can be a good way to avoid over optimistic traffic forecasts.
- Further integration of incentives for the implementation of user charges, internalisation of external costs and ITS within the TEN-T framework, e.g. by explicitly requiring these in the eligibility criteria for (some types of) projects, by stimulating them by offering higher co-funding rates for projects that include user charges and/or ITS or by taking account of them in the prioritisation of EU funding.

Beside making the approach of the proposals more robust for scenarios with low availability of financial resources, these enhancements can have other important advantages in addition to stronger prioritisation:

- They can ensure that the spending of public money is justified on clearer grounds.
- They may help to ensure that investments truly contribute to decarbonisation and economic objectives.
- They push project design in the most efficient and low-carbon direction.
- They stimulate optimisation of projects by stimulating user charges and ITS.
- In the aftermath of the financial crisis, not all infrastructure envisaged may be needed (anymore). To put it differently, the optimisation of the use of the current network is usually cost effective and might in some cases be sufficient. A clearer focus on CBA ensures that the investment in infrastructure is demand-driven.

A further elaboration of the current Commission Proposals into the direction sketched above is recommended.

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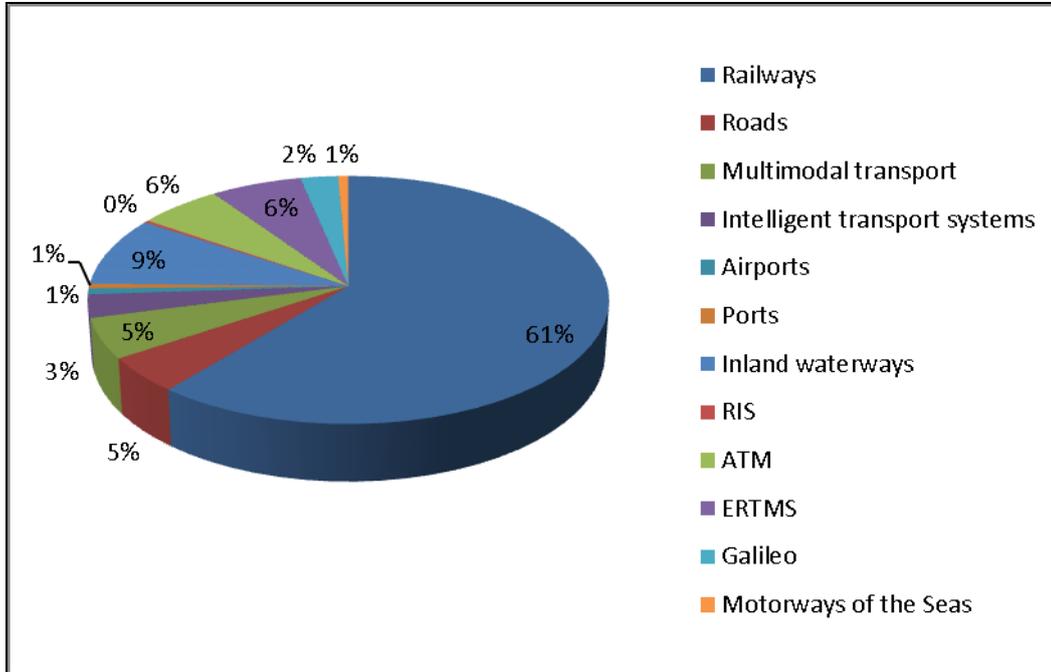
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## ANNEX I: DETAILED STATISTICS

### TEN-T programme

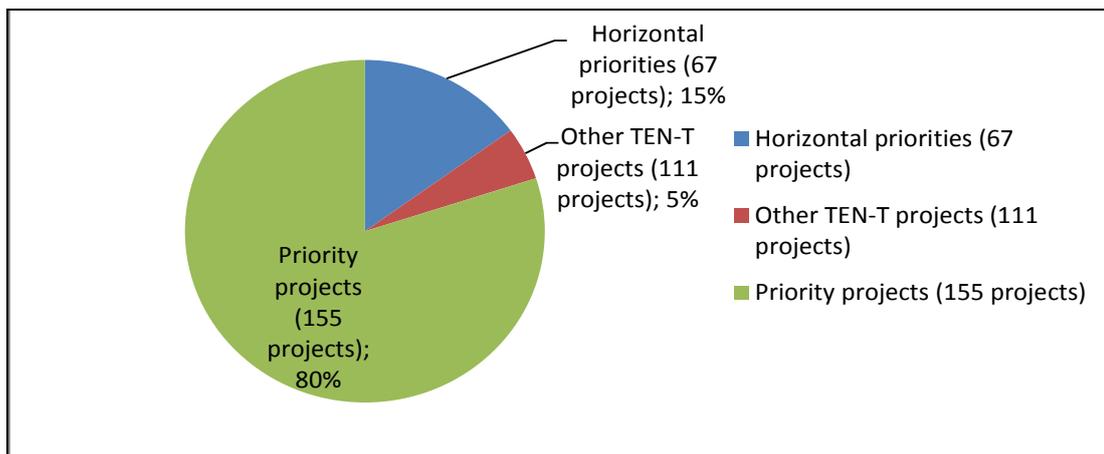
Figure 17: Modal share of TEN-T projects managed by TEN-T EA (2007-2013)



Source: TEN-T EA (2011a).

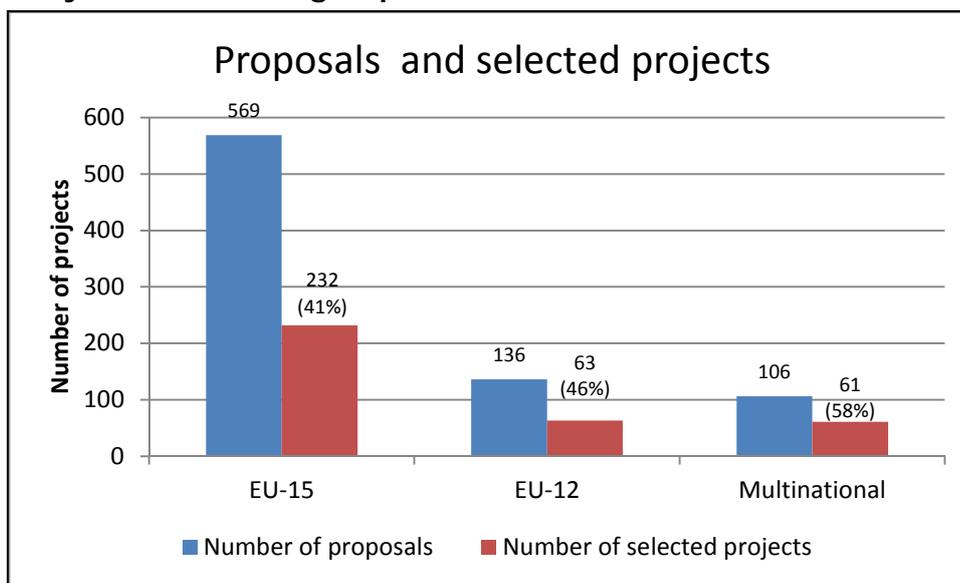
Note: Total (100%) equals EUR7.2 billion.

Figure 18: On-going and closed projects to end of 2010 (percentages refer to the project sums)



Source: Panagopoulou (2011).

**Figure 19: Success rate of proposals in the TEN-T programme, by Member State group**



Source: Beckers (2011).

## ERDF and CF

### Facts and Figures from Ex-post evaluation (2000-2006)

The ERDF co-financed:

- 13% of all new high speed rail lines and upgrading of 3,000 km of railway lines
- 26% of 7,734 km of motorway completed in EU-15

The Cohesion Fund co-financed:

- 1,282 km of new roads + 3,179 km of reconstructed roads (4,461 km in total)
- 99 road projects contributing 10% towards the total length of the TEN-T network across EU16 - 20% in EU 10.
- 28 road projects on sections of TEN-T Priority projects, contributing around 1,024 km
- 2,010 km of new rail + 3,840 km of reconstructed rail (5,850 km rail in total)
- 112 rail projects contributing 21% towards the total length of the TEN-T network across EU16. almost 40% in EU 10 countries
- 75 rail projects on sections of TEN-T Priority projects, contributing around 3,000 km

Source: Walsh, 2011.

**Innovative financing instruments****Table 10: Complete overview of LGTT project portfolio and pipeline**

PROJECT	SECTOR/COUNTRY	LGTT AMOUNT (EUR MILLION)	AVAILABILITY PERIOD START
<b><i>Signed Operations</i></b>			
IP4 Amarante-Vila Real PPP (TEN)	Road/Portugal	20.0	2015
Autobahn A-5 PPP (TEN)	Road/Germany	25.0	2021
Baixo Alentejo PPP (TEN)	Road/Portugal	25.0	2014
Eix Transversal C-25 PPP (TEN)	Road/Spain	70.0	2018
Autobahn A8 (II) PPP TEN	Road/Germany	59.6	2016
LGV SEA	Rail/France	200.0	2015
<b><i>Pipeline: Approved</i></b>			
CDG Express	Rail/France	100.0	2015
London Gateway Port	Port/UK	100.0	2012
<b><i>Pipeline: Identified</i></b>			
Collegamento stradale Porto di Ancona	Port/Italy	50.0	2015
Autoroute Ferroviaire Atlantique	Combined Road/Rail in France	35.0	2012
Autoroute Ferroviaire Alpine	Combined Road/Rail between Italy/France	20.0	2011
A355 Strasbourg	Road/France	70.0	2015
Kasteli Airport - Crete	Air/Crete	150.0	2015
Albaufstieg	Road/Germany	70.0	2016
Rotterdam World Gateway	Port/Netherlands	80.0	2016
Passante di Mestre	Road/Italy	100.0	2016
Autovie Venete	Road/Italy	200.0	2016
<b>Total</b>		<b>1,374.6</b>	

Source: Loan Guarantee Instrument for TEN-T Projects, Mid-Term Review, EIB (July 2011).

**Table 11: EBRD Participation in the current Pan-European Corridors (EUR million)**

<b>CORRIDOR<sup>89</sup></b>	<b>ROAD</b>	<b>RAIL</b>	<b>PORT</b>	<b>OTHER TRANSPORT</b>	<b>TOTAL</b>
1	16.6			13.6	30.2
2	40.2	49.1			89.3
3	45.0				45.0
3 + 5	373.4				373.4
4	432.4	13.4			445.8
4 + 9	75.0				75.0
5	441.7	20.9			462.7
5b	33.3				33.3
5c	240.6	25.1	11.3		277.0
7	66.0		16.0		82.0
8	67.0		14.0		81.0
9	17.5	43.8	26.0		87.3
9 + 3 + 5	450.0				450.0
10	1,004.2	276.3	34.5		1,315.0
REBIS <sup>90</sup>	35.0				35.0
REBIS + 8	24.2				24.2
<b>Total</b>	<b>3,362.1</b>				<b>3,906.1</b>

Source: Correspondence with EBRD Staff (18/11/2011).

<sup>89</sup> Ten Pan-European transport corridors were defined at the second Pan-European Transport Conference in Crete in 1994, as routes in Central and Eastern Europe that required major investment over the coming 10 – 15 years. See Annex III for a map.

<sup>90</sup> REBIS: the Regional Balkans Infrastructure Study.

## **ANNEX II: TEN GOALS OF THE 2011 WHITE PAPER ON TRANSPORT**

### **Ten goals for achieving a competitive and resource efficient transport system of the 2011 White Paper on Transport:**

#### **Developing and deploying new and sustainable fuels and propulsion systems**

1. Halve the use of 'conventionally-fuelled' cars in urban transport by 2030; phase them out in cities by 2050; achieve essentially CO<sub>2</sub>-free city logistics in major urban centres by 2030.
2. Low-carbon sustainable fuels in aviation to reach 40% by 2050; also by 2050 reduce EU CO<sub>2</sub> emissions from maritime bunker fuels by 40% (if feasible 50%).

#### **Optimising the performance of multimodal logistic chains, including by making greater use of more energy-efficient modes**

3. 30% of road freight over 300 km should shift to other modes such as rail or waterborne transport by 2030, and more than 50% by 2050, facilitated by efficient and green freight corridors. Meeting this goal also requires appropriate infrastructure to be developed.
4. By 2050, complete a European high-speed rail network. Triple the length of the existing high-speed rail network by 2030 and maintain a dense railway network in all Member States. By 2050 the majority of medium-distance passenger transport should go by rail.
5. A fully functional and EU-wide multimodal TEN-T 'core network' by 2030, with a high quality and capacity network by 2050 and a corresponding set of information services.
6. By 2050, connect all core network airports to the rail network, preferably high-speed; ensure that all core seaport are sufficiently connected to the rail freight and, where possible, inland waterway system.

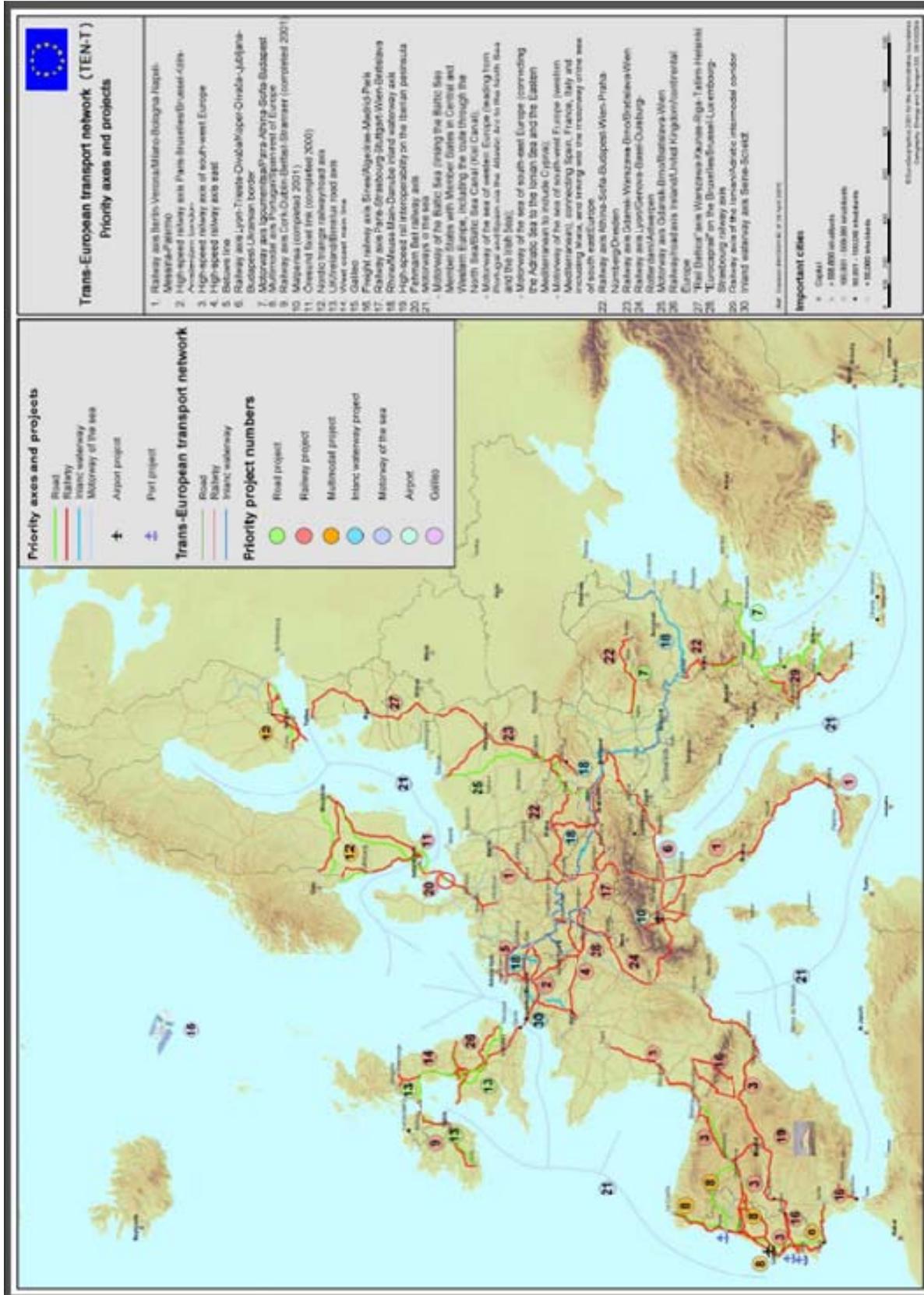
#### **Increasing the efficiency of transport and of infrastructure use with information systems and market-based incentives**

7. Deployment of the modernised air traffic management infrastructure (SESAR) in Europe by 2020 and completion of the European Common Aviation Area. Deployment of equivalent land and waterborne transport management systems (ERMTS, ITS, SSN and LRIT, RIS). Deployment of the European Global Navigation Satellite Systems (Galileo).
8. By 2020, establish the framework for a European multimodal transport information management and payment system.
9. By 2050, move close to zero fatalities in road transport. In line with this goal, the EU aims at halving road casualties by 2020. Make sure that the EU is a world leader in safety and security of transport in all modes of transport.
10. Move towards full application of 'user pays' and polluter pays' principles and private sector engagement to eliminate distortions, including harmful subsidies, generate revenues and ensure financing for future transport investments.



# ANNEX III: MAPS

Map 1: Map of current 30 Priority Projects as of 2004



Source: European Communities (2005).

**Map 2: Map of proposed TEN-T Core Network and Core Network Corridors**



Source: TEN-T Executive Agency (2011b). Please note that this map might be subject to changes.

Map 3: Map of the ten Pan-European transport corridors



Source: [http://en.wikipedia.org/wiki/Pan-European\\_corridors](http://en.wikipedia.org/wiki/Pan-European_corridors).



## **ANNEX IV: LIST OF PERSONS INTERVIEWED**

- Stéphane Ouaki, DG MOVE , European Commission
- Herald Ruijters, DG MOVE , European Commission
- Wolfgang Munch, DG REGIO, European Commission
- Jacqueline Soulier Oliveira Sá, DG REGIO, European Commission
- Byron Kabarakis, DG REGIO, European Commission
- David Harrison, CFO of the Marguerite Fund
- Sue Barratt, Director of the EBRD's Transport Team
- Email exchanges with Francesco Falco, TEN-T EA
- (Email) exchanges with Elisabetta Cucchi and Pé Verhoeven, EIB (European Parliament) and others (ITS Leeds)





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