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COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT

Accompanying the document

Proposal for a Directive of the European Parliament and of the Council amending Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area, as regards the opening of the market for domestic passenger transport services by rail and the governance of the railway infrastructure

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Disclaimer: This impact assessment commits only the Commission's services involved in its preparation and does not prejudge the final form of any decision to be taken by the Commission

TABLE OF CONTENT

Annexes

1. INTRODUCTION

1.1 Background

In its 2011 White Paper on transport policy adopted on 28 March 2011 (hereinafter the 2011 White Paper), the Commission announced its vision to establish a Single European Railway Area and clarified that this objective implies creating an internal railway market where European railway undertakings can provide services without unnecessary technical and administrative barriers. [1]

Several policy initiatives have recognised the potential of rail infrastructure as a sustainable backbone for the internal market and a driver of sustainable growth. The European Council conclusions of January 2012 highlight the importance of unleashing the growth-creating potential of a fully integrated Single Market, including measures with regard to network industries.[2] Furthermore, the Commission Communication on Action for Stability, Growth and Jobs adopted on 30 May 2012 stresses the importance of further reducing the regulatory burden and barriers to entry in the rail sector, making country-specific recommendations to that aim.[3] In the same manner, on 6th June 2012 the Commission adopted the Communication on strengthening the governance of the single market, which also stresses the importance of the transport sector.[4]

At the same time, important financial means have been made available for investment in rail infrastructure by Member States as well as through EU structural funds. In addition, the Commission has proposed for the next 2014-2020 multi-annual financial framework the creation of a new infrastructure instrument supporting the priorities in Transport, Energy and Telecommunications: the "Connecting Europe Facility" (CEF)[5]. Of the total €50-billion envelope €31.7 billion are allocated to transport infrastructure.

The EU railway market has seen important changes in the recent decade. They were gradually introduced by three legislative "railway packages" (with some accompanying acts) intended to open up national markets and make railways more competitive and interoperable at the EU level, while maintaining a high level of safety. The most recent development is the adoption (passed 2nd reading in Parliament in July, to be adopted by the Council before the end of 2012) of the recast of the 1st Railway Package, which, in addition to legislative simplification and consolidation, reinforces existing provisions on competition issues, regulatory oversight and financial architecture of the railway sector[6].

Despite the considerable development of the 'EU acquis' establishing an internal market for rail transport services, the modal share of rail in intra-EU transport has remained modest.

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1 White Paper Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system (COM/2011/0144 final)

2 http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/127599.pdf

3 COM (2012) 299 final

4 COM(2012) 259 final

5 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions "A Budget for Europe 2020", 29.6.2011, COM(2011)500 Final.

6 Frequently asked questions on the recast of the first railway package. European Commission, http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/12/520&format=HTML&aged=0&language=EN&guiLanguage=en

Therefore the Commission has planned to put forward the 4th Railway Package (cf. Annex I for further details) in order to enhance the quality and efficiency of rail transport services by removing the remaining identified obstacles of different types, and by thereby fostering the performance and competitiveness of the railway sector. As announced by the 2011 White Paper, these issues will be addressed by different initiatives:

- **Removing remaining administrative and technical barriers**, in particular by establishing a common approach to safety and interoperability rules to increase economies of scale for railway undertakings active across the EU, decreasing administrative costs and accelerating common administrative procedures, as well removing disguised discrimination;
- **Opening the domestic rail passenger market**, granting open access rights but also addressing competition for public service contracts (PSCs)[7] award process, in order to complete the process of rail passenger market opening; accompanying measures will facilitate Member States' retaining integrated timetabling and ticketing systems where this benefits the passenger;
- **Optimising the governance of infrastructure management**, in particular by ensuring that the infrastructure manager performs a consistent set of functions that optimises the efficient use of infrastructure capacity and ensuring effective non-discriminatory access to the infrastructure.

1.2 Scope of the impact assessment

This impact assessment focuses on the third point mentioned above. It draws in particular on the experience gained in all 25[8] Member States which have opened the rail freight and international passenger markets under EU law as well as those that have already chosen to take measures to open their domestic rail passenger markets to competition.

This impact assessment will not deal with the issue of access and governance of rail-related services (such as passenger stations, freight terminals, maintenance facilities) as this has been already been addressed recently by the Recast of the First Railway Package. However, since this issue is directly linked with the governance and the conditions of access to the railway networks, this question is presented under Annex VII of the present document.

2. PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

2.1 Organisation and Planning

This IA is prepared by DG MOVE to support the legislative initiative on the governance of railway infrastructure in the Single European Railway Area (Agenda Planning number 2011/MOVE/…). The Commission proposal in this regard will include amendments to the Directive of the European Parliament and of the Council establishing a single European railway area[9].

An Impact Assessment Steering Group was created in December 2011 and has been actively consulted during the IA process. This Steering Group has counted on the membership of DG CLIMA, COMP, ECFIN, EMPL, ENER, ENV, ENTR, LS, MARKT, REGIO, SANCO, EEAS,

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7 List of abbreviations with explanations is provided in Annex IX.

8 Cyprus and Malta have no rail system.

9 [reference to be added (unknown, text adopted by Council on 29 October and published in OJ in December)]

TRADE ELARG and SG and met 8 times, with the last meeting being held on 4 October of 2012. The IASG has been re-consulted in writing on the final draft on 8 October 2012.

2.2 Consultation and Expertise

Expertise

In order to support the Commission in the impact assessment process, an external consultant was tasked to prepare a support study[10] and to undertake a targeted consultation. The study started in December 2011 and the final report was delivered in November 2012.

Consultation of stakeholders

To gather the views of the different stakeholders, a comprehensive mix of targeted consultation methods completed by a Eurobarometer survey was preferred to an open consultation for two main reasons:

(1) The technical nature of some of the questions: not all stakeholders could have been expected to have a knowledge of the subject-matter, in particular passengers.

(2) Representativeness of passengers' responses would have not been ensured without a structured sampling of responses, and in particular the Eurobarometer offered the possibility to interview a carefully structured sample of 25.000 respondents in their own language.

Within the main consultation organised by the external consultant (from 1 March 'til 16 April, responses obtained up to mid-June were accepted), tailored questionnaires were sent to each group of main stakeholders - railway undertakings, infrastructure managers, public transport ministries, safety authorities, ministries, representative bodies, social partners etc. The consultation reached out to 427 rail stakeholders and had a 40% response rate. The consultant and/or the Commission services also held face-to-face interviews in 10 Member States - Austria, Czech Republic, France, Germany, Hungary, Italy, Netherlands, Sweden, Poland and the United Kingdom.

The views of passengers were collected through a Eurobarometer survey, which reached out to more than 25.000 respondents, with a representative sample (circa 1000 per Member State) of respondents in each of the 25 Member States with railways.

A stakeholder hearing was held on the 29 May 2012 (with some 85 participants). Commission services have also met with sector representatives on an on-going basis throughout 2012 to listen to their views, including organisations such as CER (incumbent railway undertakings), EPTO (private passenger transport operators), ERFA (private rail freight operators), ETF (transport workers), EPF (passenger federations), EIM (independent infrastructure managers) and UITP (urban transport operators). The consultation process was concluded by a large conference “Last Mile towards the 4th Railway Package” with 420 participants representing the entire sector in September 2012.

The majority of stakeholders agreed during the targeted consultation that the quality of rail services and the competitiveness of the sector in the EU were affected by different access barriers for RUs. 69% found different interpretation of legislation to be an issue.

[10] Steer Davies Gleave (2012): "Study on further action at European level regarding market opening for domestic passenger transport and ensuring non-discriminatory access to rail infrastructure and services" (further referenced as IA support study)

Infrastructure capacity constraints were considered to be the main access barrier for RUs (quoted by 83%).

The result of the consultation shows that views are highly polarised regarding the appropriateness of solutions to these problems (e.g. how to ensure independent and efficient governance of railway infrastructure). Some stakeholders - a large majority of transport ministries, competition authorities, regulatory bodies, independent infrastructure managers and RUs, passengers and freight forwarders associations - advocated a complete separation which would ensure full transparency and a level playing field for all operators. Other stakeholders, in particular holding companies, infrastructure managers depending on such holdings and workers' representatives, argued that there is no empirical evidence about the benefits of complete separation and that some scientific literature indicates that it could lead to higher transaction costs. These stakeholders think that a stronger role of regulatory oversight could be sufficient to solve the issues. 64% of respondents support the idea of creating of a specific body of representatives from all infrastructure users to ensure interests are taken into account in a non-discriminatory way.

In line with the IA Guidelines on the consultation of social partners, the Sectoral Social Dialogue Committee was consulted on 26 March and 19 June 2012, in particular with regard to the options and social impacts. However, during the meetings worker organisations did not wish to position themselves on any of the options related to the IM governance, as they considered them as supporting measures in favour of market opening, a principle to which they were fundamentally opposed. Finally the network of the Committee of Regions was used to reach local and regional passenger transport authorities. Such consultation was open from 14 May till 21 June.

Throughout the consultation process the Commission has taken a proactive approach to prompt stakeholders to participate. Given that all relevant parties have been given an opportunity to express their opinions the minimum consultation standards of Commission have been met. More detailed overview of the consultation process, representativeness and content of responses is provided in Annex II.

2.3 Impact assessment Board

This impact assessment was reviewed by the Commission's Impact Assessment Board on 7 November and 30 November 2012. Based on the Board's recommendations, the impact assessment has been revised as follows:

The problem definition has been revised to make it more robust. Additional anecdotal evidence, benchmarks between comparable Member States, in particular to examine to which extent the institutional setting in place can influence the success of liberalisation and improve the intensity of infrastructure use have been added. Where relevant, analogies with other network industries have been made. The context of the initiative has been further clarified with a presentation of the current approach and on-going reforms in Member States, as well as with additional explanations on its relation with the Recast and with on-going infringement procedures. The content of each possible policy option, their differences and their implications, as well as the criteria for screening them have been further explained. The definition, analysis and comparison of alternative policy scenarios presenting (a) only efficiency measures and (b) efficiency measures in combination with 2 different separation modes, have been strengthened with further discussion. Where possible, a quantification of the costs and benefits related to each policy scenario has been added. Furthermore quantitative estimates of the impact of this initiative, when combined with the other initiatives

of the 4th Railway Package aimed at opening the domestic rail passenger markets, have been added. The methodology retained for the calculation of both costs and benefits has been more clearly explained. Stakeholders' views have been further detailed throughout the report and the choice of a mix of targeted consultations completed by a Eurobarometer survey justified. Finally the presentation of the report has been improved with the provision of references of the studies, reports and decisions quoted as well as web links, where available. Graphs and figures have been revised and further explained, referencing of stakeholders opinion and studies improved, and the map demonstrating the structural models of Member States has been incorporated. Notwithstanding, where relevant the limits of available quantification have also been stipulated.

3. PROBLEM DEFINITION

3.1 Description of the current framework for the governance of railway infrastructure

3.1.1 Rail infrastructure as natural monopoly

Railway infrastructure is a natural monopoly[11]. Its construction is very expensive and consequently it is not economically justified that each railway undertaking builds its own tracks. Therefore there is a need for specific rules in order to ensure optimal management and utilisation of the shared infrastructure by different railway undertakings. Even then the construction and maintenance of railway infrastructure is mostly not commercially viable and relies on public support. Revenues collected by infrastructure charges are typically absorbed by maintenance needs. Against the background of growing pressure on public finances, improving the efficiency of railways is more crucial than ever.

This intrinsically raises two challenges from an economic and regulatory point of view:

- **Efficient management challenge:** the current governance does not provide sufficient incentives and means for infrastructure managers (hereinafter IM) to respond to the needs of the transport services market and to contribute to the optimisation of the performance of the sector taken as a whole;

- **Equal access challenge:** Given that historically infrastructure was owned by incumbent rail operators, conflicts of interest naturally lead to discriminatory/protectionist practices of incumbents which impair competition in rail services. Eliminating the incentives for the incumbent to discriminate against its competitors via different infrastructure management functions is arguably even more necessary in the rail sector than in the electricity or telecom grids, as the rail IMs have a wider range of services and therefore more means for discrimination.

3.1.2 Infrastructure management functions

Infrastructure management relates to different activities which can be categorised in different manners but correspond basically to the four following elements:

a) **Infrastructure development.** This includes responsibilities for the ultimate network planning, financial and investment planning and building on the basis of market analysis,

[11] A *natural monopoly* is a type of monopoly that may arise when there are extremely high fixed costs such as exist when large-scale infrastructure is required to ensure supply. These costs are also sunk costs, and they deter entry and exit.

business plans, fund raising from public authorities and financial markets. Simplistically, this means building new tracks, depots and stations to increase the size of the rail network.

b) **Track access charging**. This includes the determination and collection of charges but also more generally infrastructure marketing – i.e. relations with customers (railway undertakings and other categories of applicants for infrastructure capacity), public authorities and regulators. In practice, this means that the IM markets access to the network.

c) **Infrastructure operations, including path allocation and traffic management.** This includes the provision of services necessary for infrastructure access on a long or short term basis through assessment of availability and allocation of individual train paths, timetabling, traffic management, control command and signalling as well as traffic information services. In short, this means that the IM is responsible for the organisation of the traffic on its network, including in case of traffic disturbances.

d) **Infrastructure maintenance.** This includes infrastructure upgrade and renewal and is linked to asset management activities. The IM is thus responsible for organising and conducting the maintenance of the network assets.

According to current legislation, the functions of the IM may be allocated to different bodies or firms. On the one hand, the two "essential functions" of IM - path allocation and track access charging - may be assigned to an allocation body and charging body (See under Section 3.2.1.2).

3.1.3 The current European regulatory framework for the governance of the railway infrastructure

The Commission has long considered that the improvement of the functioning of the internal market should stimulate the rail industry to become more efficient and responsive to customers' needs. Thus the development of EU rail market access legislation has progressively encouraged market opening.

Within this framework, certain degree of separation between infrastructure management and transport operations have been introduced under EU law with the aim to thereby prevent discriminatory practices distorting competition in integrated structures[12]. This policy is in line with the general Commission policy for the regulation of network industries (see Box 1 below).

Box 1 - Analogies with other network industries: link between market opening and separation

As highlighted in the report on the market functioning of network industries (Electronic Communications, Energy and Transport) produced for the Economic Policy Committee and published by the Commission on 16 November 2012, network industries share common characteristics. On the one hand, the infrastructure segment displays features of natural monopoly (high sunk costs and non-duplicable network) and is subject to regulation on pricing and access to the network. This applies to the transmission and distribution networks in e-communications (backbone, backhaul and last mile) energy and transport infrastructures (road, rail, ports and airports). On the other hand, competition needs to be ensured in network services, as long as each operator gets a fair and transparent access to the infrastructure. These industries are intrinsically characterized by the co-existence of competitive and regulated segments with natural monopolies, sunk costs, and economies of scale due to the crucial

[12] integrated structure' means an entity being in charge of both transport operations and infrastructure management.

role played by the underlying infrastructure. Given the economic costs associated with monopolistic rents, these sectors have thus been reshaped by major regulatory reforms over the past two decades, mainly in order to promote competition and safeguard consumers' rights.

In the case of companies which integrate infrastructure and the related upstream or downstream services, it is difficult for other operators on these related markets to compete against such a company, since the control over the infrastructure confers a number of competitive advantages to the integrated company: not only does it have exclusive information about costs and other items of the infrastructure which are relevant for competitors, but it also has the possibility to exploit the control over the infrastructure in order to limit the actions of the competitors. Therefore on the one hand market opening of such network industries requires a separation of accounts which allows a transparency of costs of and charges for the infrastructure and on the other it must be ensured that the decisions related to the management of the infrastructure are taken in an independent way. European legislation in all the network industries mentioned above has opted for the unbundling of infrastructure and related services as a preferred means to guarantee non-discriminatory access to the infrastructure, and to make market-opening a success.

This was done in the **air transport sector**. After the three liberalisation packages adopted between 1987 and 1993, separation measures were introduced to ensure access of airlines to the necessary resources and services in airports: Council Regulation (EEC) No 95/93 on common rules for the allocation of slots at Community airports and Regulation (EC) No 793/2004 of the European Parliament and of the Council of 21 April 2004 amending this Regulation introduced slot allocation bodies and ground handling services which had to be independent from air carriers. The aim was to prevent dominant air carriers from controlling these functions of the infrastructure manager and services with a view to discriminate their competitors.

Market opening in the **telecom** sector followed the same principles. Regulation (EC) No 2887/2000 of 18 December 2000 provided for an unbundled access to the local loop. The Regulation addresses the problem of the lack of competition on the local network where incumbent operators dominated the market for voice telephony services and high-speed Internet access. Allowing new entrants access to the local loop has led to increased competition and stimulated technological innovation on the local access market. It has not only produced much lower charges for telecom users, but also encouraged the provision of a large range of competitive electronic communications services.

In the **energy sector**, the process of market opening has been launched in the mid-90s to enable all consumers to benefit fully from competition and fair prices. The Second energy Package of 2003 introduced some limited unbundling provisions, with the requirement that network operations be legally and functionally separated from supply and generation or production activities. The functional independence was described with some limited safeguards concerning the structure, but essentially it was only about legal separation.

However, the Commission’s Energy Sector Inquiry, launched in June 2005, identified a number of areas where the market was not working properly. This concerned in particular the continuing market power of incumbents in many Member States, stemming from an inadequate separation of network and supply companies and leading to foreclosure of new entrants and investments. The integration of network and energy generation in the same companies also caused an unwillingness of integrated national incumbents to make investments in cross-border infrastructure, since integrated companies have an incentive to protect their own home markets from competing energy producers from other EU countries. This has undermined cross border integration of networks. That is why the Commission proposed in 2007, in its Third Energy Package, an ownership unbundling of the network from energy supply and generation activities. In addition to the ownership unbundling, the option of an independent system operator (ISO) was proposed, giving the member states also the opportunity to let the transmission networks remain under the ownership of energy groups, but transferring operation and control of their day-to-day business to an independent body. A third possibility was added at the request of a number of Member States during inter-institutional debates: the ITO model. This model, the Independent Transmission Operator (ITO), envisages energy companies retaining ownership of

their transmission networks, but the transmission subsidiaries would be legally independent joint stock companies operating under their own brand name and with a number of very strict structural safeguards ensuring the autonomy of the ITO from the holding company. These safeguards contain the appointment and supervision of board members, the prohibition of financial flows between ITO and the holding, the decisions on investments and many other strict "Chinese walls" which practically prevent the holding company from influencing the day-to-day management of the ITO. The addition of the ITO model to the package allowed a compromise and the adoption of the Third Energy Package in 2009. Because Chinese walls under the ITO model are very burdensome, one can observe that Member States tend to prefer the full ownership unbundling. For the same reasons, in a Member State where the ITO model was retained, such as Germany, the two biggest infrastructures (out of four) were sold by energy holdings to third parties.

For more than twenty years, Directive 91/440/EEC[13] has provided for the separation of accounts between rail infrastructure and transport operation to ensure financial transparency and avoid cross-subsidisation between infrastructure and operation management. Following the First Railway Package adopted in 2001, additional separation requirements were introduced through Directive 2001/12/EC[14] and Directive 2001/14/EC[15]. The latter stipulates that the "essential functions" of IMs – train path allocation and infrastructure charging - must be separated from transport operations in legal, organisational and decision making terms. In addition, the same Directive foresees that Member States have independent Regulatory Bodies in place to oversee railway markets and to act as an appeal body for rail companies.

The Recast of the First Railway Package (hereinafter 'the Recast') merging nine previous legislative texts was proposed by the Commission in September 2010 with the objective to strengthen the power of regulatory bodies, improve the framework for investment in rail, and ensure fairer access to rail infrastructure as well as rail related facilities and services. Following a final vote of approval in the European Parliament on 3 July 2012 and adoption by Council on 29 October 2012, these new EU rules will be transposed by 2015.

Despite requests from some Members of the European Parliament and specific Member States during inter-institutional negotiations, issues related to the separation between infrastructure management and transport operations were finally not directly addressed by the Recast. The Commission argued in particular that further stakeholder consultation and a robust impact analysis was required. As a final compromise, the Recast calls on the Commission to act by December 2012: "*the Commission shall, if appropriate, propose legislative measures […] to develop appropriate conditions to ensure non-discriminatory access to infrastructure, building on the existing separation requirements between infrastructure management and transport operations, and shall assess the impact of any such measures*".

Further details on the current legal framework are provided in section 3.2 as part of the *baseline developments*.

3.1.4 The implementation of the EU regulatory framework by the Member States

Member States have chosen different models of governance to implement this legislation. More than half of the Member States with a rail transport system (13 out of 25) went beyond what is required by EU law and opted for an institutional separation between (a) a fully-fledged IM in charge of all the IM functions described under section 3.1.2 and (b) the transport operators. These Member States are listed in category 1 in Table 1. Others have

13 OJ L 237, 24. 8.1991, p. 25.
14 OJ L 075 , 15.3.2001, p. 1.
15 OJ L 75, 15.3.2001, p. 29.

chosen to establish more complicated structures. Four Member States in category 3 kept a fully integrated structure (with only separation of accounts between infrastructure management and transport operations) but delegated the two essential IM functions to external bodies (called charging and capacity allocation bodies). Some Member States established a holding structure with a legally separated subsidiary in charge of infrastructure management (categories 2 and 5). Ireland and the United Kingdom (in respect of Northern Ireland) benefit from an exemption from separation requirements until 15 March 2013 and have until now maintained a fully integrated structure in charge of both transport operations and infrastructure management, including IM essential functions.

Table 1 – Institutional settings in the Member States

Category	IM responsibilities	Level of independence	Member States
1	IM in charge of all IM functions (incl. capacity allocation and charging)	IM institutionally independent from any railway undertaking	Bulgaria, Czech Republic, Denmark, UK (for the part of Great Britain), Estonia, Finland, Greece, Netherlands, Portugal, Romania, Spain, Sweden and Slovakia
2	IM in charge of all IM functions (incl. capacity allocation and charging)	Legally independent IM owned by a holding company which also owns and controls a railway undertaking but with strong guarantees of organisational and decision-making independence in relation to the railway undertaking	Belgium and Latvia
3	IM in charge of IM functions with the exception of the essential functions (capacity allocation and charging) under the responsibility of a separate body	IM integrated in a structure responsible for transport operations Separate body in charge of essential functions institutionally independent	Hungary, Lithuania, Luxembourg and Slovenia
4	IM in charge of the essential functions (capacity allocation and charging) but having delegated specific parts of the essential function capacity allocation and other IM functions (e.g. maintenance) to a railway undertaking	IM institutionally independent from any railway undertaking	France
5	IM in charge of all IM functions (incl. capacity allocation and charging)	Legally independent IM owned by a holding company which also owns and controls one of the operators with limited guarantees of organisational and decision-making independence in relation to the railway undertaking	Austria, Germany, Italy and Poland
6	IM in charge of all IM functions (incl. capacity allocation and charging	IM integrated in a structure responsible for transport operations and	Ireland and the United Kingdom (for the part of Northern Ireland)

The Commission is, however, of the opinion that not all Member States have implemented the legislation properly and has accordingly launched a number of infringement procedures concerning in particular three groups:

- Category 3 Member States having integrated IMs working alongside an independent charging and path allocation body, in so far as in cases of disruption on the network the path allocation is performed via traffic management by the incumbent rail operator.
- Category 5 Member States, with holding companies in which the IM is a controlled subsidiary and where the guarantees of decision-making independence from the railway holding are missing or insufficient in the view of the Commission.
- Category 4 - France, where parts of the essential function of path allocation and traffic management have been delegated by the independent IM to the incumbent railway undertaking.

3.1.5 On-going reforms in Member States

As a consequence of these infringement procedures, because of the termination of the on-going derogation as well as national debates on the benefits of separation, six Members States are in the process of reforming the institutional structure of their national rail sector:

Belgium is currently in the process of reviewing its legislation to ensure institutional separation between the IM and the incumbent. The national government indicated that it intends to submit such reform to the national Parliament by the end of the year. The Polish government has also indicated at several occasions its intention to dissolve the existing holding and separate institutionally the IM and the incumbent. However it has recently announced that such reform would be postponed to focus efforts on the absorption of EU funds for rail infrastructure projects. In Hungary, public authorities have also indicated that preparations for further separation are on-going but the exact timing and content of such reform remains uncertain. In Italy the newly created independent transport authority has been tasked to issue recommendations to the national government on separation between the IM and the incumbent. The issuance of such recommendations is due by 30 June 2013.

The termination of the derogation applicable to Ireland until 15 March 2013 will also lead to a reform of the national rail sector. Irish authorities appear inclined to establish a legally independent IM owned by a holding company but with strong guarantees of organisational and decision-making independence in relation to the incumbent railway undertaking. France announced on 30 October 2012 the creation a new fully fledged infrastructure manager grouping RFF with the SNCF services active in infrastructure management (DCF for traffic management and SNCF Infra for maintenance). This new infrastructure manager should be attached to the incumbent operator SNCF in a new grouping called "Pole ferroviaire public unifié". However the legal form of this grouping will only be decided next year. French authorities indicated publicly, that they are willing to put in place all the necessary safeguards to ensure the absence of conflicts of interest between the infrastructure manager and the incumbent and to prevent discriminatory practices.

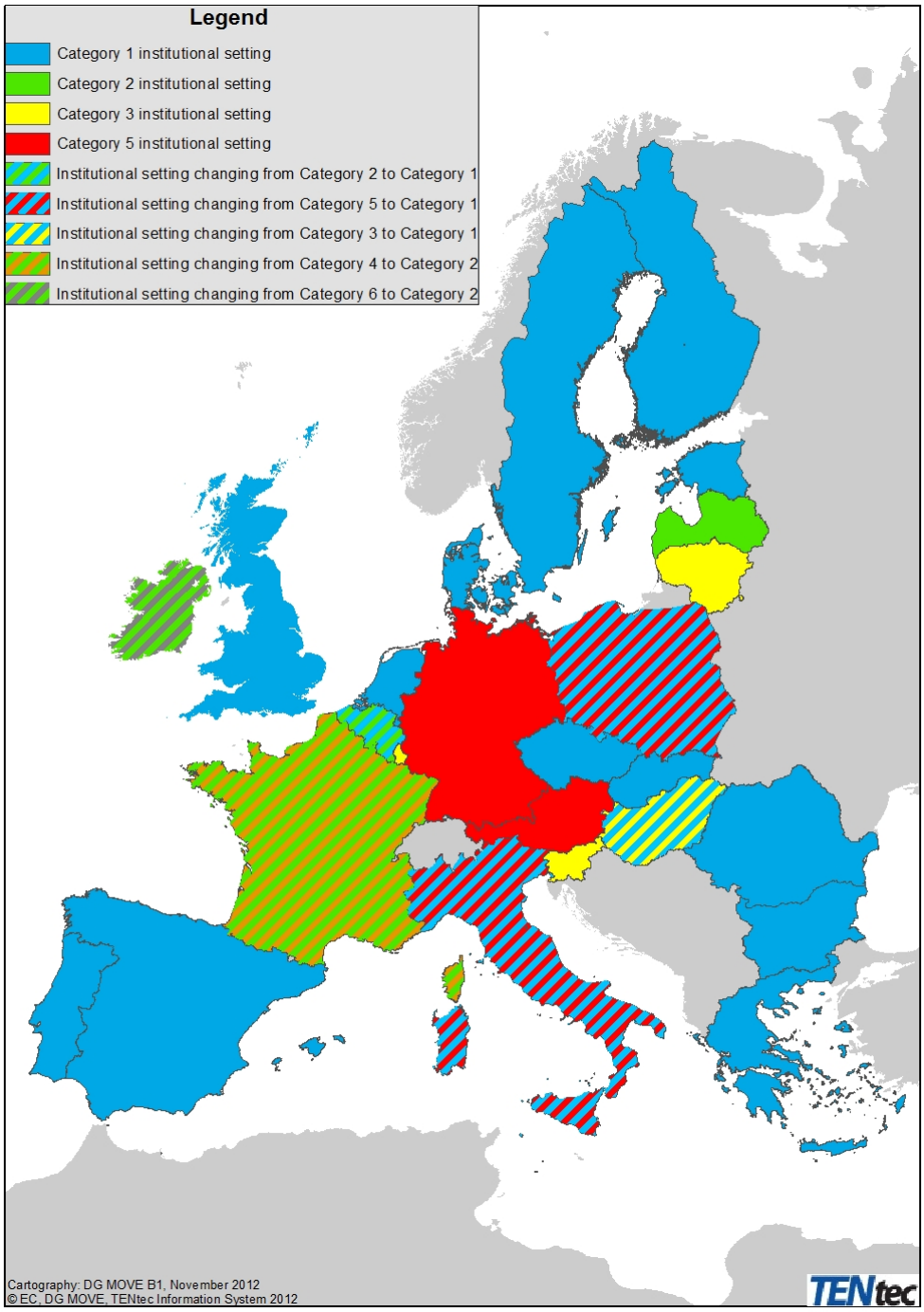
No other Member State has indicated so far its intention to review its institutional settings. Germany and Austria do not appear to be willing to abandon their holding model. However German regional authorities awarding public service contracts and new entrants active on the German market repeatedly requested the introduction of institutional separation. The coalition agreement concluded in 2009 by the political parties of the current majority in the Bundestag foresaw that the independence of infrastructure management should be guaranteed, profit transfers excluded and infrastructure revenues used exclusively in favour of infrastructure.

In Member States such as Finland, Romania, Spain, Sweden and the United Kingdom, the current institutional separation is largely supported, including so far by national incumbents.

In the United Kingdom, the McNulty study commissioned by the previous government proposed to test "alliancing" as a way to ensure better alignment between the infrastructure manager and the railway undertakings in charge of franchises. However, even in the most advanced type of alliances to be tested, the current institutional separation would not be questioned. Similarly the national governments in the Netherland and Czech Republic have not indicated so far their intention to modify the current institutional settings in absence of EU reform, despite calls from their national incumbent (respectively NS and CD) to reintegrate.

The current situation in all 25 Member States with a rail transport system and the possible reforms mentioned above are illustrated by Map 1.

Map 1 - Current institutional settings and announced reforms in Member States



3.2 Description of the problem

In its 2010 Communication concerning the development of a Single European Railway Area[16], the Commission explained that "competition between railway undertakings is still limited by various factors stemming from the protectionist behaviours of historical incumbent operators and the collusive management of rail infrastructure, which, being a natural monopoly, should be accessible to all applicants in a fair and non-discriminatory manner. Insufficient transparency of market conditions and ineffective functioning of the institutional framework in most Member States continue to make the provision of competitive rail services difficult. Operators entering a new market continue to face discrimination in obtaining access to the infrastructure and rail-related services, which are often owned and operated by the incumbent rail undertaking. Member States' regulatory bodies encounter difficulties in carrying out their supervision duties over IMs, in particular to ensure non-discriminatory treatment of new entrants and to check whether charging principles and accounting separation are properly applied."

The key issue addressed by this IA is that, despite regulatory developments in recent years, the current governance of railway infrastructure in the EU still causes problems of (1) network inefficiencies and (2) discrimination in infrastructure access, preventing the smooth functioning of the Single European Railway area. Accordingly, the analysis of problems has been grouped under efficient management and equal access challenges.

Box 2: Key issue of availability of data

Key issue of availability of data

Evidence used to support the problem definition is mostly anecdotal for a number of reasons.

- Given the very different **models of IM governance**, regulatory practices and level of competition on domestic rail markets, comparisons between Member States are often difficult. For this reason, the statistical comparisons provided under this report for benchmarking purposes exclude Member States whose performances are overly determined by geographical and technical factors (peripheral Member States with an isolated rail network and/or with track gauge different from the main network: Baltic States, Finland, Spain, Portugal and Greece). As far **as IM efficiency** is concerned, statistical benchmarking remains problematic and inconclusive as efficiency very much depends on the national cost structures, characteristics of the network, management practices or commodities transported but also on the level of public support and business climate.

- Furthermore, studies prepared on functioning of rail models in other major economies outside Europe (e.g. in USA, Canada, Russia, Japan, China) should be interpreted with care. They do not allow comparison between separated and integrated structures and can only evaluate whether performance of an integrated company has evolved positively over time. But these countries are organised with a single RU enjoying a monopoly and do not provide indications on the best possible model for the EU rail system which is already characterised by a single market with competition between different operators.

- The same type of concerns exist regarding **evidence on discrimination** in terms of access to infrastructure. A low number of complaints can be, on the one hand, an indication of a well-functioning open market where conflicts are prevented by structural measures. On the other hand, there might be no complaints in a closed market where new entrants have no trust on regulatory interventions. When markets are only formally open to competition and there is no entrant to submit complains, discriminatory practices are particularly hard to detect.

[16] COM (2010) 474 final.

- By definition, the lack of **financial transparency** is an element which is difficult to assess and quantify. Therefore, assessment of the various impacts of distortions of competition caused by possible cross-financing between infrastructure and rail operations can be made only on a case by case basis.

However, all the evidence and information collected from stakeholders is convergent and indicates that the problems discussed below could significantly affect the benefits of the Single European Railway Area and, in particular limit the impact of rail market opening initiatives. Anecdotal evidence is referred to under this Section 3.2. This evidence is further substantiated and completed in Annex III.

3.2.1 Efficient management challenge

3.2.1.1 IMs are not sufficiently market oriented

Since railway infrastructure is a natural monopoly and its construction and maintenance relies heavily on public funding, IMs tend to manage the infrastructure giving priority to the instructions received from the public authorities and to neglect the needs expressed by users – railway undertakings. In this context, construction of new lines but also maintenance and closure of existing ones may be dictated by political considerations rather than an in-depth assessment of potential market developments.

According to the Everis study[17], path allocation management shows that IMs tend to be reactive rather than proactive. They respond to applications for paths rather than trying to optimize the use made of infrastructure. .

IMs may fail to have a sufficient knowledge of the market, the needs and the business environment in which the infrastructure users operate. They may not be in a position to respond adequately and comprehensively to the operational constraints faced by their users. In some cases, IMs may neglect in particular the needs expressed by small operators and new entrants. This could lead to suboptimal use of resources and limit the development of rail operators. Politically, driven rather than market-oriented priority rules for traffic management (e.g. between freight and passenger traffic) illustrates this situation.

IMs generally acknowledge the "need to better meet their customers' and funders' needs"[18] and require tools necessary to fulfil such responsibilities, while, infrastructure users, in particular railway undertakings, claim that their interests are not sufficiently taken into account in both operational and investment decisions taken by the IMs and request to be better associated to such decisions.

Box 3 – Cases of non-market-oriented decisions of IMs in the UK and Austria

McNulty Report[19] (2011) points out that the UK still suffers from a lack of coordination between IM Network Rail and railway undertakings, having different goals and objectives. It recommends closer co-operation and alignment between organisations and the establishment of stronger incentives to focus on cost reduction and the delivery of high-quality services.

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17 EVERIS (2010) "Study on Regulatory Options on Further Market Opening in Rail Passenger Transport", p.55). http://ec.europa.eu/transport/modes/rail/studies/doc/2010_09_09_study_on_regulatory_options_on_further_market_opening_in_rail_passenger_transport.pdf;

18 Cf. EIM Working Paper on the 4th railway package adopted on 26 October 2012.

19 Realising the Potential of GB Rail, Report of the Rail Value for Money Study, May 2011, http://assets.dft.gov.uk/publications/report-of-the-rail-vfm-study/realising-the-potential-of-gb-rail-summary.pdf

The Austrian IM ÖBB Infrastruktur AG instructed all railway undertakings in its network statement 2012/13 to use the new Inn Valley route only with locomotives which are equipped with the signalling system ETCS. At this moment only ÖBB's own subsidiaries and DB have the necessary locomotives. All the other (private) rail freight operators will only be able to use such locomotives in about two years, since the rail industry is not able to supply these locomotives before. ÖBB refuses to grant a transition period to the new entrants, in which they could use either ETCS or the national PZB system, although, according to the private operators, there are no technical reasons for this refusal. Both ETCS and PZB can run on the new route, and PZB fulfils the environmental/noise reduction requirements. The new route is part of an important trans-European corridor. Therefore the behaviour of the IM could mean that other operators cannot offer services, in addition to the Inn Valley route, on the entire trans-European corridor. There is a risk that the positive environmental effect brought to the sensitive alpine eco-system by enhancing quality of infrastructure and moving goods from road to rail will be annihilated by this measure.

Baseline developments

The Recast reinforces the obligations of IMs to consult infrastructure users on important decisions, including the content of the IMs business plan and network statement detailing the conditions for access to the infrastructure.

The Recast also foresees that *performance targets* which are defined in contractual agreements between Member States and IMs shall be user-oriented. The Railway Directives also require Member States to set incentives for IMs to reduce both infrastructure costs and the levels of access charges. However, the performance targets will be set by IMs and public authorities with little or no involvement of rail operators and do not therefore guarantee that users' needs will be adequately addressed.

The Recast also details the content of the *performance scheme* which IMs must introduce as part of their infrastructure charging scheme. In this framework, penalties for IM actions disrupting the operation of the network, compensation for undertakings suffering from disruption and bonuses rewarding better-than-planned performance are foreseen. However performance schemes focus only on cases of disruption of traffic and delays and do not provide incentives in relation to other aspects of performance such as line speed, operational costs or capacity under normal conditions.

In conclusion, these ad hoc consultations of infrastructure users will not allow a structured, transparent and continuous exchange of information between IMs and users. They will not address specific operational problems that may emerge during infrastructure usage. Some Member States, such as France, the UK and Sweden, have already taken the initiative to create formal structures of coordination between IM and its infrastructure users

3.2.1.2 Inconsistencies in the management of infrastructure and increased coordination costs

The capacity of an IM to develop and optimise transport infrastructure and ensure quality, reliability, flexibility and customer orientation, depends on its control over the functions listed in section 3.1.2.

According to current legislation, the functions of the IM may be allocated to different bodies or firms, e.g. the two "essential functions" (path allocation and track access charging) may be assigned to an allocation body and charging body. Accordingly, several Member States (Hungary, Estonia, Luxembourg, Slovenia, and Lithuania) have externalised these two essential functions to independent bodies, while the rest of functions have been kept within an integrated incumbent structure. The allocation of the essential functions to entities outside the

IM has certainly brought great advantages for a more equal access to infrastructure and thereby helped market access of new entrants. However, These governance models and the model adopted by France (which is splitting the different functions further), do not allow the IM to have effective control on all the activities required to manage the infrastructure, as it is dependent on decisions of other bodies with specific and possibly diverging interests. Infrastructure managers consider on the contrary that they should have all the levers of control over their business. This position is largely shared within the rail sector.

Box 4 - Example: Conclusions of the "Assises du ferroviaire" in France

In September 2011 the French government launched the "Assises nationales du ferroviaire"[20] to involve all French stakeholders in the preparation of a new reform of the rail sector, focussing on market opening, financing and governance issues. The conclusions of this process were adopted in December 2011. They demonstrated a large consensus on the inefficiency of a system based on the allocation of infrastructure management functions in two separate entities: on the one hand the IM RFF in charge of infrastructure development, capacity allocation and charging and on the other hand, SCNF in charge of maintenance works as well as traffic management.

RFF transfers to SNCF each year a network management fixed fee of around €3bn. RFF is responsible to oversee SNCF's efficient use of the network management fee. However, at the moment, there is a relatively small technical team available to RFF to oversee the efficiency and effectiveness of SNCF's management of the IM contract. This means that some of SNCF's actions might not be fully observed, or properly monitored. This structure would lead to a lack of coordination with a negative impact on operations and to the absence of costs optimisation. It was therefore recommended to unify all infrastructure management functions in the same entity soon.

There are substantial interactions between the functions currently defined by EU law as essential and the other IM functions described under section 3.1.2, such as infrastructure development, traffic management and infrastructure maintenance. As illustrated below, their distribution among different market players can lead to inconsistencies in the management of infrastructure and increase coordination costs.

- **Charging and maintenance** - if the body responsible for the charging cannot control the costs of the infrastructure (i.e. investment and maintenance activities), the charges may not be set at the right level to reflect these costs. It also means that possible cost savings or scale effects may not be passed on to the infrastructure users in terms of lower charges, even though this is a requirement under EU law. It may also lead to a situation where the IM does not charge railway undertakings for maintenance costs, thereby ultimately leading to a decrease in maintenance services and to the degradation of the rail infrastructure.

- **Charging and development -** under a charging system designed to obtain full cost recovery, control over the charging is important for being able to fund projects under the best possible conditions. The price signals sent out by the different charging levels of various parts of the network should be correctly set to prompt the best possible use of the network as a whole (new sections and existing network).

- **Path allocation and traffic management -** the re-allocation of pre-assigned train paths in cases of delays and disruption of traffic is one of the core activities of traffic management, and at the same time it is part of the essential function path allocation. In addition an adequate path allocation process implies an in-depth knowledge of traffic

[20] http://www.developpement-durable.gouv.fr/-Assises-du-ferroviaire-.html

management practices and constraints and some return on experience which cannot occur when these functions are assigned to separate entities.

- **Path allocation/traffic management and maintenance** - if the body responsible for path allocation and traffic management does not have full control over the actual availability of the allocated slots (which depends inter alia on maintenance works planned and executed by another body) this could create problems in traffic management. Furthermore, regarding the planning of works, only the allocating body knows, on the basis of path requests received, which are the most intensely used parts of the network and therefore could need maintenance most urgently in order to ensure safety levels and to avoid disruption of operations.

- **Path allocation/traffic management and development -** infrastructure development has a direct impact on travel time, the number of paths available, potential traffic types (platform length, etc.) and the quality of operations on lines. Therefore splitting control functions over path allocation and infrastructure development decisions will, in the best case scenario, create coordination problems.

- **Development and maintenance** - where the functions of development and maintenance are split, there is a threat that suboptimal trade-offs could be made between the network "maintenance" and "development" works. It is necessary to coordinate "development" and "renewal" in order to avoid having too many renewal and development operations going on at the same time, as these activities reduce the number of available train paths.

- **Path allocation and charging -** charges are a price signal to infrastructure users and a tool to optimise the use of the infrastructure. If the entity in charge of path allocation has no control over track access charges, they miss such optimisation and only face the costs of infrastructure (development and maintenance). Without the possibility to manage revenues, the IMs' financial management is limited to the channelling of subsidies without any consideration of profitability.

Box 5 - Analogies with other network industries concerning infrastructure managers functions

Air transport: Airports are responsible for their own investment planning and maintenance, they also collect airport charges, while slot allocation is the responsibility of a "coordinator" which is independent from the Member State, the airport managing body, service providers and the airlines operating from the airport in question.

Electricity and gas: Transmission system operators are by definition responsible for infrastructure development and maintenance. They collect congestion charges and allocate transmission capacity.

In both cases, the entities in charge of infrastructure management have a direct responsibility for infrastructure development, charging, operations and maintenance.

Baseline developments

While the definition of essential functions and the separation requirements applicable to them have not been changed by the Recast, the latter provides for a new definition of IM which refers to a "body or firm responsible in particular for establishing, managing and maintaining railway infrastructure, including traffic management and control-command and signalling". However this does not ensure that all the functions listed are in the hands of the same entity as the text foresees explicitly that "the functions of the IM on a network or part of a network may be allocated to different bodies or firms".

It cannot be excluded that Member States which have allocated IM functions in different entities will adjust the governance of their infrastructure on their own to reunify them. This should be the case in France where there is large consensus on the unification of all IM functions in the same structure (see Box 5 above) and in Hungary where the government announced a reform of the national institutional settings (see Section 1.3.5). However other Member States, in particular Lithuania, Luxembourg or Slovenia (which finalised in 2011 a reform maintaining the fragmentation of IM functions) suggest otherwise.

3.2.1.3 Cross-border cooperation between IMs is insufficient

An important condition for completing the Single European Rail Area is well functioning cross-border cooperation of IMs. With this regard, the problems mentioned hereunder, and illustrated by examples in Box 6, are still widespread.

IMs do not efficiently cooperate to cope with traffic disruptions and temporary traffic restrictions, especially when more than two IMs are concerned. They may neglect the impact of their decisions on the business situation of international traffic and traffic beyond their network. There is a lack of integrated and proactive cross-border communication with users, such as railway undertakings, terminal operators and shippers.

As regards investment, national infrastructure management often neglects interoperability and cross-border infrastructure (in particular port terminals and hinterland connections by rail) in favour of the needs of domestic passenger and freight traffic. Where the investment decisions of national infrastructure management are biased towards the needs of the incumbent, international trains suffer most because they have to be configured and/or routed according to the "weakest link" in the infrastructure chain (in terms of ERTMS deployment[21], axle loads, loading gauge, electric supply, train length, train mass etc.).

National infrastructure funding priorities may not necessarily consider future pan-European demand despite the incentives to do so which is provided through EU co-financing instruments such as the TEN-T programme. The long lifetime of assets, conservatism of the sector and a preference to maintain national or regional specifications curb the benefits for investment. Obligations imposed by Member States to keep unprofitable infrastructure open results in funds trickling away, and not being focused on main international corridors. Considerations of available approvals prevail over traffic needs when it comes to project selection.

Freight trains run at low speeds (18 km/h) on many international routes. This results from time-consuming operations at borders for railway undertakings. Operations at borders have not yet been streamlined to exploit the advantages of the internal market and the Schengen rules. As a result, rail fails to capture certain commodity groups who prefer the higher speeds of road transport.

[21] There are still more than twenty different signalling systems coexisting in Europe. These systems, generally developed on the scale of a national network, which are very heterogeneous as regards performance and the level of safety. The European Rail Traffic Management System (ERTMS) constitutes a major European industrial standard that enables trains to cross national borders and enhances safety.

Box 6 – Examples of IMs coordination problems

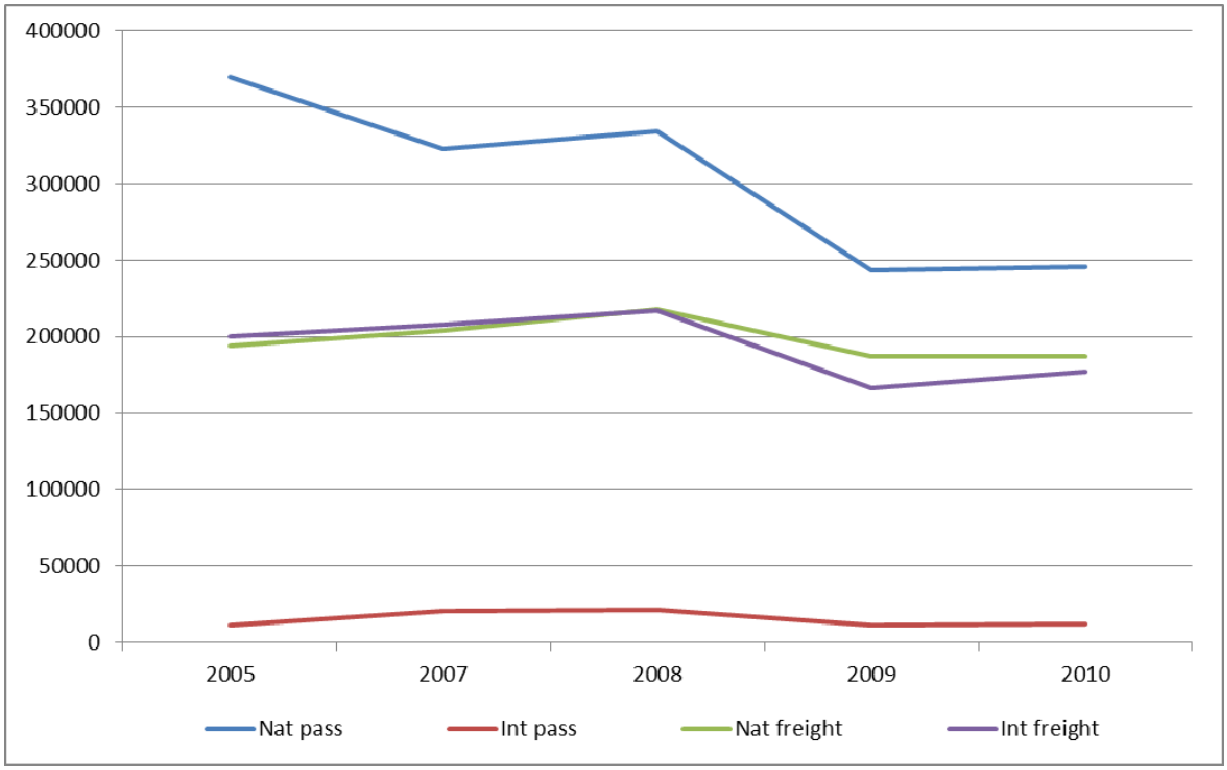
IMs along the corridor Rotterdam-Genoa made substantial investments to enhance capacity and establish the interoperability of train control and command systems on the basis of ERTMS. In doing so, they expected that all participants would stick to the agreed time tables. However the corresponding investments on the German stretches of this corridor will only be made several years later, which means that benefits will be delayed for other IMs as well as for the users.

Rail freight undertakings operating in France and the UK enjoy moderate levels of infrastructure charges that are by and large competitive with road. Whereas this allowed rail freight to grow in England, the number of freight trains through the Channel tunnel to and from London did not grow or even dropped though the link accommodates trains with the main continental (UIC) gauge and has capacity available. Infrastructure charges in the tunnel and on the link to London are high such that freight trains are not attractive and shippers prefer trucks. A better coordination of charging policy between the four different IMs involved might open the opportunity to attract more trains and at the same time safeguard the financial interest of all companies involved.

Freight trains operating on the South East Axis to and from Greece/Turkey suffer from important delays at borders. On such axis two TEN-T corridors (IV and X, passing respectively via Belgrade and Budapest) compete on the basis of different infrastructure charges. A better coordination between IMs could curb delays and allow more balanced use of capacity.

This situation contributes to an imbalance between international and domestic traffic for passengers but also the negative trend observed in the development of international freight traffic, as illustrated by the Figure 1 below.

Figure 1 Evolution of domestic and international traffic in the EU (in Mton/km for freight traffic and Mpassenger/km for passenger traffic)[22]



[22] SWD (2012) 246 final.

Figure 1 shows in particular that international passenger traffic remains very marginal when compared to domestic passenger traffic. It also shows that, despite the potentially higher competitiveness of rail freight vis-à-vis other transport modes over medium to long distances, international freight continues to decline, both in absolute and in relative terms when compared to domestic freight traffic.[23]

Baseline developments

Some on-going actions are already heading in the direction of increased integration of national infrastructure management at the European level, with a specific emphasis being put on EU freight corridors.

The Rail Freight Regulation[24] provides a cooperation framework for freight. Corridor structures involving Member States and IMs are set up to cooperate on specific aspects. The Rail Freight Regulation requires coordination of infrastructure management in aspects such as maintenance work, upgrades and renewals, the allocation of international paths and in the supervision of international traffic. The activities of the Corridors in the field of allocation of paths and traffic supervision are based on the work done by RailNetEurope (RNE), a partnership of IMs and allocation bodies which strives to simplify, harmonise and optimise international rail processes such as Europe-wide timetabling, co-operation between IMs in the field of operations, train information exchange in real time across borders and reporting.

The obligations of national IMs to cooperate in the allocation of infrastructure capacity and in the charging for the operation of train services crossing more than one infrastructure network will be extended from the corridor approach to all networks and types of traffic with the Recast. It will actually oblige IMs to formalise their cooperation with the establishment of IMs' associations which can charge and/or allocate capacity at an international. The Recast also foresees that regulatory bodies will have to increase their cooperation in order to supervise the IM's joint activities. The Commission will be invited to participate in IMs' deliberations on common principles and practices.

While the cooperation activities under the Rail Freight Regulation are comprehensive (addressing path allocation and charging but also development, maintenance and operations) they are limited to specific rail freight corridors. At the same time, the obligations under the Recast apply to all networks and types of traffic, but relate only to path allocation and charging. Therefore there is still a need to address coordination problems related to development, maintenance and operations beyond EU rail freight corridors and to ensure consistency between the existing approaches.

3.2.2 Equal access challenge

The level of entry into freight markets has progressively increased as a result of the various market opening measures implemented on the basis of national initiatives before 2000 and at the EU-level since 2000. As indicated in Figure 2 below, progress can be observed over the last 5 years in almost all countries.

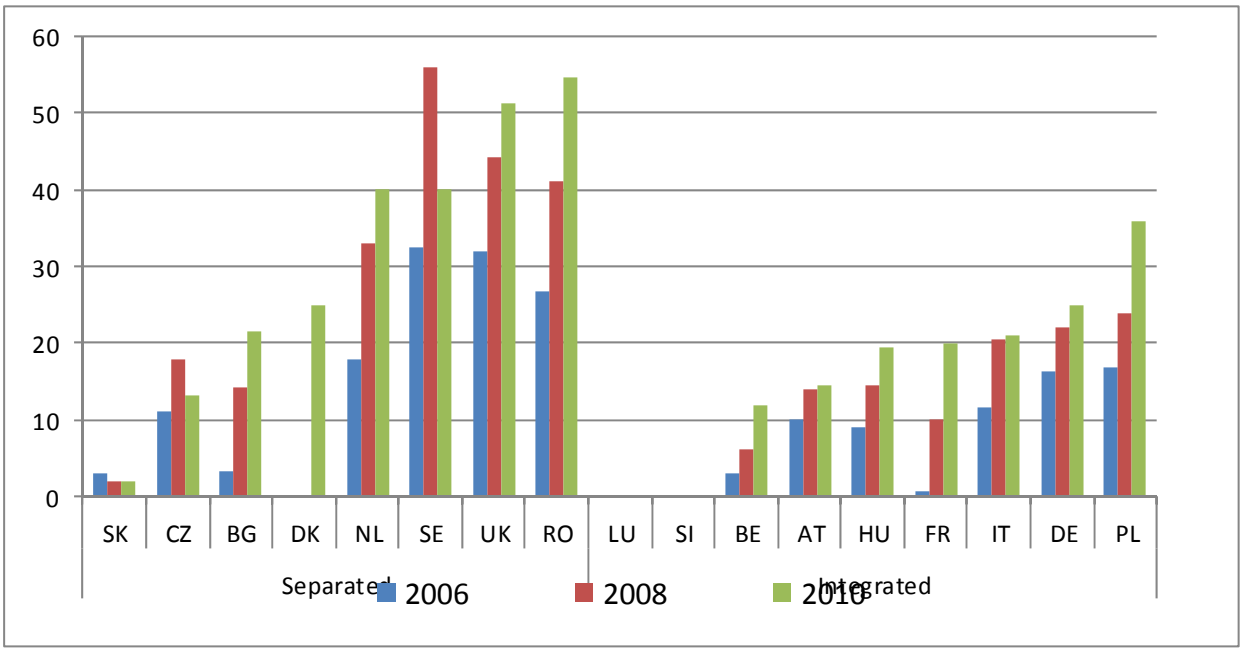
However there are marked differences in the level of entry reached as well as in the growth of new entrants' market shares. The share taken by non-incumbents reached 40% in only four Member States in 2010 (NL, SE, UK and RO), all of them with separated structures. For the

[23] Absolute decline between 2008 and 2009 can be at least partly attributed to the impact of the economic crisis on the transport sector in general. However such a negative trend is faster than the one observed during the same period in other transport modes.

[24] Regulation 913/2010 concerning European railway network for competitive freight

period 2006-2010 examined in Figure 2, new entrants' market shares have grown by 13.8% on average in Member States with separated structures while it has increased by only 8.9 % in Member States with integrated structures.

Figure 2 Market share of non-incumbent freight operators



Source: Rail Market Monitoring Scheme 2007, 2009 and 2012 and SDG report

Comparison of entry levels in passenger markets remains difficult at this stage as market opening for domestic services has only been introduced by a very limited number of Member States, from different dates and under conditions which are not harmonised by EU law (see for further details the IA report on market opening of domestic passenger services). However it can be noted that the pace of market entry in those few Member States which have already allowed the provision of domestic passenger services in open access differs substantially. Such differences seem somehow correlated with the separation model in place in those Member States: in the case of Germany, Austria and Italy which formally opened their domestic passenger market more than a decade ago, the number of new entrant remains very limited and market entry took place only very recently (only Westbahn since 2011 in Austria, only NTV since 2012 in Italy, only HKX since 2012 and InterConnex in Germany). In the case of the Czech Republic, the UK and Sweden, the number of new entrants is higher and market entry of open access operators came faster after formal market opening (in the UK Grand Central and First Hull, in Sweden both Veolia and Blataget, in Czech Republic both RegioJet and LEO-Express).

3.2.2.1 Persistent conflicts of interests of IMs

Experience over the last decade has demonstrated that the implementation of current separation requirements did not completely prevent the conflicts of interest and discriminatory practices in respect of access to rail infrastructure and related services. In addition, the existing legal framework has proven to be insufficient to allow detection and prevention of cross-subsidisation from IMs to incumbents. Even reinforced regulators' powers as already foreseen under the Recast cannot prevent this, as the risk is inherent in some of the existing institutional settings.

3.2.2.1.1 Diverging interpretation of existing rules

The current EU legislation requires legal, organisational and decision-making independence for the essential functions, but it does not provide for concrete criteria as to how the IM needs to be organised in order to meet these basic requirements. While there is broad agreement about the definition of legal independence (meaning that the relevant body must have a separate legal personality), definition of organisational and decision-making independence must be interpreted on the basis of existing case-law of the European Court of Justice (ECJ). Consequently there are problems with the transposition and enforcement of these requirements and The Commission has initiated several infringement procedures.

According to the Commission, to fulfil their objective of absence of conflict of interest, separation requirements should at least imply restrictions in the composition and nomination of the management boards, cooling-off periods for managers, the existence of separate staff, facilities and information systems and new powers to national regulators, as explained in Annex V of the Communication on the implementation of the First railway Package[25]. The interactions between railway undertakings and IMs, where these independence rules have not been implemented properly, have created conflicts of interest and still result in access barriers and market distortions, such as access denials and discriminatory charges.

Discriminatory practices in Member States with vertically integrated undertakings are illustrated by a high number of examples which are detailed under Annex III. These discriminations relate in particular to charging and path allocation practices but also to asymmetries in access to information.

While such practices are illegal under the current regulatory framework, it generally takes time for the regulator to investigate and decide on the legality of such practices, at the expense of new entrants who are accumulating costs during the investigation period (which could take years).

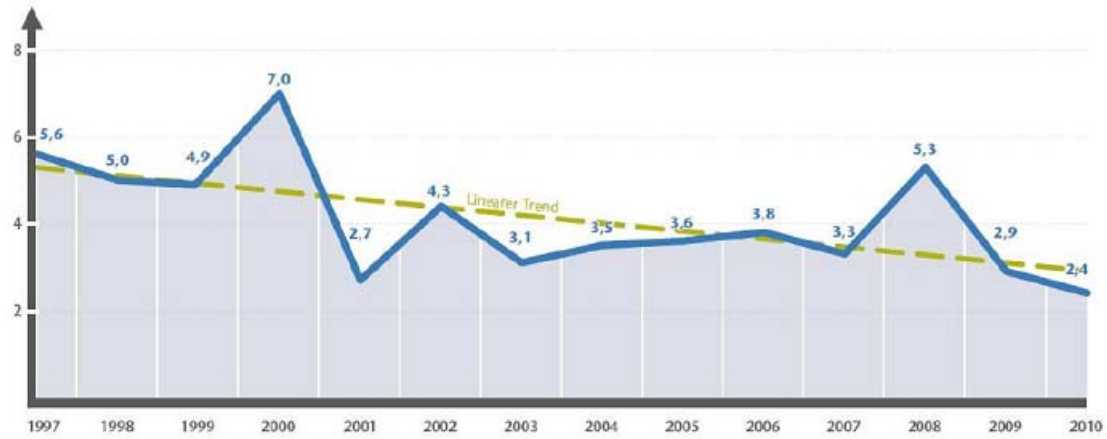
The absence of independence between IM and incumbent railway undertakings can also distort competitive tendering procedures, given that the incumbent may have access to information on the technical characteristics of the network and their implication for transport operations which are not available for new entrants. Integrated structures may also be in a position to include in their offer infrastructure related improvements. And the possibility to prioritise infrastructure investments may give a decisive advantage to the bid submitted by an integrated structure[26]. Discriminatory practices may lead to distortions of competition in the award of public service contracts but also to a lower number of bidders since some of the latter are deterred from participating in tendering procedures.

The progressive reduction in the number of bidders in competitive tenders observed since 1997 in Germany, illustrated by Figure 3 below, can be explained by various factors such as a consolidation of the sector, the increased competitiveness of the incumbent but also by the deterrent effect of discriminatory practices which German public transport authorities complained about.

[25] Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of the first railway package, COM(2006)189

[26] This risk was also highlighted during the stakeholder hearing

Figure 3 Number of bidders in competitive tenders for public service contracts (PSC) in Germany



Source: Holzhey, M., Berschin, F., Kühl, I. and Naumann, R. (2011) Wettbewerber-Report Eisenbahn 2010/2011 quoted in Appendix K of the IA support study.

Baseline developments

The Commission has provided some interpretation of the practical implications of existing independence requirements in Annex V of the Communication on the implementation of the First railway Package. However, some Member States do not consider that such interpretation derives necessarily from existing law. ECJ is expected to express its view on on-going infringement procedures and address this specific issue before spring 2013. The ECJ ruling early next year will pave the way for a timely and well-informed inter-institutional debate on the need for new measures.

While the ECJ will decide on whether specific national transposition measures can be considered sufficient to comply with the existing independence requirements, it is not expected to provide detailed guidance on how to ensure uniform and effective implementation. If the ECJ supports the Commission interpretation and considers national transposition measures insufficient, there would be a need to clarify in law which are the necessary safeguards to implement existing independence principles. If, on the contrary, the ECJ considers national transposition measures compliant with existing EU requirements, it would prove that EU law currently in force is inadequate to prevent discriminations. This would represent an additional incentive to further detail and strengthen separation requirements.

Some Member States are currently taking new national measures on separation of infrastructure management from transport operations. However, as indicated under Section 3.1.4., the outcome of these initiatives is still uncertain. And in other Member States the conflicts of interest are likely to persist without modification of EU law and these issues would thus continue to hinder competition in the railway markets and the development of the Single European Railway Area. Some Member States are still caught up by their multiple roles as national policy decision makers, owners of rail assets, shareholders of railway undertakings and contractors of rail services – and find it difficult to distinguish between their different responsibilities in their different roles. This situation results in very conservative and defensive positions aimed at protecting the incumbent which they perceive as their national champions.

While a majority of interested parties, including national regulatory bodies, favours institutional separation (see Annex II stakeholders consultation, section 2.4.3), several incumbents are actively lobbying national authorities to maintain regulatory status quo or

even to weaken existing separation requirements. DB and SNCF claimed, during bilateral consultations with the Commission services, that, as dominant operators, they can defend the interest of all railway undertakings in their relation with IMs and should therefore act as "system integrator". The complexity of interfaces would be lower, operational co-ordination and dispute resolution easier within such "system integrator". As part of an integrated company, IMs would be more "customer-driven". In addition, DB argues that the persistence of an integrated structure has clear advantages in terms of fiscal consolidation.

3.2.2.1.2 Persistent risks of cross-subsidisation due to lack of financial transparency

The enforcement of existing account separation requirements[27] has proven to be difficult and insufficient for various reasons:

a) These requirements can be circumvented, for instance via accountancy tools (evaluation of certain assets belonging to the different subsidiaries, grants given between subsidiaries and holdings which have an effect of reducing or increasing results of the respective entities, profit transfer agreements, asset sharing, etc.);

b) Monitoring by regulatory bodies is very complex, lengthy and resource consuming process requiring specific expertise. In many cases incumbents show little willingness to fully comply with information requests. Even the most powerful and well-equipped national regulators, such as BNetzA in Germany and ARAF in France, have indicated difficulties in fulfilling this task[28] and may therefore tend to prioritise other actions;

c) Any results of ad hoc investigations and conclusions by national regulators can be contested and experience shows that such fairly systematic contestations related to account separation. Judicial appeal procedures against regulators' decisions lead to particularly long delays (up to five years[29]) in the implementation of corrective actions which may create irretrievable damage to the market;

d) Existing account separation requirements do not prevent the distortion of competition resulting from the potentially more favourable conditions of financing that the holding can obtain due to its larger scope of activity benefitting both rail transport undertakings and the IM.

Box 7 – Examples: Competitive advantages of (semi)integrated structures in terms of cross-financing

The RGL-AECOM-Frontier Economics study on account separation (2009) shows that the provision of regulatory accounts by integrated structures upon requests by regulators is unlikely to correctly identify if cross-subsidisation is taking place or not. For instance, depreciation of fixed assets is one of the main costs for railway undertakings. However, changes in valuation methods for depreciation can significantly affect both profitability and charges. Financial accounts typically do not calculate marginal costs and, as a result, statutory accounts are unable to provide clear insight on this key variable necessary for cross-subsidisation calculations. Therefore it would remain feasible for the

[27] Account separation is the first level of separation introduced by Directive 91/440/EC requiring the publication of separate regulatory accounts for the infrastructure activity and the rail transport activities.

[28] See e.g. Decision of the French Regulator ARAF No 2012-016 of 11 July 2012, para. II.33 where it is said that the regulatory body did not have access to and was not able to find out about the precise data on investment volumes and priorities of the part of SNCF which is operating railway stations.

[29] See case related in judgment of highest German administrative court Bundesverwaltungsgericht, BVerwG 6 C 39.10 – judgment of 7 December 2011

profit-making subsidiaries of holding structures to offset the losses of the other subsidiaries. The study indicates that the Deutsche Bahn considers that its structure is compatible with the accounting separation requirements of Directive 2001/12/EC. However, at the same time Deutsche Bahn acknowledges the existence of a control and profit agreement between each subsidiary of the DB Group. This agreement does not contain any limitations as to the use of revenues from one subsidiary (including the infrastructure) for the purposes of subsidisation of another (including train operating subsidiaries). As a result, profits generated by one of the entities can be transferred to the other, without possibility for monitoring of cross-subsidies. The study shows that the efforts of regulators cannot prevent cross-subsidisation alone.

In its investigation on Ferrovie dello Stato (FS) practices, the Italian Competition Authority (ICA) ascertained that the "complex and unified strategy" developed by FS to keep Arenaways out of the profitable route between Milan and Turin between 2008 and 2011 included Trenitalia providing a misleading representation of its costs when the Regulator (URSF) asked the data necessary for the assessment of economic equilibrium of PSCs, so as to deceive it.

DB Holding concluded profit transfer agreements with all its subsidiaries, including the infrastructure companies DB Netz (for rail network), DB Station and Service (for passenger stations) and DB Energie (Energy supply). On the basis of these agreements, profits of subsidiaries are transferred to the holding, which in turn compensates losses of these subsidiaries. In the last years the infrastructure subsidiaries DB Netz and DB Stations and also the subsidised regional passenger branch DB REGIO have transferred "profits" to the holding, which were only possible due to the State financing of these companies, and would otherwise not exist. At the same time DB Holding compensated losses of transport operators under competition. This mechanism makes it possible to increase track access charges to the detriment of only the competitors, while the DB railway operators may be compensated for losses resulting from higher access charges. This does not formally represent a discrimination, since formally all pay the same access charges, but it has the same effect. Since track access charges constitute about 45% of the total costs of a railway undertaking[30], the effect of increasing track access charges is significant for competition[31].

In Germany, DB Regio has been subject to allegations that its services are cross-subsidised from infrastructure access charges, which is possible because of the existence of profit transfer agreements between DB Holding and its subsidiaries. The practice of "profit" transfer to the holding and redistribution among subsidiaries is said to have a number of anti-competitive consequences. E.g., DB is able to present offers for transport services which are only possible on the basis of such a cross-subsidising mechanism between the sectors transport and infrastructure. E.g., in the contract attributed for the "Elektronetz Nord" in Saxony-Anhalt, DB REGIO took over the risk of increases of track access charges for a period of 15 years. Such an offer is only possible when it is irrelevant for DB whether the revenues come from the infrastructure or from transport operators, since profits and losses are balanced out at the level of the holding. If the track access charges are increased, DB REGIO will make a loss, however this will be compensated by a corresponding profit of DB Netz from the increased track access charges. DB's competitors for transport services, which are not able to use such a mechanism of profit transfer, are obviously unable to make offers in which they would commit to compensate all possible increases of track access charges for such a long period[32].

30 See report of Monopolkommission, http://www.monopolkommission.de/sg_60/s60_volltext.pdf,, page 55, Fn. 69. On the profit transfer agreements see

31 On the profit transfer agreements and their consequences see e;g. article in http://www.wiwo.de/unternehmen/dienstleister/deutsche-bahn-gewinne-aus-infrastruktur-verdoppeln/6146542.html, and in the printed version of Wirtschaftswoche 6.2.2012, page 54, page 12.

32 Examples taken from a press release of Mofair, a competitors organisation, of 3.9.2012, http://www.mofair.de/db/news/meldung_13033.html

Baseline developments

The Recast provides for clear competences and additional means to regulatory bodies to monitor the existing obligations in terms of account separation. With its implementation, regulators will have in particular the power to carry out audits or initiate external audits to verify compliance with accounting separation requirements. It stipulates that the accounts for the different areas of activity must be kept in a way that allows detection of transfer of public funds and of the use of incomes from infrastructure charges. But, despite these improvements, monitoring of the use of public finances within integrated structures and identification of cross-subsidisation practices will remain a specifically complex and difficult exercise because of the great variety of accountancy tools which can be used to circumvent account separation and the very high number of financial transactions to be controlled. Furthermore, adoption of ex-post corrective would continue to take years while irretrievable damage would be caused to the functioning of the rail market (with in some cases the bankruptcy of the new entrants which suffered from the anti-competitive practices of the integrated structure).

3.2.2.2 Wide range of IM functions being the source of discrimination.

Beyond the essential functions, the absence of separation for other IM activities (development, infrastructure operation and maintenance) in integrated structure causes potential conflicts of interest.

Development decisions on infrastructure may lead to discrimination as an incumbent in control will be able to prioritise them to the advantage of its own subsidiaries.

When the entity in charge of *traffic management* remains under the control of the incumbent, the latter can interfere to ensure that it is better served in the daily re-allocation of train paths in case of delays or disruptions (incidents, accidents, strikes, climate-related problems, etc). In such cases, there is also an element of urgency which makes traceability and opportunities of appeal extremely difficult and creates more room for discriminatory practices.

In relation to *maintenance* (as for infrastructure development), there are clear risks in integrated structures that IM decisions are prioritised in favour of the transport operation subsidiary as illustrated by the examples presented in Annex III. An integrated IM may disinvest in lines used essentially by competitors and conversely may continue to maintain under-utilised lines used by the incumbent. The planning of maintenance works may also be used by an IM in an anti-competitive way if it schedules maintenance work to affect the transport operations of new entrants more severely than those of its own transport companies.

Furthermore, as discussed in Section 3.2.1.2, there is substantial interaction between the essential functions (capacity allocation and infrastructure charging) and other infrastructure functions (maintenance and development).

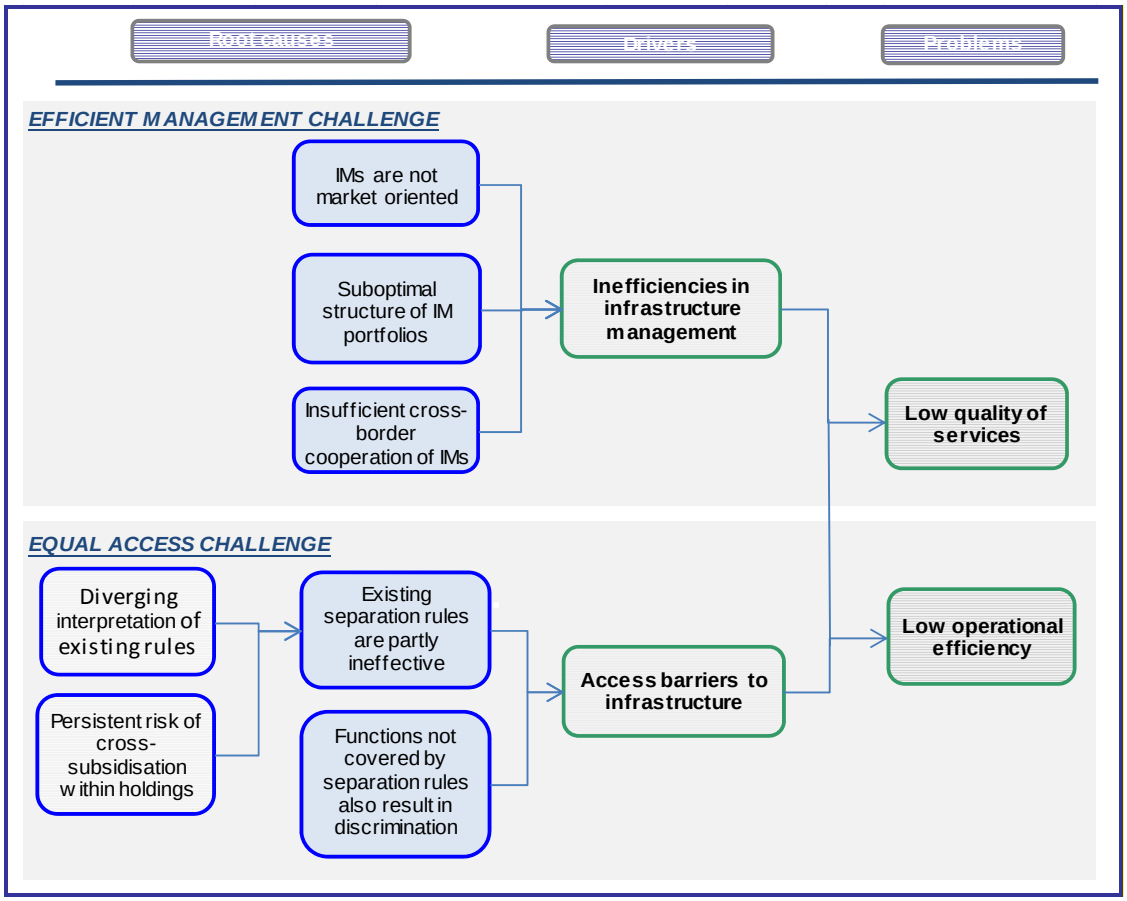
Anecdotal evidence proving the existence of discriminations rising from the absence of separation requirements for traffic management, infrastructure maintenance and infrastructure development functions are provided under Annex III.

Baseline developments

The Recast extends part of the existing separation requirements (accounting separation, organisational and decision-making independence) to access to those rail-related facilities which are considered essential (such as passenger stations, freight terminals, maintenance facilities and port facilities). These new rules apply to transport operators holding a dominant position in national rail transport markets and operators of specific service facilities. However

these legislative changes preserve the concept of essential functions of infrastructure management and do not extend the IM functions covered by the separation requirements. As such they do not prevent discrimination in infrastructure maintenance and development decisions or in traffic management.

Table 2 – Mapping between Problems, Problems drivers and their root causes



3.2.3 Who is affected

The problems described above and the measures to be proposed to address them will affect a large number of players in the rail market. They affect in particular national authorities which are responsible for establishing the IM and assigning infrastructure management functions but also which finance the infrastructure and award public service contracts. They affect the regulatory bodies which oversee railway markets and act as an appeal body for rail companies if they believe they have been unfairly treated, IMs which are responsible for infrastructure management functions and are subject to separation requirements, railway undertakings operating freight and passenger rail transport services and other authorised applicants which are infrastructure users. They will also affect indirectly passengers and potentially those using rail freight transport services, as well as operators of rail service facilities whose activities depend on the volume and nature of rail traffic.

3.2.4 Aggregated baseline scenario

The detailed elements of the baseline scenario were provided while different root causes were discussed. The overall conclusion is that while the Recast and the Rail Freight Regulation

already contain some obligations for IMs to cooperate with their counterparts and to consult infrastructure users on specific issues, a more systematic and consistent approach would be necessary to address the problems mentioned above and their root causes. The Recast foresees explicitly that Member States can allocate IM functions to distinct entities, but it does not modify the scope of the IM functions subject to independence requirements nor the content of these requirements. In this context, the models of IM governance in place in Europe will not ensure the optimisation of infrastructure management and a level playing field for infrastructure access. Existing distortions of competition are likely to persist despite the reinforcement of regulatory activities.

3.3 Subsidiarity

3.3.1 Legal basis

EU action in the field of rail transport infrastructure is grounded in the Treaty on the Functioning of the European Union, in particular in its Articles 58, 90 and 100 setting the basis for internal market in the context of an EU Common Transport Policy.

3.3.2 Subsidiarity

The rationale for a European action in the field of railway infrastructure stems from the trans-national nature of the Single European Railway Area. Actions by Member States alone cannot ensure the coherence of market access and competition rules needed for the emergence of a genuine internal market for rail transport. The absence of a clear and comprehensive system of governance of infrastructure hinders the cross-border operations of rail service providers.

Rules to improve the governance of infrastructure should be developed so that they can be adapted to the existing institutional setup in each Member State. However, this should be done following common general principles and requirements in order to ensure the coherence of the single market. Therefore, to ensure the viability of a Single European Railway Area, EU railway *acquis* should be developed further, allowing the railway operators to benefit from a single consolidated legislative framework and to face predictable business conditions throughout the EU.

4. OBJECTIVES

4.1 General objectives:

The 2011 White Paper foresaw a progressive modal shift from airplane and road vehicles, so that by 2050 the majority of medium-distance passenger transport should go by rail. This modal shift will contribute to the 20% reduction of GHG emissions foreseen in the Europe 2020 Agenda for smart, sustainable and innovative growth. More specifically, the White Paper concluded that no major change in transport will be possible without the support of an adequate infrastructure and a smarter approach to using it.

The **overall objective of the Fourth Railway Package** is to enhance the quality and efficiency of rail services by removing remaining legal, institutional and technical obstacles, fostering the performance of the railway sector and its competitiveness, in order to further develop the Single European Railway Area. The initiative on infrastructure governance aims to improve the management of rail infrastructure, where necessary, through revisiting remaining institutional obstacles:

GO: Strengthen further the governance of railway infrastructure, thereby enhancing the competitiveness of rail sector vis-à-vis other modes and developing further the Single European Rail Area.

Overall, the stakeholders have supported, during stakeholder consultations, the general problem and the problem drivers as identified by the Commission, as well as the general direction of EU action - 69% agreed with the objective of improving access to infrastructure (see Annex 2). Others considered that the availability of rail-related facilities or the lack of adequate regulatory oversight constitute the most important access barrier for railway undertakings.

4.2 Specific objectives:

The general objective has been translated into specific and operational objectives attributed to the two challenges of efficient management and equal access challenges:

EFFICIENT MANAGEMENT CHALLENGE
SO1: Improve the IM ability to manage efficiently the infrastructure in favour of users
EQUAL ACCESS CHALLENGE
SO2: Eliminate conflict of interest and distortions of competition in infrastructure access

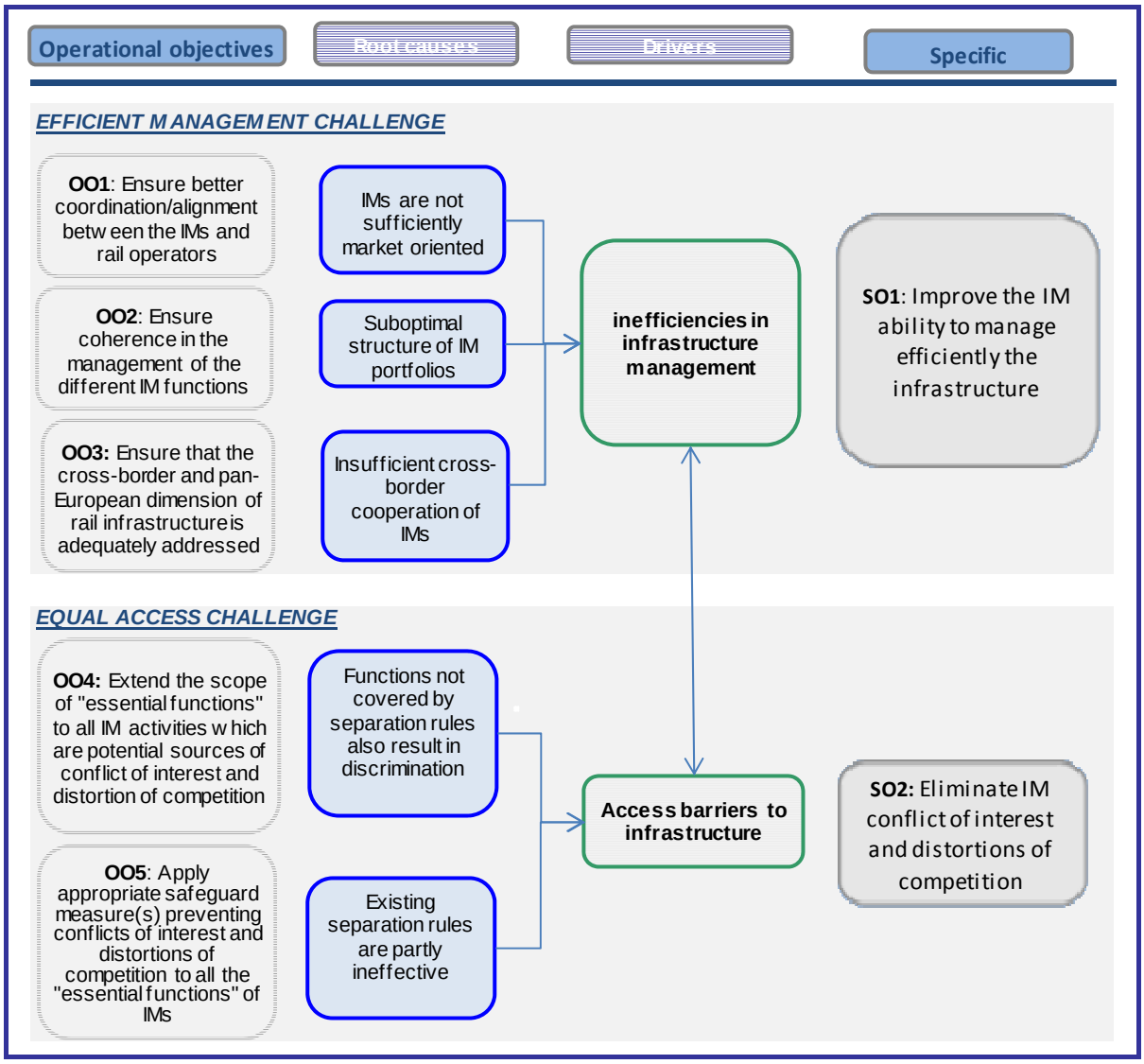
4.3 Operational objectives:

The following operational objectives have been identified in order to address the drivers identified in the previous section.

EFFICIENCY CHALLENGE
OO1: Ensure better coordination/alignment between the IMs and rail operators
OO2: Ensure coherence in the management of the different IM functions
OO3: Ensure that the cross-border and pan-European dimension of rail infrastructure is adequately addressed
EQUAL ACCESS CHALLENGE
OO4: Extend the scope of "essential functions" to all IM activities which are potential sources of conflict of interest and distortion of competition
OO5: Apply appropriate safeguard measure(s) preventing conflicts of interest and distortions of competition to all the "essential functions" of IMs

Given the nature of the initiative, which is to identify the optimal governance structure of IMs, the operational objectives remain rather generic indicating the scope and direction of intended change. Targets cannot be set for these objectives; however the progress will be measured according to the monitoring indicators outlined in Section 8.

Table 3 – Mapping between problem drivers, root causes and objectives



4.4 Coherence with other horizontal policies

The proposed initiatives aim to meet the objectives of the renewed policy agenda outlined in the Europe 2020 Strategy, the 2011 White Paper for transport and the Strategy for Growth and jobs. Transport infrastructure is being considered as the backbone of the internal market and this objective has been retained as one of the "Twelve levers to boost growth and strengthen confidence" in the recently adopted Single Market Act[33].

Additionally, this initiative is consistent with EU competition policy and legislation in the transport sector, which aims to ensure that transport markets operate efficiently, as has been seen in the aviation sector. The equal access challenge identified in the previous sections is in line with this horizontal objective.

[33] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions COM(2011) 206/4.

5. POLICY OPTIONS/POLICY SCENARIOS

5.1 Identification of possible policy options

The problem definition identified two main challenges to be addressed in order to find an optimal governance structure of IMs – *efficiency challenge* and *equal access challenge*. Section 2 above identified for each challenge a series of root causes. In order to solve the identified problem, five groups of options are considered, each of them proposing options to remedy the different problem elements. For each group, two to four options are identified in addition to the baseline options which are presented under Annex IV.

Efficiency challenge:

- **C options:** Coordination between IM and RUs (linked to operational objective 1)

Option C1: RUs participating in the administrative board or supervisory board of the IM. While EU law currently in force implies that RUs do not control the decision making process of IMs in relation with essential functions, this option would foresee that all RUs active on a network would be entitled to a seat in the supervisory board or management of the IM responsible for this network. RUs would therefore take a direct and active part in the management of the infrastructure. This Option C1 corresponds to the arrangements in place in Switzerland for the company in charge of capacity allocation, Sillon Suisse SA - Trasse Schweiz AG which is owned by four Swiss operators CFF, BLS, SOB and UTP which seat in its administrative board.

Option C2: Coordination bodies. This option foresees a creation of coordination bodies representing all RUs and providing opinions to IMs. RUs would not participate in the administrative board or supervisory board of the IM, preserving the existing principle of decision-making independence. However, in order to align strategies and to jointly address issues which cannot be solved by the implementation of the charging principles, performance regimes foreseen by the Recast (such as operational costs or capacity under normal conditions), would be part of a consultative body allowing a constant exchange of information between IMs and RUs. Such arrangements are already in place in a limited number of Member States (such as the United Kingdom and France).

Option C3: Financial incentives alignment. Under this option financial incentives are introduced for both RUs and IMs to ensure that they contribute to the jointly established efficiency targets. Such type of arrangements is recommended by the McNulty report for the UK (see Box 3).

- **F options:** Consistent management of key functions (linked to operational objective 2)

Option F1: New coordination mechanism. This option would maintain the current possibility to allocate IM functions to different entities and foresee the establishment of a mechanism to oblige these entities to better coordinate the management of IM functions to ensure consistency of their decisions.

Option F2: Unified IM. Under this option, all IM functions – path allocation and track access charging, but also traffic management, infrastructure maintenance and development are put under the responsibility of a single entity, the unified IM.

- **CB options:** Cross-border infrastructure management (linked to operational objective 3)

Option CB1: Establishment of a EU network of IMs. This option consists in the institutionalisation of a network of national IMs to exchange best practices, in particular on operational and infrastructure development issues. A pan-European organisation such as RailNetEurope already constitutes a coordination forum gathering the vast majority of IMs on specific technical projects, such as the development of common IT tools.

Option CB2: Creation of an EU structure integrating IMs. This option foresees the establishment of a structure, such as a European Economic Interest Grouping (EEIG) integrating the existing national Infrastructure Managers into a single European Infrastructure Manager. Such type of structure is already foreseen for the management of specific European rail freight corridors.

Equal access challenge:

- **SF options:** Functions subject to the separation requirements (linked to operational objective 4)

Option SF1: Traffic management also covered by separation requirement. Traffic management - a function which cannot be dissociated from path allocation and has a very important potential for discrimination - is added to the list of essential functions subject to separation requirements.

Option SF2: Traffic management and maintenance also covered by separation requirement. Essential functions subject to separation requirements are extended to include both traffic management and the maintenance of new infrastructure considering the inter-relation between the two and their high potential for discrimination.

Option SF3: All IM functions subject to the same separation requirements. This would mean that path allocation and track access charging as well as traffic management, infrastructure maintenance and development are subject to the same separation requirements, independent of the fact that these functions are performed by the same entity or by different ones.

- **S options:** Way of separation between IMs and RUs (linked to operational objective 5)

Option S1: New competences for regulatory bodies. This option foresees that regulatory bodies are tasked with controlling that existing independence requirements in organisational and decision-making terms are respected. In this framework any RU would have the right to appeal to the national rail regulator if it believes that these independence requirements are not respected. In line with this option, the German rail regulator today has competences to control the implementation of the German rules related to separation.

Option S2: Clarify existing EU law. This would mean revision of the existing provisions in the Directive so that the interpretations provided by Annex V of the Communication on the implementation of the First Railway Package would become indisputable. This would clarify in particular that the existing independence requirements in organisational and decision-making terms require in particular strict separation between the holding and IM supervisory/management board, cooling off periods for IM board members, own staff, IT tools and premises. In this option, the competences for regulatory bodies are also extended as foreseen under Option S1. Such option corresponds to the measures developed in Belgium and Latvia (see Section 3.1.4).

Option S3: Institutional separation between IM and RUs. Under this option, the same persons are not entitled to control, hold any interest or exercise any right over an IM and a RU. When both IM and RU are public entities, distinct public authorities must exercise such control over them. This option corresponds to the institutional settings in place today in 14 out of 25 Member States (see categories 1 and 4 in Table 1 under Section 3.1.4).

Option S4: Compliance officers in integrated structures. The supervisory board of integrated IM would appoint a compliance officer responsible for monitoring the implementation of any specific measures taken within the integrated structure to ensure non-discriminatory behaviour. The compliance officer would also issue recommendations and report on these measures to the supervisory board and to the regulatory body. Such arrangement is in place today within the Deutsche Bahn group.

5.2 Screening of policy options

In total, 19 possible policy options (including baseline options) related to the five problem elements have been identified. The combination of all these options could create theoretically 576 scenarios which would evidently be impracticable to assess. To reduce complexity, these 19 policy options have been pre-screened for each problem element as per Annex IV. Such screening is based on (1) stakeholder views, (2) compliance with subsidiarity/proportionality principles, (3) effectiveness in terms of policy objectives as well as (4) overall feasibility. Where relevant, the implementing measures are also discussed in Annex IV. The table below summarises the results of the screening.

Table 4 – Result of policy option screening

Problem element	Respective category of options	Policy options considered	Retained
Insufficient market orientation of IMs	**C options:** Coordination between IM and RUs	**Option C0:** Baseline – improvements as foreseen by the Recast	√
		Option C1: RUs participation to IMs' board	
		Option C2: IMs-RUs coordination bodies	√
		Option C3: Alignment through new financial incentives	
IM functions managed in an inconsistent manner	**F options:** Consistent management of key functions	**Option F0:** Baseline – the content of existing essential functions is clarified by the ECJ	√
		Option F1: New coordination mechanism between the various entities in charge of IM functions	
		Option F2: Unified IMs (all IM functions under IM responsibilities)	√
Cross-border cooperation between IM not sufficient	**CB options:** Cross-border IM management	**Option CB0:** Baseline - implementation of existing EU law (the Recast, regulation of rail freight corridors, etc.)	√
		Option CB1: Establishment of an EU network of IMs	√
		Option CB2: Creation of an EU structure integrating national IMs	
Equal access needs to be assured to all key functions	**SF options:** Functions subject to the separation requirements	**Option SF0:** Baseline – separation requirements applying only to path allocation and track access charging	√
		Option SF1: Current essential functions+ traffic management separated	
		Option SF2: Current essential functions +traffic management + maintenance separated	
		Option SF3: All IM functions separated	√
Conflicts of interests in the management of IM functions management	**S options:** Way of separation of IMs from RUs	**Option S0:** Baseline - existing separation requirements for the essential functions as interpreted in the forthcoming ECJ ruling	√
		Option S1: Additional competences for regulatory bodies	
		Option S2: Clarify in EU law the concrete implications of existing separation obligations	√
		Option S3: Institutional separation	√
		Option S4: Compliance officer in integrated structures	

5.3 Construction of policy scenarios

The table 4 above identifies the 11 options that have been retained (including 5 baseline options) out of the 19 options screened. Of these, three policy scenarios combining policy options in the five areas highlighted above (in addition to the baseline) have been designed for the assessment of impacts. The rationale of the choice is explained in Annex IV.

- **Scenario 0 – Baseline:** this Scenario includes only baseline options and is used for comparison purposes only.

- **Scenario 1 – focussing only on the efficiency measures –** this Scenario includes all three retained options related to the efficiency challenge (an IM-users coordination body is created, IM functions are unified, an EU network of IMs is created and all IMs functions are subject to the existing separation requirements) but only the baseline options related to the equal access challenge;

- **Scenario 2 – efficiency measures and better enforcement of existing separation requirements** – this Scenario combines efficiency measures (an IM-users coordination body is created, IM functions are unified, an EU network of IMs is created) with a first set of equal access measures (all IM functions are subject to the existing separation requirements with their concrete implications according to the Commission clarified in EU law);

- **Scenario 3 – efficiency measures and new institutional separation requirements –** this Scenario combines efficiency measures (an IM-users coordination body is created, IM functions are unified, an EU network of IMs is created) with a second set of equal access measures (all IM functions are subject to institutional separation requirements).

The composition of these Scenarios is summarised in the Table 5 below:

Table 5 – Detailed content of Policy Scenarios

Category of options	Baseline Scenario	Scenario 1	Scenario 2	Scenario 3
Coordination between IM and RUs	**Option C0:** Improvements as in the Recast	**Option C2:** Coordination bodies	**Option C2:** Coordination bodies	**Option C2:** Coordination bodies
Consistent management of key functions	**Option F0:** Existing essential functions are clarified by the ECJ, but scope remains limited	**Option F2:** Unified IMs	**Option F2:** Unified IMs	**Option F2:** Unified IMs
Cross-border IM management	**Option SC0:** Implementation of existing EU law - the Recast, regulation of rail freight corridors.	**Option CB1:** Establishment of an EU network of IMs	**Option CB1:** Establishment of an EU network of IMs	**Option CB1:** Establishment of an EU network of IMs
Functions subject to the separation requirements	**SF0:** Only path allocation and track access charging separated	**Option SF3:** All IM functions separated	**Option SF3:** All IM functions separated	**Option SF3:** All IM functions separated
Way of separation	**Option S0:** Existing separation requirements	**Option S0:** Existing separation requirements	**Option S2:** Clarify in EU law the concrete implications of existing separation obligations	**Option S3:** Institutional separation

6. ANALYSIS OF IMPACTS

The analysis below details the economic impacts of the baseline scenario and the comparative outcomes of the three policy scenarios. Section 6.1 focuses on direct impacts on the railway sector in terms of enforcement costs, transaction costs, regulatory costs, the costs of discriminatory practises, that of the cross-subsidisation, but also the impacts of separation on the efficiency of infrastructure usage (including assessment of misalignment costs). Assessment of these impacts is most detailed and supported with further details in Annex V. Section 6.2 looks in addition at the induced impacts of the initiative, such as level of competition, level of activity, investments, service quality, safety and SME impacts. The rest of this chapter covers the indirect impacts on transport sector and wider economy including range of economic, social and environmental impacts.

This section provides an assessment of the main economic, social and environmental impacts. The analysis is mostly derived from a qualitative assessment of the policy options which is supported where possible by quantitative elements. To the extent such an approach provides sufficient basis for comparative analysis, it is considered being proportionate to the nature and purpose of the policy measures under consideration. The overall results of the analysis of impacts are summarised in the table in section 6.4.

6.1 Direct impacts on the railway sector

6.1.1 Enforcement costs

While, by definition, there are no enforcement costs under the baseline scenario, creation of IM-users coordination bodies under Scenario 1 will imply limited administrative burden for IMs and infrastructure users which are already involved in ad hoc consultations. In the same manner, without any permanent secretariat and only few meetings per year under the auspices of the Commission, the establishment of a European IMs' network is not expected to create important enforcement costs. In a limited number of Member States, the unification of IM functions will require merging the IM with allocation and charging bodies or specific departments of the incumbent. This reorganisation will necessitate transfer of staff and reorganisation of the IM management chain.

Scenario 2 implies the generalised establishment of safeguards capable of ensuring the decision-making independence of IMs. Such "Chinese walls" may increase moderately the cost of IM infrastructure management, for instance through the recruitment of distinct board members and development of new staff policies, IT systems. However these restructuring costs, affecting only those Member States which have not opted for institutional separation, are expected to remain moderate (costs associated to legal separation but also some costs resulting from decision-making and organisational separation are supposed to be part of the baseline scenario).

Institutional separation under Scenario 3 is also expected to bring enforcement costs. However such costs are expected to be limited and not necessarily higher than those of the "Chinese wall" under Scenario 2 and, as for Scenario 2, to be concentrated on those Member States which have not opted for institutional separation. Implementation of Scenario 3 essentially requires changes in the ownership structure without a need to shift personnel or assets from one part to another.

Impacts compared to the baseline	Scenario 1	Scenario 2	Scenario 3
Enforcement costs	0/-	--	--

Here and afterwards, comparison tables compare the relative impacts within a row but not the relative importance of different rows. '+' indicates positive impacts, '-' negative impacts.

Evidence provided under Annex V indicate that Member States currently without institutional separation (categories 2-6 in Table 1) could be expected to incur potential one-off costs equivalent to 0.7% of annual operating costs (the 0.5% mid-point estimate for implementing Scenario 2 plus the 0.2% arising from Scenario 3). This would imply EU level expenditure of €0.24 billion.

6.1.2. Transaction costs

Under the baseline scenario, transaction costs exist as a result of the interaction between the IM, the incumbent and new entrants. But while transaction costs between the IMs and new entrants can be easily identified, those between IMs and incumbents are less transparent but equally existent within integrated structures. Such costs derive for example from the level of contractualisation and negotiation, the process of capacity allocation, timetabling and traffic management, performance monitoring and alignment of incentives, delay attribution, capacity planning and dispute resolution. All these activities have to be undertaken, in the framework of the EU railway Directives, independently of the governance model retained, and of whether the railway undertakings belong to an integrated group or not. Their cost may vary with the number of transport operators (depending from the level of market opening), but not with the level of separation. In the case of rail infrastructure management there is no possibility to have double marginalisation with integrated structures because the prices of the infrastructure is regulated and its profits are constrained by charging principles applicable under EU law. In some Member States additional transaction costs derive from the fact that IM functions are spread between different operational bodies.

Scenario 1 reduces transaction costs in two different ways: (1) with the unification of IM functions, those costs resulting from interfaces between the different entities in charge of IM functions will be removed; (2) better coordination between IMs and infrastructure users will ensure alignment of strategies and objectives. As a consequence, contractualisation and negotiation costs should be minimised, performance monitoring simplified and potential for disputes partly removed.

Under Scenarios 2 and 3, some transaction costs are likely to increase together with the number of infrastructure users and volume of traffic. However the benefits resulting from an increase in the offer of rail transport services, such as higher track access charges revenues will more than outweigh such costs. In addition, the efficiency measures implemented under Scenario 1 (as well as the implementation of the Recast under the baseline scenario) will act as mitigating measures under these Scenarios.

Compared with Scenario 2, transaction costs under Scenario 3 are expected to vary essentially as a result of the increasing number of new entrants and higher traffic volumes. However such increase will impact exclusively those Member States which have not yet opted for a separated model (see Graph 2 in Section 3.1.4). In addition, under Scenario 3 specific transaction costs, in particular those resulting from dispute resolution, are expected to decrease compared to Scenario 2, as illustrated by UK, Sweden and Germany examples in Box 9.

Box 9 – Example of dispute resolution costs in UK, Sweden and Germany

Merkert et al. (2008) compared the railway systems in the UK, Sweden and Germany in terms of complexity of its transaction processes at interfaces and the related costs. The authors found that the partially integrated holding model adopted in Germany clearly reduces uncertainty for the integrated DB group and thus for a large part of all transactions in the German market. It does, however, increase uncertainty for non-DB operators significantly. This is because most disputes between non-DB operators and the IM require ex post intervention from the Regulatory Body and many of them end up in court, thereby lengthening the time required to resolve them. In the light of an expected increase in the number of new entrants, the dispute resolution system currently in operation in Germany may lead to substantial cost increases. In contrast, most of the disputes in Britain and Sweden, which are anyway fewer in number, can be resolved between the RUs and the IMs. Merkert et al. conclude that the British and Swedish systems "provide competition at not unusually high transaction costs" and work at least as well as the German system

Box 10 – the "PRIMON" study[34] on synergy costs in Germany

In 2006, the PRIMON report was commissioned by the German government with the aim of evaluating different options with respect to the privatisation of Deutsche Bahn. The report estimated synergies benefits from an integrated structure to be up to €1.1 billion for the first four years after separation. However, according to PRIMON, these costs of separation are not transaction costs but rather those resulting from the abandon of single wagon load activities by DB Schenker – 298 m€), cancelled internal efficiency programs (195 m€), misallocation of investments (164 m€) and distinct procurement and other central administrative services (432 m€). However it can be argued that some synergy benefits are not necessarily eliminated in the case of institutional separation. In particular charging policies supporting single wagon load activities, joint efficiency programs and alignment of investments can be developed through IMs-users coordination, benefitting thereby new entrants in addition to the incumbent.

Impacts compared to the baseline	Scenario 1	Scenario 2	Scenario 3
Transaction costs	0	-	--

Here and afterwards, comparison tables compare the relative impacts within a row but not the relative importance of different rows. '+' indicates positive impacts, '-' negative impacts.

According to the evidence collected under Annex V, the potential transaction costs range between 0.05 and 0.16 bn euro per annum with Scenario 2 and 3. They should impact only Member States with integrated structures and represent at least 0.15% of operating costs under Scenario 2 and nearly 0/3% of operating costs under Scenario 3.

6.1.3. Regulatory costs

Under the baseline scenario as well as Scenarios 1 and 2, the persistence of integrated structures will oblige regulatory bodies to deploy important administrative resources to effectively control and detect discriminatory behaviour of and cross-subsidisation within the integrated railway undertaking.

Under the baseline and Scenario 1, discriminatory practices are already prohibited and regulatory bodies are competent to act following an appeal from a party which considers itself discriminated or on their own initiative. While the scope of separation requirements varies between these two scenarios, there is no evidence that regulatory costs will change significantly.

[34] Booz Allen Hamilton (2006), Privatisierungsvarianten der Deutschen Bahn AG "mit und ohne Netz" (PRIMON), Berlin.

With Scenario 2, regulatory bodies are tasked with a new competence requiring additional resources: controlling that independence requirements in organisational and decision-making terms are respected. However the related increase in regulatory costs should be at least compensated by a reduction in the number of appeals resulting from the absence of conflicts of interest.

Finally, transparency resulting from institutional separation under Scenario 3 will greatly facilitate and make more effective regulation. As conflicts of interest are prevented but also financial transparency ensured, the cost of regulation will substantially decrease under this Scenario. According to the evidence collected under Annex V, regulatory costs per train-kilometre could decline up to 75% as a result of institutional separation. Such positive impact would be concentrated in Member States with integrated structures.

Impacts compared to the baseline	Scenario 1	Scenario 2	Scenario 3
Regulatory costs	0	0	+

* Here and afterwards, comparison tables compare the relative impacts within a row but not the relative importance of different rows. '+' indicates positive impacts, '-' negative impacts.

6.1.4 Costs of discriminatory practices

By reducing or even eliminating the scope for discriminatory behaviour, all three policy scenarios would evade opportunity costs of potential operations of new entrants omitted due to discrimination in gaining access to infrastructure. Equal access to infrastructure would also provide for the development of competition for, and in, the market, in particular if coupled with market opening initiative.

Already in the Baseline Scenario, any discriminatory practices are prohibited by existing EU law and regulatory bodies are competent to act following an appeal or on their own initiative. However, as presented in the problem definition of the IA, the discrimination in infrastructure access, preventing the smooth functioning of Single European Railway area, still occurs. Under **Scenario 1**, measures ensuring better coordination between Ims and infrastructure users will provide an opportunity for new entrants to have their interests taken into account by IMs and thereby to reduce the scope for discrimination.

In case of **Scenario 2** independence requirements in organisational and decision-making terms are further detailed and the scope of oversight of regulatory bodies is extended to verify that these requirements are respected. However, without full institutional separation and full financial trasparency, an opportunity and motivation for discrimination remain. Damages caused by discriminations could be illustrated in terms of 'opportunity costs' expressed as loss from non-running of services as well as lost return on investments. Whilst such costs can be significant, quantification is challenging being each time dependent on the circumstances and the nature of services involved. For instance, one of the discrimination cases quoted in Annex III refers to hurdles the Italian new entrant NTV experienced during the homologation procedure for its HS trains. The process took 45 months between July 2008 and March 2012 main reason for delays being the infrastructure manager's RFI (subsidiary of the Ferrovie dello Stato) refusal to grant the train paths necessary for testing purposes. The excessive duration of the procedure led to a lost return on its €1 billion investment for the development of its new rail transport services.

Scenario 3 would imply a structural change by introducing full institutional separation and thus prevent (rather than correct) occurrence of discriminatory behaviour. Therefore this Scenario is much more efficient in terms of evading discrimination related opportunity costs.

Impacts compared to the baseline	Scenario 1	Scenario 2	Scenario 3
Costs of discriminatory practices	0	0/+	++

Here and afterwards, comparison tables compare the relative impacts within a row but not the relative importance of different rows. '+' indicates positive impacts, '-' negative impacts.

6.1.5. Costs of cross-subsidisation

Separation would also reduce the risk of cross-subsidisation embedded in integrated and holding structures. Complex bundle of services offered over the same network and potentially by the same or closely linked companies has inherently implications for cost-accountancy and transparency even if account separation requirements are in place. In these terms only full institutional separation, as foreseen under **Scenario 3**, would reduce and ultimately eliminate the risk of cross-subsidisation between different rail services. Improved transparency would provide the decision-makers within the relevant competent authorities with more transparent financial information about asset values and cost structure, allowing improving the allocation of public funds to, and within, the rail sector. However, likewise the opportunity costs, transparency linked benefits would not be easy to quantify. In any terms **Scenario 3** is considered much more effective, given that institutional separation would structurally prevent the case for cross-subsidisation, while **Scenario 2** would still allow the persistence of cross-subsidisation through the use of complex accountancy tools which are difficult for regulators to monitor and control.

Impacts compared to the baseline	Scenario 1	Scenario 2	Scenario 3
Costs of cross-subsidisation	0	0/+	++

Here and afterwards, comparison tables compare the relative impacts within a row but not the relative importance of different rows. '+' indicates positive impacts, '-' negative impacts.

6.1.6. Efficiency of infrastructure usage

Under the baseline scenario, efficiency improvements measured by the passenger-km and tonne-km per kilometre of rail network and per unit of rolling stock will continue to be largely determined by technological evolutions and by the managerial independence of market players (i.e. the ability of railway undertakings to manage their business on a commercial basis and for the IM, its responsibility over its own management, administration and internal control). In this context, it can be expected that efficiency will continue to improve to some extent. However, a low competitive pressure on transport operators, sub-optimal asset management and biased investment allocation of some IMs would limit efficiency gains.

The measures to be implemented under Scenario 1 are specifically designed to increase efficiency. They will allow IMs to better assess market needs at both domestic and EU level and to develop infrastructure capacity responding to these needs, thanks to their ability to control the various activities which determine it.

Under Scenarios 2 and 3, increasing competitive pressure and specialisation of the market players will have an additional positive effect on their productivity and efficiency. At the same time, as further explained under Annex V, there are risks of loss of synergies and economies of scope which can appear in cases of separation between IMs and a dominant RU (the so called 'misalignment costs'). However, this is inherent in order to ensure a level playing field for all operators. These risks will be mitigated by the enhanced coordination between IMs and infrastructure users as well as full implementation of the financial incentives foreseen by the

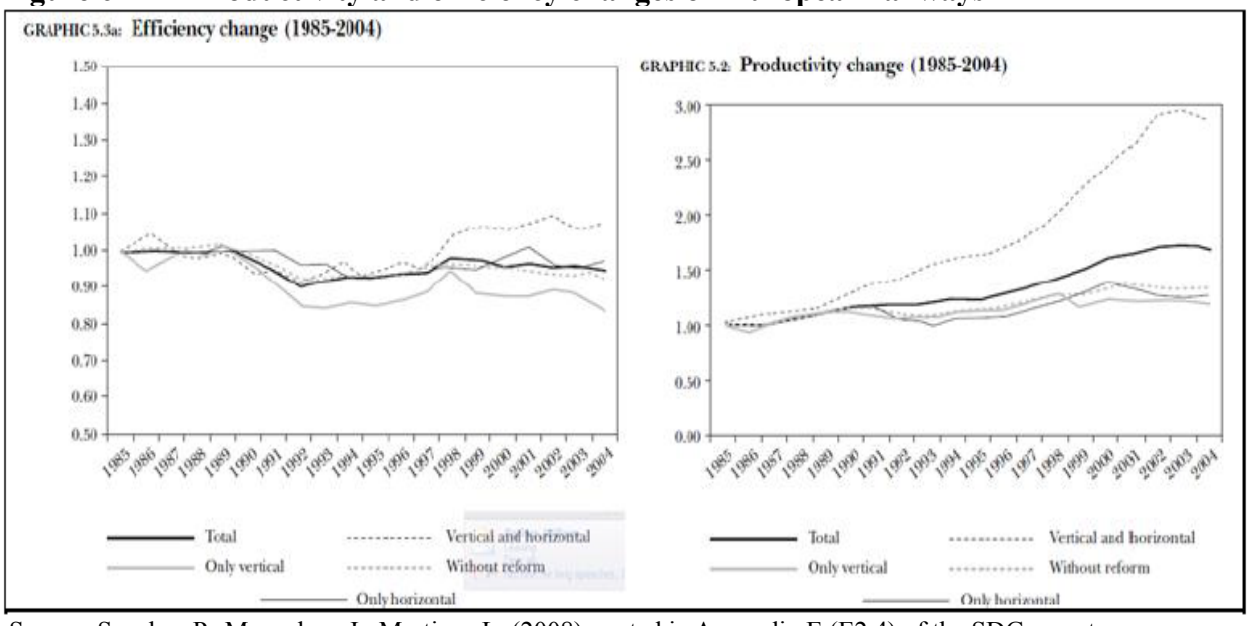
Recast (modulation of charges, incentive scheme and performance regime). Such measures will ensure adequate alignment of strategies and investments leading essentially to long term efficiency gains.

Box 8 – Example of impacts on efficiency in Australia

Evidence of efficiency gains as a result of unbundling has been found in Australia (OECD (2005), where an inter-state IM was created, whose aim was to provide the infrastructure on a non-discriminatory basis to several, mostly freight, RUs. The IM was able to decrease infrastructure charges by 25% compared to the situation under mutual agreements between vertically integrated companies in place hitherto.

Figure 6 below illustrates the findings of a study of 16 European railway networks conducted by Sanchez and Monsalvez (2008). They found that structural reforms and market opening have a positive effect on productivity and efficiency of the railway industry measured by the passenger-kilometre and tonne-kilometre and per unit of rolling stock. The authors found in particular that horizontal separation (i.e. opening up of the rail transport services market) without vertical separation (as in Austria, Germany or Italy) had a limited impact on the efficiency. On the other hand, efficiency gains in vertical separated countries were significantly higher compared to those countries where industries remained vertically integrated only where vertical separation was introduced with some degree of horizontal separation (as in the UK and Sweden). Vertical separation without market opening (as in Spain and in France) had a negative impact on efficiency.

Figure 6 Productivity and efficiency changes on European railways[35]



Source: Sanchez P., Monsalvez J., Martinez L. (2008) quoted in Appendix E (E2.4) of the SDG report.

Impacts compared to the baseline	Scenario 1	Scenario 2	Scenario 3
Operational efficiency	+	++	+++
Scope efficiencies between IM and incumbent	0	-	-
Overall level of efficiency	+	+	++

[35] Sanchez P., Monsalvez J., Martinez L. (2008), Vertical and Horizontal Separation in the European Railway Sector, Bilbao.

* Here and afterwards, comparison tables compare the relative impacts within a row but not the relative importance of different rows. '+' indicates positive impacts, '-' negative impacts.

6.2. Induced impacts on the railway sector

6.2.1. Level of competition

Under the Baseline scenario as well as under Scenario 1, changes in the level of competition are likely to remain limited. However the efficiency measures adopted under Scenario 1 may, in comparison to the baseline, have an additional impact on competition: the new IM-users coordination mechanisms will address the problem of asymmetries of information in the dialogue between IMs and infrastructure users, including new entrants. In addition, by extending existing independence requirements to all IM functions, Scenario 1 may also address some potential discriminatory practices arising for functions which are not defined today as being 'essential'. However distortions of competition are expected to persist because of the weaknesses of these independence requirements explained under Section 3.2.2.1.1. Identifying and correcting anti-competitive practices will remain particularly difficult for regulatory bodies and will continue to be a long process with important opportunity costs for the victims of discrimination. New entrants would therefore continue to face difficulties in developing alternative transport offers.

Under Scenarios 2 and 3 strengthening of the separation between the IM and the railway undertakings is expected to address anti-competitiveness concerns by eliminating conflicts of interest between IMs and incumbent operators.

Under Scenario 2, competition will increase compared to the baseline as the decision-making independence of the IM would be ensured. However its impact in terms of competitive pressure vis-à-vis railway incumbents will not be as strong as in Scenario 3. In fact, the existence of integrated structures and the associated persisting risks of cross-subsidisation explained under Section 3.2.2.1.2 will continue to slow down new entrants' development – in freight and in passenger transport. Integrated structures will find possibilities to continue using public infrastructure subsidies to gain competitive advantages for their commercial operations. In addition, under Scenario 2, competitive advantages of incumbents in access to resulting from infrastructure ownership will not be addressed.

Full institutional separation under Scenario 3 will guarantee financial transparency, absence of cross-subsidisation and fair financing conditions, reduce further the risks of conflicts of interest and ultimately create the conditions for increased competition. However it must be acknowledged that institutional separation and non-discriminatory coordination between IMs and users will not directly affect the dominance of incumbents. The latter will continue to use their market power to claim favourable infrastructure access conditions from independent IMs.

Figure 2 under section 3.2.2 has shown the evolution of the market shares of new entrants in freight markets. It indicates that the share taken by new entrants has been generally greater and has grown faster in countries adopting full institutional separation than in those with an integrated structure: in 2012, the market share of new entrants was above 21% in 6 out of 8 countries in the separated sample while it was above this same figure only in 2 out of the 8 countries in the integrated sample. It can be concluded that combining IM and RU functions within a single organisation is likely to prevent or discourage new entry.

Impacts compared to the baseline	Scenario 1	Scenario 2	Scenario 3
Level of competition	+*	++	+++

* Here and afterwards, comparison tables compare the relative impacts within a row but not the relative importance of different rows. '+' indicates positive impacts, '-' negative impacts.

6.2.2. Level of activity of railway operators (traffic)

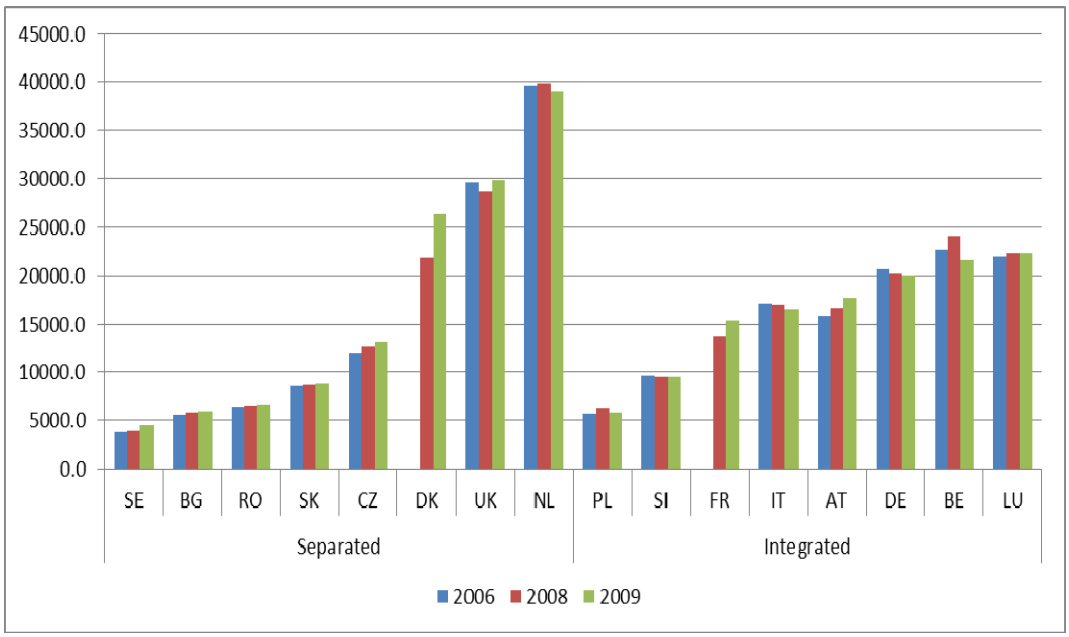
Under the baseline scenario, the level of activity, linked to infrastructure usage and the level of traffic, is likely to remain constrained by the difficulties faced by new entrants in accessing the rail market. However some access barriers will already be removed by the development of common technical standards (for both safety and operability) and by the implementation of the Recast which will in particular facilitate access to rail-related services for new entrants. Other initiatives under the Fourth railway package (single certification and homologation procedures, opening of the domestic passenger markets) will have an important impact on the evolution of rail traffic.

Implementation of the efficiency measures foreseen under Scenario 1 will have a positive impact on the level of traffic: IMs coordination, improved consultations between IMs and infrastructure users as well as the unification of IM functions will ensure that the availability of existing infrastructure capacity is maximised (through better maintenance planning and operational practices) and that investments in infrastructure development are optimised to respond to transport operators' demand.

In addition to the positive impact of the efficiency measures mentioned above, Scenarios 2 and 3 will facilitate market access and the increasing number of operators will ultimately generate new business activity and additional traffic. For freight and passenger rail in open access, this will lead to an increase of traffic generated by additional transport supply. For competitively-tendered passenger rail services, new bidders bringing additional competitive pressure will lead to additional savings for competent authorities and improvements in service quality for passengers. These benefits will ultimately increase the possibility for awarding authorities to purchase additional train-km or passenger-km of train services for the same amount of subsidies. As the level of competition will be higher under Scenario 3 than under Scenario 2 (see section a) above) these effects will be respectively stronger under Scenario 3 than under Scenario 2.

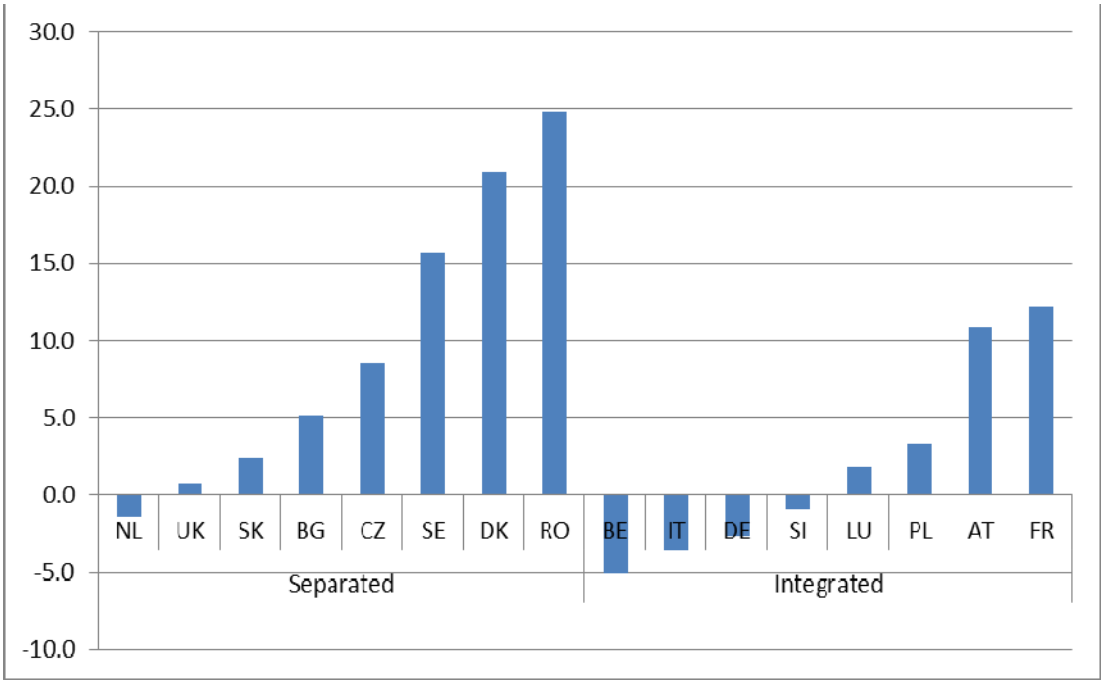
Empirical evidence shows that there is a correlation between the level of separation and the intensity of infrastructure use. Figure 4 below shows that rail infrastructure tends to be most intensively used in those countries that have adopted institutional separation and liberalised their respective rail markets. Sweden is a notable exception, with the relatively low intensity of use reflecting geography and network configuration. Such correlation appears even more obvious when changes to the intensity of use are observed: While intensity of use of rail infrastructure in the UK and the NL, which had reached an already remarkably high level in 2006, remained fairly stable, such intensity increased particularly rapidly in other Member States with separated structures, such as the Czech Republic, Sweden, Denmark and Romania. Among Member States with integrated structures, the intensity of use reached relatively important levels in Italy, Austria, Germany, Belgium and Luxembourg. However, with the exception of Austria and France, such intensity deteriorated or remained fairly stable during the reference period 2006-2009.

Figure 4 Intensity of use of infrastructure and variation 2006-2009 (passenger train-km / km of line)



Source: Rail Market Monitoring Scheme (RMMS) 2012 and Eurostat data.

CHANGE OF USE OF INFRASTRUCTURE IN SELECTED COUNTRIES IN 2006-2009, %



Source: Rail Market Monitoring Scheme (RMMS) 2012 and Eurostat data.

Impacts compared to the baseline	Scenario 1	Scenario 2	Scenario 3
Level of activity of railway operators	+	++	+++

* Here and afterwards, comparison tables compare the relative impacts within a row but not the relative importance of different rows. '+' indicates positive impacts, '-' negative impacts.

6.2.3. Investments in infrastructure and transport operations

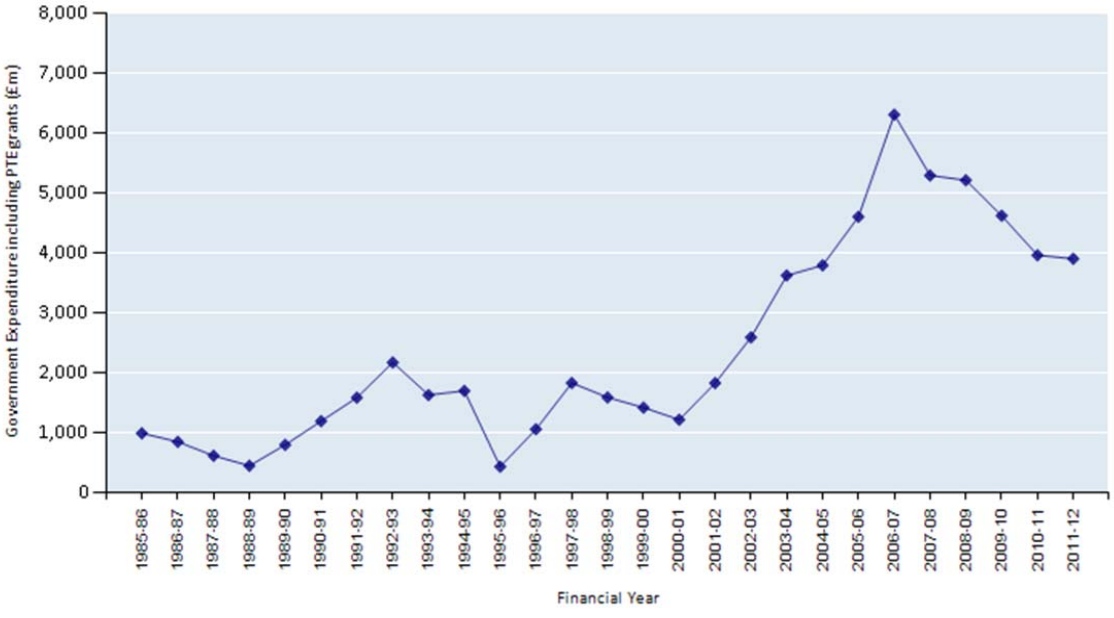
Under the baseline scenario, investments by new entrants in transport operations will be constrained by the fear of distortions of competition (discriminatory practices and cross-subsidisations) but also by the persistence of inefficiencies in infrastructure management. In addition the variety of governance structures will continue to affect the transparency of market access conditions making cross-border investments of rail undertakings more difficult. Public authorities may ultimately decide to limit their funding to the rail infrastructure due to the sub-optimal management of the rail infrastructure as well as the persistent risk of transfer of public funding for the infrastructure to other activities.

Improving the efficiency of infrastructure management, Scenario 1 is expected to reduce its costs. This may result in IMs requesting lower public funding for specific infrastructure development projects and ultimately making rail more attractive for both public and private investments. Investments in favour of competing modes could be re-allocated in favour of rail in the future.

Under both Scenario 2 and Scenario 3, independent decision-making processes in relation to infrastructure development and maintenance will optimise further usage of available funding and should lead to higher public and private investments. However, with persistent risks of reallocation of public funds for infrastructure development to transport operations under Scenario 2, the increase of public and private investments is likely to remain lower than under Scenario 3.

Experiences in both the UK and Sweden have shown that public contributions to the rail sector in general have increased significantly after institutional separation. Such increase is illustrated by the Figure 5.

Figure 5 UK Government Support to the rail industry in Great Britain[36]



Source: UK Department for Transport, Transport Scotland and Welsh Assembly

[36] Public support includes grants provided by local authorities competent for the award of public service contracts, called public transport executives (PTE).

As highlighted in the IA report on market opening in domestic passenger services, such increases in the level of investment has led to an higher offer of rail transport services and the investment efficiency has improved. According to this report, the increase of passenger-kilometre per subsidies between 2003 and 2008 is the highest in the UK and Sweden.

Impacts compared to the baseline	Scenario 1	Scenario 2	Scenario 3
Level of investment	+	++	++

* Here and afterwards, comparison tables compare the relative impacts within a row but not the relative importance of different rows. '+' indicates positive impacts, '-' negative impacts.

6.2.4. Service quality

Under the baseline scenario, low competitive pressure as well as the absence of proper coordination between IMs and infrastructure users may lead to investments not focussed on users' needs in terms of service quality and sub-optimal traffic management decisions creating recurrent problems of punctuality in a context of traffic growth.

With the efficiency measures implemented under Scenario 1, service quality will be improved as IM having full control over the all key functions should result in more effective and coordination with railway undertakings will make them more aware of the needs of passengers and freight forwarders.

Under Scenario 2 and Scenario3, higher competitive pressure will bring market players to become even more customer-oriented and focus their investments on service quality (in terms of comfort, reliability, speed, etc.). Box 11 below illustrates such impact.

Box 11 – Example of impacts on service quality in the Netherlands

A study by Mulder (2005) looks at the institutional change process of the Dutch railways, and its effect on passenger welfare. While there were many transitional problems evident, the report concludes that, following initial problems with performance and punctuality, there has been an improvement in the quality of passenger transport, arising through the institutional separation of different railway entities and the formalisation of the relationships between them.

Impacts compared to the baseline e	Scenario 1	Scenario 2	Scenario 3
Level of service quality and punctuality	+=	+	++

* Here and afterwards, comparison tables compare the relative impacts within a row but not the relative importance of different rows. '+' indicates positive impacts, '-' negative impacts.

6.2.5. Rail safety

Under the baseline scenario, the level of safety is expected to continue to increase as a consequence of the continuous development of safety and interoperability standards as well as the improvement to certification and homologation procedures foreseen under the Fourth Railway Package.

With Scenario 1, coordination between IMs and infrastructure users and among IMs will cover safety aspects (investments in new technologies, operational practices) and should improve further safety levels.

Scenarios 2 and 3 scores are expected to be identical to Scenario 1 in relation to safety as the latter is not influenced by the degree of separation. There is no evidence that competition in general and the increasing competitive pressure resulting from separation may affect safety. On the contrary, there is evidence that safety levels improved in countries which have separated their systems as illustrated by examples in Box 12. It can actually be argued that specialisation and clearer responsibilities of the different market players creates a more favourable institutional framework.

Interestingly, less than 20% of the respondents to the Eurobarometer survey think that competition is expected to have a negative influence on the safety of the network and 55% think that there will be an improvement.

Box 12 – Example of safety impact in UK

A study by OECD (2010) found that there has been no decrease in safety (measured in terms of fatalities) as a result of unbundling in the UK and in Japan. Accident levels in the UK have fallen at a faster rate after market opening and separation rather than before it. Steer Davies Gleave (2011) and Thompson (2004) agree that safety in the UK did not suffer from the unbundling and privatisation process.

Impacts compared to the baseline	Scenario 1	Scenario 2	Scenario 3
Level of safety	0	0	0

* Here and afterwards, comparison tables compare the relative impacts within a row but not the relative importance of different rows. '+' indicates positive impacts, '-' negative impacts.

6.2.6. Impact on SMEs

New entrants in the railway freight and passenger markets as well as services providers such as maintenance operators are partly SMEs. There are no obvious differences in the impact of each Scenario on these SMEs compared to large railway operators. It may be argued that Scenarios 1, 2 and 3 are increasingly likely to create new business opportunities for these SMEs as these business opportunities very much depend on the variations in the level of traffic.

Impacts compared to the baseline	Scenario 1	Scenario 2	Scenario 3
Impact on SMEs	0	+	++

* Here and afterwards, comparison tables compare the relative impacts within a row but not the relative importance of different rows. '+' indicates positive impacts, '-' negative impacts.

6.3. Indirect impacts on the transport sector

Taken in isolation, the impact of this initiative will be rather limited at the transport sector and EU economy levels. However, with the development of the European Single Railway Area, it will contribute to fostering modal shift and the efficiency of the transport system (see below). It will also improve the environmental impact of the transport systems, but these impacts are minor compared to the impact of better resource efficiency and cleaner energy use of the transport systems, rail included. For example, the electrification of the rail network as well as the increased share of low-carbon electricity would have a much more pronounced impact on

the environment. However the increases of competition and activity in the railway sector under the different options will impact the European transport system as a whole.

6.3.1. Modal shift

Under the baseline scenario, in terms of modal split, the various modes are in general expected to maintain their relative importance at EU level. Road is expected to remain the largest mode. Aviation is expected to continue to grow consolidating its position as the second most important passenger mode (in terms of passenger*kilometres). While the total rail passenger transport volumes should continue to grow, rails modal share is expected to increase only modestly. As regards freight, total transport volumes are expected to grow at rates comparable to the ones of road and maritime transport. Rail is expected to grow faster aided by an expected slower increase in fuel costs[37].

The impact on modal shift is likely to be proportionate to the impact on the level of competition and the level of activity in the railway sector. Increased competition under Scenarios 2 and 3 will lower the cost of rail and will make the sector more responsive to customers' needs, allowing railway operators to compete with other modes, therefore increasing modal share compared to the Baseline and Scenario 1. Passenger high speed services will improve the competitive situation with airlines and rail freight will increase its market share.

Impacts compared to the baseline	Scenario 1	Scenario 2	Scenario 3
Modal shift	0/+	+	+

* Here and afterwards, comparison tables compare the relative impacts within a row but not the relative importance of different rows. '+' indicates positive impacts, '-' negative impacts.

6.3.2. Efficiency of the transport system (congestion and travel times)

In the Baseline scenario, efficiency improvements will result from market opening initiatives, increased investments in infrastructure in line with the TEN-T Guidelines and the Connecting Europe Facility, favouring intermodal connections and reductions of missing links at cross-border sections and bottlenecks.

The expected modal shift under Scenarios 1, 2 and 3 would have an increasingly positive effect on congestion levels of roads and is likely to reduce societal costs compared to the baseline. Additionally, the more favourable climate for public and private investments under Scenario 3 will allow investing in the rail infrastructure to reduce bottlenecks and missing links, therefore improving the efficiency of the rail network.

Impacts compared to the baseline	Scenario 1	Scenario 2	Scenario 3
Efficiency of the transport system (congestion and travel times)	+	+	++

* Here and afterwards, comparison tables compare the relative impacts within a row but not the relative importance of different rows. '+' indicates positive impacts, '-' negative impacts.

[37] Impact Assessment accompanying the White Paper (SEC(2011)358)

6.4. Indirect impact on the European economy

Studies by the World Bank on countries logistics performance show the correlation between economic growth and freight transport logistics effectiveness and efficiency.[38] Therefore as explained above, the improved conditions for competition and the improved efficiency of the railway system will affect economic growth.

A more integrated and efficient transport system enabling the free movement of people and goods across the EU and with its neighbours is expected to contribute to economic growth, as it would allow for a more efficient use of resources. The EU economy should also benefit from the increase in the capacity and performance of the infrastructure resulting from its improved management of the infrastructure. Additionally, the improvement of the efficiency of the transport system and the reduction of related obstacles would improve the economic conditions for both transport businesses and enterprises heavily depending on transport for their activity.

Impacts compared to the baseline	Scenario 1	Scenario 2	Scenario 3
Impact on the European economy	+	+	+

* Here and afterwards, comparison tables compare the relative impacts within a row but not the relative importance of different rows. '+' indicates positive impacts, '-' negative impacts.

6.5. Environmental impacts

6.5.1. Impact on climate change

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

Improved efficiency of the rail transport system and modal shift will reduce the greenhouse gases emissions. However, the level of impact of the policy scenarios will very much depend on the energy supply for trains (i.e. energy mix for electricity used by electric trains and share of trains running on diesel).

Impacts compared to the baseline	Scenario 1	Scenario 2	Scenario 3
Impact on climate change	0/+	+	+

* Here and afterwards, comparison tables compare the relative impacts within a row but not the relative importance of different rows. '+' indicates positive impacts, '-' negative impacts.

6.5.2. Impact on pollution

Air pollution levels, as defined by the Directive 2008/50/EC of the European Parliament and the Council on ambient air quality and cleaner air for Europe, freight transport logistics effectiveness and efficiency mostly depend on the vehicles' (including ship's) pollutant emissions performance and road traffic congestion in urban areas.

[38] World Bank Report—Connecting to Compete 2010 Trade Logistics in the Global Economy -The Logistical Performance Index and its Indicators

Compared to the baseline, Scenarios 1, 2 and 3 would increasingly contribute to further reduction in emissions thanks to their positive impact on congestion reduction, as a result of induced modal shift. The level of the impact will partly depend on the extent to which cleaner rail transport is introduced, for example by fostering the replacement of diesel locomotives by electric ones (with a cleaner electricity mix). Since rail transport is the second most energy efficient mode, larger volumes of rail transport traffic flows should lead to a reduction of the overall energy and fuel consumption.

Impacts compared to the baseline	Scenario 1	Scenario 2	Scenario 3
impact on pollution	0/+	+	+

* Here and afterwards, comparison tables compare the relative impacts within a row but not the relative importance of different rows. '+' indicates positive impacts, '-' negative impacts.

6.5.3. Impact on noise

According to one study,[39] road generally accounts for approximately 70% of total noise emissions by transport, rail for 10% and air transport for 20%. The reference scenario of the Impact Assessment of the White Paper highlights that the forecasted increase in traffic would lead to roughly €20bn increase of noise related external costs by 2050. All scenarios will stimulate traffic growth and therefore have a negative impact on noise emission. However such rail noise increase may be partly compensated by specific measures (such a track access modulation based on the noise performance of trains foreseen in the Recast, implementation of new interoperability standards as well as noise bans). In addition benefits should accrue through modal shift from road to rail for freight transport, and from road and aviation to rail for passenger traffic as, in relative terms, road and air transport noise will decrease.

Impacts compared to the baseline	Scenario 1	Scenario 2	Scenario 3
impact on rail noise	0/+	0/+	0/+

* Here and afterwards, comparison tables compare the relative impacts within a row but not the relative importance of different rows. '+' indicates positive impacts, '-' negative impacts.

6.6. Social impacts

6.6.1. Impact on employment levels and working conditions, including wages, in the railway sector

As to the direct employment deriving from organisational changes, separation will reduce the economies of scope of carrying out the infrastructure and operation tasks within a single organisation. Therefore, in the short term, it will imply that more people will be required to do complementary tasks in the IM and in railway undertakings.

The growth of railway activity stimulated by the improved governance of the infrastructure will increase the demand for qualified rail workers in railway undertakings, operators of rail services facilities but also for rolling stock, therefore creating new jobs in railway manufacturing. Such positive impact will be partly mitigated by the productivity gains called by competitive pressure, resulting in lay-offs in some incumbent railway undertakings.

Changes in the governance of the infrastructure will not impact directly working conditions. The continuous applicability of existing rail worker status to the whole rail sector is not linked

[39] Noise Pollution Emitted by Transportation Systems, Dr. Jean-Paul Rodrigue 2009

to the efficiency measures or the level of separation between IMs and incumbent. Wages are likely to evolve based on market conditions such as specialisation, skills or scarcity. Higher-skilled professions (traffic controllers, train drivers, train technicians) are most likely to experience an increase in wages. As a result of increasing competition, railway undertakings and IMs may be inclined to outsource the provision of specific services like maintenance works or clerical functions. In the medium term, this would lead to some job losses in rail sector but to new business opportunities of other sectors.

Lower costs of transport resulting from efficiency measures and increasing competition will have an induced impact on employment in the EU, as it will free resources to carry out other activities thus increasing the competitiveness of the EU and its production and employment.

Impacts compared to the baseline	Scenario 1	Scenario 2	Scenario 3
impact on employment and working conditions in the railway sector	+	+	++

* Here and afterwards, comparison tables compare the relative impacts within a row but not the relative importance of different rows. '+' indicates positive impacts, '-' negative impacts.

6.6.2. Impact on transport safety:

As rail is the safest transport mode, the potential increase of rail travel will result in overall safer transport. This impact could be important in specific regions, such as South-East Europe, where road traffic modal share is currently increasing and where fatalities are highest.

Impacts compared to the baseline	Scenario 1	Scenario 2	Scenario 3
Impact on transport safety	0/+	0/+	0/+

* Here and afterwards, comparison tables compare the relative impacts within a row but not the relative importance of different rows. '+' indicates positive impacts, '-' negative impacts.

6.7. Summary of assessment of direct and induced impacts

Table 6 - Assessment of direct impacts (as per Annex V)

Impacts compared to the Baseline	**Scenario 1 (only efficiency measures)**	**Scenario 2 (efficiency and enforcement of separation)**	**Scenario 3 (efficiency and institutional separation)**
Enforcement costs (one off)	**0/–**	**– –** Potential scale of costs €0.17 billion	**–** Potential scale of cost €0.24 billion **–**
	Limited costs related to establishment of coordination bodies in many MSs and unifying IM functions in some MS.	Related to the costs of internal reorganisation necessary to put in place "Chinese walls". Impacts the MSs having integrated or holding structures.	~0.9% of yearly operating costs. Impacts the MSs having integrated or holding structures.
Transaction costs	**+**	**–** Potential cost range €0.05 bn and €0.16 bn per annum	**– –** Potential cost range €0.05 bn and €0.16 bn per annum
	Some improvement due to better coordination. Impacts to all MSs.	At least 0.15% of operating costs. Impacts the MSs having integrated or holding structures.	~0.3% of operating costs. Impacts the MSs having integrated or holding structures.
Regulatory costs	**0**	**0**	**+**
	It is not expected the costs of regulatory enforcement under Scenario 1 to be materially lower than those arising in the Baseline.	It is not expected the costs of regulatory enforcement under Scenario 2 to be materially lower than those arising in the Baseline.	Regulatory costs per train-kilometre could decline by up to 75% as a result of institutional separation. Impacts the MSs having integrated or holding structures.
Other costs and benefits, linked to:			
Discrimination	**0**	**0/+**	**++**
	No impact	The scope of oversight of regulatory bodies is extended, but remains mostly reactive thus only partly evading discrimination related opportunity costs.	Full institutional separation would eliminate opportunity and motivation for discrimination.
Cross-subsidisation	**0**	**0/+**	**++**
	No impact	Transparency issues and cross-subsidisation risks remain inherent in integrated and holding structures even if account separation requirements are in place.	Full institutional separation would provide necessary transparency and eliminate opportunity for cross-subsidisation.
Efficiency	**+**	**+**	**++**
	Increasing competitive pressure and specialisation of the market players will have an additional positive effect on their productivity and efficiency. At the same time, as further explained under Annex V, there are risks of loss of synergies and economies of scope which can appear in cases of separation between IMs and a dominant RU. However, this is inherent in order to ensure a level playing field for all operators. These risks will be mitigated by the enhanced coordination between IMs and infrastructure users as well as full implementation of the financial incentives foreseen by the Recast (modulation of charges, incentive scheme and performance regime). Such measures will ensure adequate alignment of strategies and investments leading essentially to long term efficiency gains.		

In terms of scale, the implementation, transaction and regulatory costs are relatively less significant than costs linked to discrimination and lack of financial transparency. Misalignment costs could also be significant. However, increasing competitive pressure and specialisation of the market players will have an additional positive effect on productivity and efficiency. **In these terms Scenario 3 seems to be the preferred way forward.**

Table 7 – Assessment of induced and indirect impacts

Impacts compared to the baseline	Scenario 1	Scenario 2	Scenario 3
Economic impacts			
- *Impact on railway business*			
Level of competition	+	++	+++
Level of activity of railway operators	+	++	+++
Level of investment	+	++	++
Level of service quality and punctuality	0/+	+	++
Level of rail safety	0	0	0
Impact on SMEs	0	+	++
- *Impact on the transport sector*			
Modal shift	0/+	+	+
Efficiency of the transport system (congestion and travel times)	+	+	++
- *Impact on the European economy*	+	+	+
Environmental impacts			
Climate change	0/+	+	+
Pollution	0/+	+	+
Rail noise	0/+	0/+	0/+
Social impacts			
Employment and working conditions in the railway sector	+	+	++
Transport safety	0/+	0/+	0/+

Comparison of induced and indirect impacts confirms that Scenario 3 should be the preferred way forward as it performs in the same manner (in relation to investment, safety, modal shift, European economy, environmental impacts and transport safety) or better (competition, rail activity, service quality, SMEs, transport efficiency, employment) than any other Scenario.

6.8. Synergies between the IM governance and domestic passenger market opening initiatives

The ultimate goal of separation is to create a more competitive and efficient rail sector and thus encourage a better service offer, while improving the use of public funds fed via subsidises into railways. The institutional separation envisaged under Scenario 3 is an important precursor to the delivery of the full benefits of market opening, as already implemented for rail freight market and international passenger rail market and further proposed by the 4th Railway package for domestic passenger market. This can be

demonstrated by comparing the estimated outcomes of a specific form of market opening with and without separation, which has been developed by the IA support study[40].

The projections were carried out by the consultant in cooperation with the Commission. There are high uncertainties linked to calculations of aggregated impacts, because of (1) limited empirical evidence, (2) any effects are dependent on baseline situations in Member States and (3) other principal uncertainties in the baseline developments and exogenous factors.

Therefore the quantification results were not used for comparison of options. However, scenario analysis accompanied with sensitivity tests, as presented below, should give a relatively sound idea of potential outcomes of the proposed policy in different situations, based on the most credible information available as of the date. Assumptions are provided in Annex V of this IA, for detailed information on the assessment methodology see Annex 8 of the IA on Access to Domestic Passenger Rail Markets[41].

Table 8 below summarises the financial benefits for:

- the separation initiative only (column 1)
- the domestic passenger market opening only for two scenarios:
  - **Market opening Scenario 1** - Focus on savings (column 2) - In this scenario it is assumed that competent authorities would focus on cost savings, taking all the reductions in PSC tender costs as cash savings and not reinvesting any of these in higher rail quality or capacity.
  - **Market opening Scenario 2** - Reinvestment (column 3)- In this scenario it is assumed that competent authorities would not focus on cost savings but would instead implicitly "reinvest" half the potential reductions in PSC tender costs by specifying higher quality or capacity in PSCs. In terms of monetary impacts this implies reduction in NPV, while the benefits appear in terms of increase in passenger km-s.
- combined impacts of both initiatives separating two different outcome scenarios:
  - **Combined impacts Scenario 1** – Focus on savings (column 4)
  - **Combined impacts Scenario 2** – Focus on reinvestments (column 5)

[40] SDG support study.

[41] C.f. also Appendix I 'Impact assessment' of the IA support study by SDG

Table 8 Combined impacts of market opening and infrastructure governance policies – Summary of core financial estimates

All changes are illustrative estimates NPVs (bil €) to 2035, discounted at 4% to 2019	Separation Scenario 3	Market opening: Scenario 1 - Savings	Market opening: Scenario 2 - Reinvestment	Combined impacts: Scenario 1 - Savings	Combined impacts: Scenario 2 - Reinvestment
	1	2	3	4	5
Transaction costs (mean estimate)	-1.37	-0.42	-0.42	-1.77	-1.77
Domestic service benefits*	5.86	29.85	21.46	43.07	33.71
International service benefits	1.07			1.05	0.89
Freight benefits	1.00			1.00	1.00
Total NPV	**6.56**	**29.44**	**21.04**	**43.35**	**33.83**

Table 9 below presents a wider range of indicators for individual and combined policies.

Table 9 Combined impacts of market opening and infrastructure governance policies - Range of expected outcomes (in euros per annum)

All changes are illustrative estimates	Financial benefits (NPV*, € bn)	Increase in annual revenue (€ bn)	Increase in annual CAPEX (€ bn)	Additional passenger-km (bn by 2035)	Increase in new entry market share (% points)
Scenario 1 –Focus on saving					
Vertical separation[42]	6.56	0.1	0.01	0.8	0.5%
Domestic passenger market opening	29.44	0.3	0.03	2	3.8%
Combination of market opening and vertical separation	43.35	0.5	0.1	3.8	6.4%
Scenario 2 – Reinvestment					
Vertical separation alone	4.42	0.1	0.01	1.1	0.5%
Domestic passenger market opening	21.04	0.9	0.13	8.4	3.7%
Combination of market opening and vertical separation	33.83	1.7	0.2	16.4	6.2%

* NPVs to 2035, discounted at 4% to 2019, the benefits encompass mainly savings for competent authorities, but also profits of operators.

The result for both scenarios demonstrates the existence of significant synergies between the separation and market access measures as proposed in the 4th package. 16 billion passenger-

[42] As foreseen by Scenario 3 of IA Governance IA.

km potentially made available by implementing market opening and separation polices, while re-investing half of efficiency savings back to railways, would result in 6% increase of passenger-km on top of the baseline developments. In addition a more level playing field in access to infrastructure, as provided by vertical separation measures, would enable to increase the market share of new entrants from 19% in the baseline to 25%.

Further value will be achieved by quicker time and cost to market for rail undertakings, as provided by the revised scope of the European Railway Agency, also being the part of the 4th Package.

7. COMPARISON OF POLICY SCENARIOS

See table 10 below.

Table 10 Comparison of Policy Scenarios

	Effectiveness		Efficiency				Coherence		Motivation
	SO1: Improve the IM ability to manage the infrastructure	SO2: Eliminate distortion of competition in infrastructure access	Operational IM efficiency	Enforcement cost	Regulatory costs	Transaction costs	Employment and working conditions	Environmental sustainability	
Scenario 0	0	0	0	0	0	0	0	0	
Scenario 1	++	+/0	+	0/-	0	+	+	0/+	Scenario 1 is expected to already have a substantial positive impact on IM efficiency. However, in terms of reduction of conflicts of interest, it will have only a limited resulting from the extension of the existing independence requirement to all IM functions. While existing transaction costs are impacted in a positive but limited manner by better alignment between IM and RUs, regulatory costs and enforcement costs increased moderately as efficiency measures imply a limited administrative burden. Social and environmental impacts are moderate but positive.
Scenario 2	++	++	++	--	0	-	+	+	Scenario 2 will have the same positive impact than Scenario 1 on the IM ability to manage the infrastructure. However its operational efficiency will improve further with increasing competitive pressure on RUs. Scenario 2 removes conflicts of interest in infrastructure access but does not ensure optimal financial transparency and the absence of distortion of competition. Transaction costs increase with the number of new entrants and traffic growth. Both enforcement and regulatory costs are higher due respectively to the implementation of "Chinese walls" and the absence of financial transparency. Social and environmental impacts are moderate but positive.
Scenario 3	++	+++	++	-	+	--	++	+	Scenario 3 improves further the IM ability to manage the infrastructure thanks to the specialisation benefits on institutional separation. With full financial transparency, it eliminates completely risks of distortion of competition at a relatively low enforcement and regulatory cost. Transaction costs increase further despite the mitigating effect of better alignment between IMs and RUs. Traffic growth and efficiency generate the highest positive social and environmental impacts.

* Here and afterwards, comparison tables compare the relative impacts within a row but not the relative importance of different rows. '+' indicates positive impacts, '-' negative impacts.

Considering this comparison of the three policy scenarios, it appears that Scenario 1 can be discarded. While it has a significant impact on IM efficiency and positive influence on transaction costs, it does not provide an effective answer to the second challenge in terms of equal access. Scenarios 2 and 3 have different advantages and disadvantages which have been highlighted by stakeholders. Both perform well in relation to the IM ability to optimise infrastructure management (as they include the efficiency measures of Scenario 1) and to remove risks of discriminatory practices. However Scenario 3 is considered as the most effective and efficient to eliminate distortions of competition, as, contrary to Scenario 2, it ensures financial transparency and reduces the cost of regulation with limited enforcement costs. Despite the fact that Scenario 3 implies higher transaction costs, this option must be retained as such costs deriving from market entries and traffic growth will be outweighed by their benefits.

8. MONITORING AND EVALUATION

The Commission will monitor and evaluate the implementation of the specific objectives of this legislation and its impacts through a set of indicators. In order for these indicators to be consistent throughout EU legislation and not to increase the burden on bodies responsible for providing the data to compile the indicators, these indicators are aligned with those provided to the Commission as part of the implementation of existing EU law: enhanced Rail Market Monitoring Scheme (RMMS) and network of regulatory bodies under the Recast as well as European Railway Agency (ERA) reporting on safety and interoperability.

Specific objectives	Indicators
EFFICIENCY CHALLENGE SO1: Improve the IM ability to manage efficiently the infrastructure to the benefit of the users	Infrastructure utilisation rate/Trafic Volumes
EQUAL ACCESS CHALLENGE SO2: Eliminate conflict of interest and distortions of competition in infrastructure access	Number of new entrants Market share of new entrants Complaints to regulators

8.2. Monitoring and evaluation arrangements

Information is already available by way of the existing rail market monitoring scheme which involves all relevant stakeholders (representatives of the Member States, including representatives of the regulatory bodies, representatives of railways sector, including, social partners, users and local and regional authorities representatives and, where appropriate, the European Railway Agency).

The Recast already foresees enhancing such market monitoring in relation to the use of the networks and the evolution of framework conditions in the rail sector, in particular infrastructure charging, capacity allocation, investments made in railway infrastructure, developments as regards prices and the quality of rail transport services, rail transport services covered by public service contracts, licensing and the degree of market opening and harmonisation between Member States, development of employment and the related social

conditions in the rail sector. The Commission will continue to collect data and to report every two years to the European Parliament and the Council on the following elements:

(a) the evolution of the internal market in rail services and services to be supplied to railway undertakings;

(b) the framework conditions mentioned above, including for public passenger transport services by rail;

(c) the state of the Union railway network;

(d) the utilisation of access rights;

(e) barriers to more effective rail services;

(f) infrastructure limitations;

(g) the need for legislation.

In addition the Recast will create a Network of Regulatory Bodies, with a coordination role attributed to the Commission in this Network, which will exchange information about regulatory bodies' activities (decisions but also on-going complaints and investigations). Finally Regulation (EC) 881/2004 (so-called ERA Regulation) foresees that the European Railway Agency reports on a regular basis on safety and interoperability issues.

The potential indicators mentioned in the above table are addressed by these monitoring and reporting activities already in place under EU law. In this context, it is considered that there is no need to create any new arrangement and obligation.

ANNEX I

THE FOURTH RAILWAY PACKAGE – THE 'BIG PICTURE'

Caveat: The content of this Annex will be further refined and updated as the policy preparation processes for the different initiatives within the Fourth Package progress

1. INTRODUCTION

In its White Paper "Roadmap to a Single European Transport Area - Towards a competitive and resource efficient transport system" adopted on 28 March 2011 ('2011 White Paper'), the Commission unveiled its vision to establish a genuine Single European Transport Area and it clarified that this objective implies creating the true Single European railway Area. A crucial condition to meet this goal is the removal of all obstacles of administrative, technical or regulatory nature still holding back the rail sector. As announced in the 2011 White Paper, the Commission has prepared a set of proposals, to be adopted sequentially within the Fourth Railway Package.

Additionally, the European Council conclusions of January 2012 highlight the importance of releasing the growth-creating potential of a fully integrated Single Market, including as regards network industries.[43] More precisely, the Commission Communication on Action for Stability, Growth and Jobs adopted on 30 May 2012[44] stresses the importance of reducing further the regulatory burden and barriers to entry in the rail sector, making therefore country specific recommendations in that direction. In the same vein, the Commission adopted on 6 June 2012 the Communication on strengthening the governance of the single market, which stresses the importance of the transport sector with a special attention to rail.[45]

This Annex gives a brief background of the development of EU railway *acquis* and clarifies the necessity and objectives of the Fourth Railway Package within this context. It presents all the elements included in the Package (a chapeau communication and seven legislative proposals accompanied by three impact assessments) and explains how different pieces fit together.[46]

2. DEVELOPMENT OF EU RAILWAYS ACQUIS

In the past decade, the European legislator has considerably developed the EU *acquis* encouraging *competitiveness* and *market opening*. The overarching idea has been that greater competition makes for a more efficient and customer-responsive industry. In parallel measures have been taken to improve the *interoperability* and *safety* of national networks; and encourage the development of well integrated rail system leading to 'European', rather than 'national', railways.

Rail legislation in the early nineties introduced some limited degree of market opening and prompted the railways to improve efficiency by introducing management independence of

[43] http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/127599.pdf

[44] COM (2012) 299 final.

[45] COM(2012) 259 final

[46] The intention is to add this (identical) background Annex to each of the 3 rail package IAs.

railway undertakings from the state and separation of accounts between infrastructure management and transport operations. Since 2000, however, the European Commission has put forward further initiatives in the shape of packages of legislative measures.

The First Railway Package, adopted in 2001, was designed to*:*

- open the international rail freight market,
- establish a general framework for the development of European railways, and clarify the relationship between (a) the state and the infrastructure manager; (b) the state and railway undertakings and (c) the infrastructure manager and railway undertakings (Directive 2001/12/EC);
- set out the conditions that freight operators must meet in order to be granted a licence to operate services on the European rail network (Directive 2001/13/EC); and
- define policy for capacity allocation and infrastructure charging (Directive 2001/14/EC).

The Second Railway Package was adopted in 2004. Its aim was to determine:

- a common approach to rail safety (Directive 2004/49/EC)
- requirements for interoperability of the European high speed and conventional rail systems (Directive 2004/50/EC)
- the opening of national and international rail freight markets on the entire European network (Directive 2004/51/EC)
- the establishment of the European Railway Agency (Regulation (EC) 881/2004, amended by Regulation 1335/2008).

The Third Railway Package was adopted in 2007, to open up international passenger services to competition. The objective of the package was:

- opening the market for international passenger services to competition (Directive 2007/58/EC)
- setting the conditions and procedures for the certification of train crews operating locomotives and trains (Directive 2007/59/EC); and
- ensuring basic rights for rail passengers (Regulation 1371/2007), for example, with regard to insurance, ticketing, and for passengers with reduced mobility.

The Recast of the First Railway Package was proposed by the Commission in 2010. Following a final vote of approval in the European Parliament on 3 July 2012, the new EU rules should come into force by the end of 2012. The recast aims to simplify and consolidate the rules by merging three directives and their amendments into a single text. Importantly, the Recast also seeks to clarify existing provisions and tackle key problem areas which have been identified in the market over the last ten years. In particular, the new legislation will strengthen the power of national regulators, improve the framework for investment in rail, and ensure fairer access to rail infrastructure and rail related services.

3. DEVELOPMENTS IN EU RAIL MARKET

Despite the considerable development of the EU *acquis* and rail markets, the modal share of passenger rail in intra-EU transport has in average remained more or less constant since 2000, at around 6%. The latest Euro-barometer survey suggests that only 6% of Europeans uses the

train at least once per week.[47] It should be noted that there are marked differences between Member States, but in overall rail loses out in terms of modal share compared to other modes, reflecting a (real or perceived) low level of efficiency, service levels and quality compared to other transport modes. In the Consumer Scoreboard 2011[48], train services score worst of all transport services and four in ten consumers consider the choices in that service category to be inadequate.

Improvements will be necessary in all rail segments

As demonstrated by the EVERIS study[49], to improve the overall modal split in favour of rail, improvement will be necessary in all rail segments, including conventional long-distance and urban train services.

The 6% modal share for rail in the EU has remained fairly stable in spite of the impressive development **of high-speed train networks**. The latter have managed to gain some markets at the expense of air transport services, but at the same time air transport has maintained important flows of passenger traffic on routes competing with rail[50].

Since the mid-nineties, **local and regional passenger train services** in most Member States that did not open up their market have fallen in a downward spiral of continuous operational losses and subsequent reduced service offer. This decline has been exacerbated in the EU12 Member States by the decay of old infrastructure and rolling stock on the one hand, and wealth driven high-growth of car ownership, on the other hand.

Although **commuter transport** around urban agglomerations experiences growth in some Member States, cars still secure an important share of urban transport – 59% of Europeans never use suburban trains. This situation contrasts with the 75% urbanisation rate of the EU27 and therefore indicates a huge market development potential for suburban and regional passenger rail transport, especially given the raising congestions on roads.

The **rail freight markets** within the EU have been opened for a number of years, and the industry's stagnation cannot therefore be simply explained by the existence of legal barriers of the kind that continue to restrict competition in domestic passenger services. The problem to be addressed therefore also needs to be defined in terms of technical, physical capacity and institutional barriers, which have frustrated action to open markets taken at the EU level.

4. WHAT ARE THE PROBLEMS NECESSITATING ANOTHER RAIL PACKAGE?

According to available studies, the modest development of the rail sector, as explained above, can be attributed to the presence of several administrative, technical, institutional and legal obstacles, which still hamper market access and operational efficiency of service providers.

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47 http://ec.europa.eu/public_opinion/flash/fl_326_en.pdf

48 http://ec.europa.eu/consumers/consumer_research/cms_en.htm

49 http://ec.europa.eu/transport/rail/studies/doc/2010_09_09_study_on_regulatory_options_on_further_market_opening_in_rail_passenger_transport.pdf

50 27 out of the 40 largest intra-EU air routes in the EU were within the reach of competing long-distance (high-speed) railway services and yet attracted some 50 million passengers a year - i.e. as much as the 4th largest EU airport, Madrid-Barajas.

Domestic passenger market opening

Whereas markets for rail freight services have been fully opened to competition since January 2007[51] and those for international passenger transport services as of 1 January 2010[52], national domestic passenger markets remain largely closed[53]. However, by removing the legal barrier by allowing open access to infrastructure for domestic passenger services, would have rather limited effects given that major part of the domestic rail market is covered by public service contracts (PSC). The rules on the provision of transport services under public service obligations (PSO) are laid down in Regulation 1370/2007[54] which gives the possibility to competent authorities to exclude rail transport services from the obligation to award PSCs through an open tendering procedure. This means that most local and regional services, and certain long-distance services, are operated under PSO and attributed to operators through direct award. In addition, the actual impact of market opening depends on the specific requirements imposed for and within PSCs, making the call either attractive or disguisedly non-attractive for new entrants in tendering procedures (e.g. with the aim to protect the incumbent railway undertaking).

Infrastructure governance

The First Railway Package established a distinction between infrastructure managers (IM), who run the network, and railway undertakings (RUs), that use it for transporting passengers or goods. The legislation requires that infrastructure charging and capacity allocation, being key factors in opening up the market, must be performed independently of the incumbent RU so as to ensure fair and non-discriminatory access of all operators to infrastructure. Independence of essential functions of infrastructure management has to be ensured in legal, organisational and decision-making terms as to allow for all railway undertakings an equal access to infrastructure and related services. Member States must also have independent regulatory bodies in place to monitor railway markets and to act as an appeal body for rail companies if they believe they have been unfairly treated.

There are, however, problems with the transposition and enforcement of these requirements and the Commission has initiated several infringement procedures, on which it expects the Court of Justice of the EU to express its view by the spring 2013. The interactions between railway undertakings and infrastructure managers, where these independence rules have not been implemented, have created conflicts of interest still resulting in access barriers and market distortions at the expense of new entrants, such as access denials to infrastructure and discriminatory charges.

However, even where the existing legislation has been respected, there remain certain problems related to the use of infrastructure and related services. Partially these issues are expected to be solved through the more precise provisions provided in the Recast of the First Package, especially through the strengthened role of rail regulators. However, certain issues appear to require further legislative intervention. For instance, according to the structure and economics of the railway sector, it could be necessary for the purpose of efficient infrastructure management to keep certain IM functions together, rather than allowing them to

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51 Directive 2004/51/EC, amending Council Directive 91/440/EEC.

52 Council Directive 91/440/EEC, as amended *inter alia* by Directive 2007/58/EC.

53 Some Member States, such as United Kingdom, Germany, Sweden or Italy, have unilaterally opened their domestic markets.

54 Regulation (EC) No 1370/2007 of the European Parliament and of the Council of 23 October 2007 on public passenger transport services by rail and by road and repealing Council Regulations (EEC) Nos 1191/69 and 1107/70

be performed by separate (though independent) bodies (e.g. it could be useful to couple traffic management with planning of maintenance works). Furthermore, today the independence requirements apply only to the essential functions (infrastructure charging and capacity allocation), but it might be necessary to extend these requirements also to certain other activities of the IM crucial for competition, such as infrastructure investments planning, financing and maintenance. The optimal governance structure has also led to reflections on the degree of institutional separation between infrastructure management and service provision.

Interoperability and safety

Specific EU legislation exists to promote interoperability in order to overcome national historic differences in the field of technical specifications for infrastructure (gauge widths, electrification standards and safety and signalling systems[55]). EU legislation also sets the framework for a harmonised approach to rail safety in the EU[56]. Furthermore, it obliges the Member States to set up the system of national authorities, consisting of national safety authorities, notified bodies, national investigation bodies and regulatory bodies.

The European Railway Agency (ERA)[57], established by the Second Railway Package, plays a central role in promoting interoperability, harmonising technical standards, and developing common approach to safety, all requiring close interaction with the Member States and rail sector stakeholders.

While the level of safety on EU railways has gradually increased, and therefore safety levels as such are not an issue, stakeholders have drawn the Commission's attention to the fact that certain technical and administrative hurdles still persist, creating excessive administrative costs and market access barriers, especially for new entrants. This suggests that the highly decentralised system of railway authorities in place may not have fully coped with the European dimension of the rail services. Firstly, existence of largely non-transparent national technical and safety rules, which overlap and/or are in conflict with the EU legislation, creates unnecessary complexities for RUs. Secondly, there are marked discrepancies in how the national safety authorities (NSAs) conduct vehicle authorisation and safety certifications processes, some NSAs being less efficient and effective than others. This has led to reflections on how to further enhance the role of the ERA in the integration processes.

5. RATIONALE OF THE FOURTH RAILWAY PACKAGE

The main objective of the Fourth Railway Package is to enhance the quality and efficiency of rail services by removing remaining legal, institutional and technical obstacles, fostering the performance of the railway sector and its competitiveness. As announced by the 2011 White Paper, these issues will be addressed by the different initiatives in three main domains:

– **Domestic passenger market opening –** opening domestic rail passenger market to competition, including open access lines as well as the routes under PSOs;

[55] Directive 2008/57/EC of the European Parliament and of the Council of 17 June 2008 on the interoperability of the rail system within the Community (Recast)

[56] Directive 2004/49/EC of the European Parliament and of the Council of 29 April 2004on safety on the Community's railways (Railway Safety Directive).

[57] Regulation (EC) No 1335/2008 of the European Parliament and of the Council of 16 December 2008 amending Regulation (EC) No 881/2004 establishing a European Railway Agency (Agency Regulation)

– **Infrastructure governance -** ensuring that the infrastructure manager performs a consistent set of functions that optimises the use of infrastructure capacity, and its organisation guarantees non-discriminatory access to the infrastructure and rail related services**.**

– **Interoperability and safety -** removing remaining administrative and technical barriers, in particular by establishing a common approach to safety and interoperability rules to decrease administrative costs, to accelerate procedures, to increase economies of scale for RUs and to avoid disguised discrimination.

What about infrastructure?

Obviously, to contribute to the growth of the modal share of rail, new rail infrastructures need to be built across Europe. The 2011 White Paper calls for completing the European high-speed rail network by 2050, so that it would be fully connected to airports enabling the majority of medium-distance passenger transport to be performed by rail. Future EU strategy for infrastructure development has been already set out in the Commission proposals for Connecting Europe Facility[58] and the new TEN-T Guidelines[59] and therefore remains out of the scope of the Fourth Package.

6. CONTENT OF THE FOURTH RAILWAY PACKAGE

The package consists of following elements in the three domains:

Domestic passenger market opening: amendments to:

– Council Directive 91/440/EEC on the development of the Community's railways/the Recast of the first railway package

– Regulation (EC) No 1370/2007 of the European Parliament and of the Council of 23 October 2007 on public passenger transport services by rail and by road

The initiatives will be accompanied by the *Access to Domestic Passenger Rail Markets*.

Infrastructure governance: amendments to:

– Council Directive 91/440/EEC on the development of the Community's railways as amended and Directive 2001/14/EC on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure/the Recast of the first railway package

The initiatives will be accompanied by the *IA on the Governance of Railway Infrastructure in the Single European Railway Area*.

Interoperability and safety: amendments to:

– Directive 2004/49/EC of the European Parliament and of the Council of 29 April 2004 on safety on the Community's railways

[58] Proposal for a Regulation of the European Parliament and of the Council establishing the Connecting Europe Facility, COM(2011) 665 final – 2011/0302 (COD)

[59] Proposal for a Regulation of the European Parliament and of the Council on union guidelines for the development of the Trans-European Transport network, COM/2011/0650 final/2 - 2011/0294 (COD).

– Directive 2008/57/EC of the European Parliament and of the Council of 17 June 2008 on the interoperability of the rail system within the Community

– Regulation (EC) No 881/2004 of the European Parliament and of the Council of 29 April 2004 establishing a European Railway Agency

The initiatives will be accompanied by *the IA on improving interoperability of the Single European Railway Area*.

In addition the Fourth Package contains:

– a chapeau Communication, providing overall context and justifications for the package of proposals;

– an ancillary initiative repealing Regulation (EEC) 1192/69 on common rules for the normalisation of the accounts of railway undertakings, which has become obsolete and is inconsistent with EU law in force today.

7. OBJECTIVES OF THE FOURTH RAILWAY PACKAGE

The analysis conducted by the Commission shows, that the operational inefficiencies and quality issues of rail services are mainly caused by low degree of competition, remaining market distortions and suboptimal structure of EU rail market. Underlying reasons – long and costly procedures, access barriers for new entrants and different market access rules in Member States – will be addressed from different angles by all the Fourth Package initiatives.

Given that, the initiatives in the Fourth Package are complementary, they all contribute to the same general objective of improving the competitiveness of rail sector vis-à-vis other modes. In addition, some specific objectives are also similar of the initiatives, e.g. facilitating entrance of new operators into the market. The operational objectives are unique for each domain of action. The table below demonstrates how the different elements fit together.

Figure I-2: Summary table of the objectives of the Fourth Railway package initiatives.

<table>
<tr><th></th><th>Domestic passenger market opening</th><th>Infrastructure governance</th><th>Interoperability and safety</th></tr>
<tr><td rowspan="3">General objective</td><td colspan="3"></td></tr>
<tr><td>Improve the quality of rail passenger services and enhance its operational efficiency …</td><td>Strengthen further the governance of railway infrastructure</td><td>Eliminate existing administrative and technical barriers …</td></tr>
<tr><td colspan="3">… thereby enhancing the competitiveness of rail sector vis-à-vis other modes and developing further the Single European Rail Area.</td></tr>
<tr><td rowspan="3">Specific objectives</td><td>SO1: Intensify competitive pressure on domestic rail markets</td><td>SO1: Improve the IM ability to manage efficiently the infrastructure to the benefit of the users</td><td>SO1: Facilitate entrance of new operators into market</td></tr>
<tr><td>SO2: Create more uniform business conditions</td><td rowspan="2">SO2: Eliminate conflict of interest and discrimination in decisions and operations of the IMs</td><td rowspan="2">SO2: Reduce administrative costs of railway undertakings</td></tr>
<tr><td>SO3: Better value for public money spent on public transport services</td></tr>
</table>

8. OPTIONS AND MAIN IMPACTS

To achieve these objectives, all IAs will consider a range of different options, which ultimately should improve the operational efficiency and quality of rail services.

The IA for the domestic passenger market opening would propose and assess options on how the interaction of access conditions between open access services and services under PSC should be arranged. The IA would also discuss different criteria for the design of PSC and analyse a possibility of introducing mandatory competitive tendering for PSC. The aim of these options would be to open the domestic rail market to competition, which should lead more passenger friendly services and better use of public money. In order to enhance the positive effects of market opening, the IA would analyse also additional options for 'framework conditions', such as access to rolling stock, through-ticketing and inter-availability of train tickets of different RUs.

The IA for the infrastructure governance initiative would study two dimensions of options: on the one hand, what functions should be included in the portfolio of an 'ideal IM' in order to optimise its operational and in investment decisions, and on the other hand, how should the separation between the IM and RUs to be enhanced in order to ensure equal level playing field for the access to infrastructure and the related services. As a result, new-entrant RUs should get a better access to infrastructure and related services, at the same time the efficiency of infrastructure utilisation at national and EU level should increase.

The IA under the interoperability and safety pillar would assess several 'institutional' options on the level of interaction between ERA and national authorities with the aim to (a) enhance the effectiveness and efficiency of safety certification and rolling stock authorisation processes and (b) reduce complexity caused by excessive national railway rules. As a separate option, a set of additional horizontal measures would be considered, which on their own could achieve the mentioned objectives, but could also be applied on top of the institutional options to reinforce the overall impact of reduced administrative costs/less fragmented markets.

These policy options and their impacts will be presented and assessed in detail in the respective IAs.

9. EXPECTED SYNERGIES OF THE PACKAGE

The idea of the proposed package approach is that there are synergies to be achieved via the combined effects of the individual initiatives. Some examples of such synergies are provided below.

- Effectiveness of *de jure* market opening depends on allowing for certain 'framework conditions', such as access to infrastructure, rolling stock, stations, train path allocation, etc. Some of these framework conditions will be addressed within the domestic passenger market opening initiatives, while the others via the proposal on infrastructure governance.
- One way to improve rolling stock availability is to support development of rolling stock leasing market (as considered under in the domestic passenger market opening IA). However, a necessary condition for that is more standardised equipment and the on-going

standardisation process[60] is expected to be enhanced by the European "passport" for vehicles, considered within the interoperability and safety initiatives.

– All initiatives would, in their own terms, contribute to a more predictable business models for RUs operating across the borders of EU Member States:
  - interoperability initiative by harmonising approach to safety certification and authorisation of rolling stock,
  - market access initiative by introducing universal licence for provision of passenger services throughout the EU and setting common principles for PSO definition, and
  - infrastructure governance initiative by proposing a more harmonised institutional setup of infrastructure managers in different Member States.
– Better infrastructure governance should improve the operational efficiency of railways and possibly allow to improve the travel times for passengers and freight.

Overall, the different operational gains expected as a result of each initiative should allow a better value for public money, on which the functioning of railways is still heavily reliant.

[60] As the result of the changes induced by the Technical Specifications for Interoperability (TSIs) decision.

ANNEX II
PUBLIC CONSULTATION

1. INTRODUCTION – OVERVIEW OF THE CONSULTATION PROCESS

The consultation process was run through several channels to reach out to different groups that face different problems vis-à-vis railways and that may be impacted differently by the 4th railway package initiative.

In this context, 4 consultations run in parallel were preferred to an open consultation:

- a stakeholder consultation
- a Eurobarometer survey
- a consultation of the Sectoral Social Dialogue Committee for Railways
- a consultation of regional authorities (together with the Committee of the Regions)

The views of **stakeholders** were collected through targeted detailed questionnaires and were completed by face-to-face interviews, one intermediate hearing and finally a conference.

The views of citizens and passengers were collected through a broad **Eurobarometer survey** involving 25.591 interviews in 25 Member States (Cyprus and Malta have no railways) asking some 25 questions. The Eurobarometer did not especially cover questions related to the management of infrastructure but rather views on market opening in general. More information on it can be found in the impact assessment on the opening of passenger domestic rail markets.

The **Sectoral Social Dialogue Committee on Railways** was consulted twice in February and June.

Finally, the network of the Committee of the Regions was used to reach **local and regional authorities**.

2. CONSULTATION OF STAKEHOLDERS

2.1 -Overview of the consultation

The consultation of stakeholders was organised in 5 phases.

Figure 1- The Stakeholders Consultation Action Plan

After a thorough identification of 427 potential respondents (cf. infra), in-depth questionnaires were sent to each group of main stakeholders (railway undertakings, infrastructure managers,

public transport authorities, safety authorities, ministries, representative bodies, social stakeholders, etc.).

The contractor in charge of the support study conducted face-to-face interviews with stakeholders in Germany, UK, Italy, Hungary and Sweden. In parallel, face-to-face interviews were organised with those stakeholders that wished to meet DG MOVE, including face-to-face meetings in Sweden, Poland and The Netherlands.

On 29 May 2012 a public hearing with 85 participants was organised in Brussels to share preliminary results obtained in the analysis of completed questionnaires and to obtain feedback on these findings. The workshop also sought to explore some specific issues: access to rolling stock, unbundling and social impacts for consumers and workers.

On 24 September, a stakeholder conference was organised in Brussels with some 400 participants. The conference gave the opportunity to stakeholders to provide their views on the opening of domestic rail markets to competition, on their role to growth, on rail and the value for society.

All feedback made by way of the questionnaire, the public hearing, by phone or by face-to-face sessions was analysed in detail and contributed to the definition of the problem and the analysis of impacts. The comprehensive consultation process described meets the Commission's standards for public consultation.

2.2 - Profile of identified stakeholders and respondents

2.2.1 – Profile of respondents to the stakeholder questionnaires

Initially, almost 427 stakeholders from EU-25 (EU-27 excluding Cyprus and Malta which have no railway) were identified as being involved and potentially affected by the market opening. The detail of these persons and organisations is at the end of this annex.

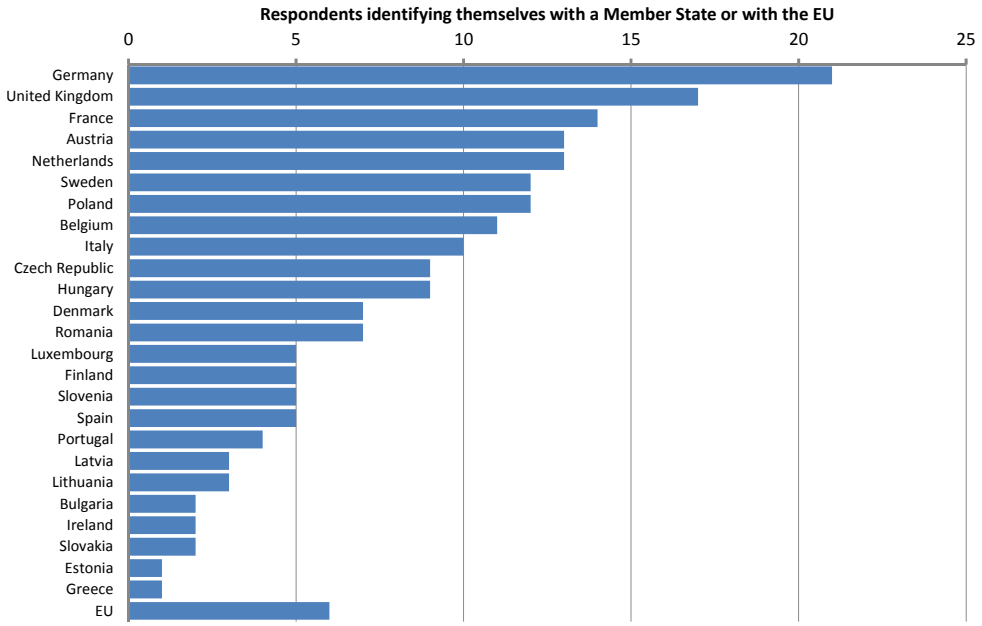
These stakeholders can be categorised in four groups:

- authorities (rail regulatory bodies, competition authorities and ministries of transport)
- infrastructure manager managers
- railway undertakings (including incumbent and newcomers), and
- other stakeholders (railway manufacturers, wagon keeper and rail car leasing companies, terminal operators, maintenance, workshop operators and other providers of rail related services, customer and rail passenger organisations, railway workers' organisations).

In March 2012, these 427 stakeholders were sent several on-line questionnaires that comprised a set of common questions like the important factors associated with quality of rail services, the problems that affect the quality of rail services, the objectives of the Fourth Package policy initiative, policy options with market opening, but also specific questions related to the issue that might have greatest relevant to the organisation(s) that they are representing. Of almost 427 questionnaires sent, 99 completed questionnaires were returned.

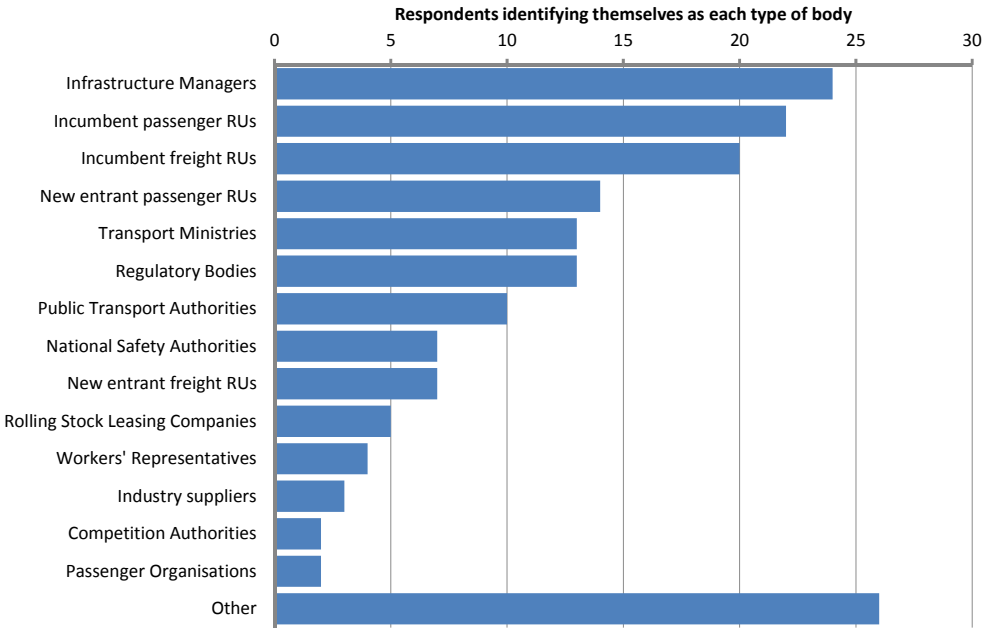
Responses were obtained from the 25 Member States. However, for 12 Member States there were 5 or fewer responses.

Figure 1 - Respondents' self-reported location of activities



The 99 respondents identified themselves as representing a total of 172 different types of organisations (which represents a response rate of 41%).

Figure 2 - Respondents' self-reported type of activity



Because of double identifications[61], respondents were reclassified to provide a better view of the profile of the types of stakeholders. Respondents might have more than one role for reasons such as:

– Railway undertakings identifying themselves as both passenger and freight, or as incumbent in one Member State and new entrant in one or more others
– Holding companies identifying all the roles fulfilled by their subsidiaries
– Regulatory bodies which are also competition authorities
– Representative bodies that represent different types of stakeholder

As noted above, we received few responses from some Member States and types of organisation. We concluded that it would not be possible to analyse systematically by both Member State and respondent type.

After careful review of the identity of the respondents we therefore reclassified them with the objective of providing a clearer basis for analysis:

From the organisation name provided, we identified and distinguished:

– Holdings/groups
– Associations/representatives

For railway undertakings:

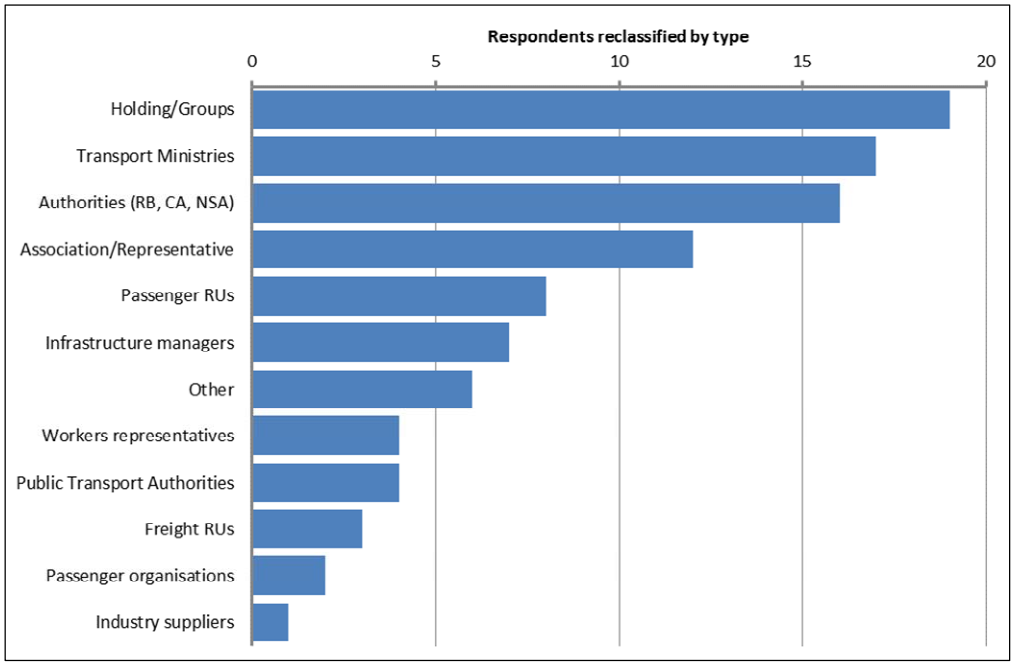
– Incumbent and new entrant passenger railway undertakings were combined as “Passenger RU”
– Incumbent and new entrant freight railway undertakings were combined as “Freight RU”

We combined into a single category of “National Authorities” three different types of respondent, all with at least some regulatory role:

– Regulatory bodies
– Competition authorities
– National safety authorities

61 The 99 respondents reported 172 different industry roles:
– 38 described themselves as having a single role
– 35 described themselves as having more than one role
– 26 described their role as “other”

Fig. 3 – Respondents reclassified by type



Finally, the answers represent an exhaustive sample and a good cross-section of stakeholders from almost all MS.

2.2.2 – Profile of participants to face-to face interviews

In April 2012, targeted interviews with stakeholders were organised by the contractor in charge of the support study in UK, Italy, Sweden, Hungary and Germany to discuss and understand better their responses during the extensive stakeholder consultation exercise. The majority of these interviews ware held as face-to-face sessions, with many of the most significant stakeholders within Member States of those countries for which more detailed case studies were prepared. In addition, the Commission held bilateral meetings with numerous associations from the rail sector in order to hear their view.

TABLE 1 STAKEHOLDER INTERVIEWS (CONTRACTOR)

Rationale	Location	Face-to-face	Telephone	Written
Full country fiche	France	7		
	Germany	6		
	Great Britain	5		
	Hungary	4		
	Italy	4		
Intermediate country fiche	Austria	1	1	
	Czech Republic	1		1
	Netherlands	1		
Pan-European organisations		4		

Stakeholders interviewed by contractors

France

Ministry responsible for railways	Face-to-face	23/04/2012
Representative of region	Face-to-face	24/04/2012
ARAF (Regulatory Body)	Face-to-face	23/04/2012
RFF (Infrastructure Manager)	Face-to-face	10/04/2012
SNCF (Incumbent RU)	Face-to-face	07/05/2012
Keolis (Non-incumbent RU)	Face-to-face	29/03/2012
FGTE-CFDT (Workers Representatives)		

Germany

Ministry responsible for railways	Face-to-face	20/04/2012
Bundesnetzagentur (BNA) (Regulatory Body)	Face-to-face	20/04/2012
Deutsche Bahn AG (DB) (Infrastructure Manager & Incumbent RU)	Face-to-face	18/04/2012
BAG-SPNV (Umbrella body for Competent Authorities)	Face-to-face	18/04/2012
Keolis (Non-Incumbent RU)	Face-to-face	18/04/2012
HKX (Open-Access RU)	Face-to-face	30/04/2012

Hungary

Ministry responsible for railways	Face-to-face	25/04/2012
NKH (Regulatory Body and Safety Authority)	Face-to-face	25/04/2012
VPE (Capacity Allocator)	Face-to-face	25/04/2012
MAV and GySEV (Infrastructure Managers and incumbent RUs)	Face-to-face	25/04/2012

Italy

FS (Incumbent RU)	Face-to-face	26/04/2012
URSF (Regulatory Body)	Face-to-face	18/04/2012

Also, Commission services met in Brussels with representatives from the following organisations throughout 2012:

- BAFG – German Association of Passenger Rail Authorities
- CER – Community of European railways
- EIM – European Infrastructure Managers Association
- EPTO – European Passenger Transport Operators
- EPF – European Passenger Federation
- ERFA – European Railway Freight Association
- ETF – European Transport Worker's Federation
- Network Rail
- NMBS-SNCB Holding (Belgian Railways)
- ÖBB – Austrian railways
- UITP – Union Internationale des Transports Publics
- UK Department for Transport

Additionally, the Polish, Swedish and Dutch authorities organised meetings between stakeholders (infrastructure managers, regulators, railway undertakings) and Commission services in Stockholm, Warsaw and Utrecht:

2.2.3- Profile of participants of stakeholder hearings and conferences

The list of participants to the stakeholder hearings and conferences was drawn on the basis of the list of initially 427 identified stakeholders.

The following organisations took the floor at the stakeholder hearing of 29th May:

- Association of Train Operating Companies (ATOC) UK
- BAG SPNV (German passenger transport authorities)
- Community of European Railways (CER)
- Deutsche Bahn
- European Infrastructure Managers (EIM)
- European Passenger Federation (EPF)
- European Passenger Transport Operators (EPTO)
- European Rail Freight Association (ERFA)
- European Transport Workers Federation (ETF)
- Ferrovie dello Stato / Trenitalia
- Freighliners
- Irish Department of Transport
- JSC Lithuanian Railways
- Ministry of Transport, Infrastructure and Environment (Netherlands)
- Ministry of Transport (France)

- SNCF
- Network Rail (UK Infrastructure Managers)
- NTV Nuovo Trasporto Viaggatori
- Transportstyrelsen (Sweden)
- Union Internationale des Transports Publics (UITP)
- Veolia

The following organisations made presentations at the stakeholder conference of 24th September:

- Ministry of Transport (Sweden)
- Community of European Railways (CER)
- NTV Nuovo Trasporto ViaggatoriFirst Group (UK)
- Amadeus
- Ministry of Transport (Belgium)
- CFR Calatori (Romanian railways)
- GATX Railcar Leasing
- Office of Railway Regulation (UK regulator)
- Freighliner UK
- Freighliner Poland
- UNIFE (European railway industry)
- European Infrastructure Managers (EIM)
- Network Rail (UK Infrastructure Managers)
- BAG SPNV (German passenger transport authorities)
- European Passenger Transport Operators (EPTO)
- Verkehrverbund Berlin-Brandenburg
- European Passenger Train and Traction Operating Lessors' Association (EPTTOLA)
- Province of Gelderland (Netherlands)

Members of the European Parliament were also invited to take the floor.

2.3 - The stakeholder consultation process

This targeted consultation was organised by the contractor in charge of the support study. The consultation took place from 1st March till 16 April (responses obtained till mid-June were accepted and incorporated).

As a first step, the contractor consulted stakeholders through a two-part questionnaire sent via email. The first questionnaire was common to all stakeholders and was completed by extra questions for each type of organisation (infrastructure manager, passenger operations, worker's representative etc…).

The questionnaires were structured in four sections focused on:

- The quality of rail services in the EU, which includes punctuality, passenger comfort, on board services, information, service frequency and intra-modal and intermodal integration,

- Obstacles which hamper market access, limits new entrants and hinder the internal market for rail passenger services;
- The different objectives of this policy initiatives that could improve the quality of rail services
- Checking the willingness of stakeholders to adopt a specific option concerning the market opening

2.4 - Main results of the on-line consultation

2.4.1 - The problem definition

The majority of the stakeholders (85% for passenger services and 90% in freight services) agreed that the quality of rail services affects the competitiveness of the rail sector.

The majority of the stakeholders of the targeted consultation supported the problem and agreed that the quality of rail and the competitiveness of the rail sector in the EU were affected by lack of competitive incentives, inadequate regulatory oversight, discriminatory framework conditions and access barriers for railway undertakings.

2.4.2 - The objectives

Overall, the stakeholders have supported the general problem and the problem drivers as identified by the Commission, as well as the general direction of EU action. 69% agreed that the objective of improved access to infrastructure addressed the objectives of the initiative.

2.4.3- The policy options

Concerning the creation of a coordination body including, in a non-discriminatory manner, representatives from all infrastructure users to ensure that their interests are duly taken into consideration by IMs, 64% of those who responded and offered an opinion supported this idea. Few respondents commented that bodies allowing a dialogue between IMs and RUs already exist (one referred to RailNetEurope, EIM and CER as appropriate EU fora for such dialogue). In the same manner, the unification of IM functions is largely supported by stakeholders.

Regarding the appropriate measure to prevent conflicts of interest and distortion of competition, the responses of the different stakeholders are highly polarised.

Institutional separation is generally supported by the largest number of stakeholders: independent IMs (such as Network Rail, RFF, represented at EU level by EIM), new entrant railway undertakings operating freight (e.g. Mofair in Germany, Freightliner in Poland, AFRA in France, HektorRail in Sweden, ERFA at EU level) and/or passenger services (e.g. NTV in Italy, RegioJet in Czech Republic) but also few IMs and railway undertakings part of holding structures (in particular Infrabel and SNCB in Belgium). The same position is largely shared among transport ministries, competition authorities and regulatory bodies (including in Member States which opted for holding structures), passenger organisations (such as Passenger Focus in UK, FNAUT in France), freight forwarders and shippers (represented at EU level by CLECAT and ESC), public transport authorities (e.g. in Germany BAFG) and industry suppliers (e.g. FIF in France).

These interested parties request in particular the establishment of a genuine level playing field ensuring the absence of conflicts of interest and full financial transparency. They claim that institutional separation is most efficient model and the only one capable to ensure that IMs, as a natural monopoly, work not only in favour of the incumbent but all whole society and are in a position to develop cross-border cooperation (rather than to protect the incumbent domestic market). They argue that with holding models regulatory supervision would be necessarily too burdensome (and costly). Suspicion of the lack of fairness in infrastructure management would persist and affect private investments in the rail sector significantly.

The main supporters to alternatives to institutional separation are quite logically holding structures, including the incumbent freight and passenger railway undertakings and infrastructure managers which are part of them, (in particular the members of DB, OBB, FS and PKP groups) and some workers representatives (represented at EU level by ETF). Transport ministries, and in few cases, the regulatory body, in Member States where holding structures are in place tend to also support status quo or alternatives to institutional separation, such as a stronger role for regulatory bodies (eg in Germany). Some incumbents currently separated (such as SNCF in France and NS in the Netherlands) and few new entrants (specifically those at least partly owned by incumbents such as Arriva, WestBahn) are also in favour of alternatives to institutional separation or at least to leave to Member States to choice of such option. In one Member State, France, the public transport authorities (represented by the ARF) indicated that they would support the holding model.

These opponents to institutional separation tend to accept that this is the most effective way to avoid conflicts of interest and ensure financial transparency. However they argue that there are alternative ways to ensure the absence of discriminatory practices and, in particular that the reinforcement of regulatory bodies (which is one measure already introduced by the Recast) should ensure this in a more efficient manner. They generally claim that institutional separation could affect the "system efficiency" leading to loss of economies of scope (misalignments). They favour the existence of a "system integrator" which would be the incumbent/dominant operator rather than the infrastructure manager itself. They also suggest that the chosen model must provide for an efficient and non-discriminatory network access for all operators but also must remain affordable. Finally, few stakeholders argued that there is no empirical evidence about the benefits of complete separation and that part of the available scientific literature highlights disadvantages of complete separation. A number of incumbent railway undertakings also suggested that, particularly in small and technically separated national railway markets, benefits of full separation might not offset the corresponding transaction costs. Some proposed that respective Member States should be allowed to choose the most appropriate model.

The following table show the main advantages and risks of each type of governance of the infrastructure manager according to stakeholders.

Institutional separation	
Potential benefits	**Potential risks**
• No conflicts of interest and absence of discrimination in infrastructure access • Clearer role division and responsibilities of the different market players • Specialisation benefits • Full financial transparency ensured • Harmonisation of national governance facilitating cross-border cooperation between IM • Give confidence to new entrants and stimulate thereby private investments	• Disconnection of IM from the market needs • Abuse of the infrastructure monopoly position • Fragmentations and misalignment of the system: synergy and communication losses • Additional transaction costs and efficiency loss

Holding Model	
Potential benefits	**Potential risks**
• Easier alignment/coordination between IM and RU (the incumbent) for investment and operational decisions • Limited transaction costs (between the IM and the incumbent) • Make the provision of services under public service contracts easier (for the incumbent) • Facilitate investments in rolling stock (for the incumbent)	• No transparency in decisions-making and financial flows • Persistence of discriminations • More intense regulatory supervision required • Minor willingness to cooperate

2.5 - The stakeholder hearing of 29 May

The stakeholder hearing was devoted to the presentation of the results of the on-line consultation and subsequent discussions on market opening (not relevant for this impact assessment) and the IM governance.

Several views were expressed regarding infrastructure governance:

- An association of passenger transport authorities indicated that integrated structures do not allow for independent investment decisions.
- An infrastructure manager called for a broadening of the scope of essential functions beyond capacity allocation and charging
- Rail freight undertakings advocated separation as the only way to build the single market and underlined that unbundling would not hamper performance, quite the contrary.
- Railway undertakings called for a facts-based pragmatic approach, asking for a thorough estimation of transaction costs and impact on the quality of infrastructure
- A workers organisation claimed that institutional separation could destroy jobs and remove the possibilities of mobility for rail workers (to change functions within single railway undertakings).

2.6 - The stakeholder conference of the 24th September

The conference was attended by 420 representatives across the industry who participated in 3 key workshops as well as hearing an array of speakers.

It was clear that there was a desire to get the structure of the railway right once and for all. An interactive and competitive railway across all of Europe was in the best interests of everybody. Interoperability is vital to allow innovation through liberalisation and a level playing field is a pre-requisite for encouraging new market entrants.

On the governance proposals for IMs, a broad consensus was agreed on the needs of a better governance relationship containing strategic intermodal and efficiency drivers. Discussions took place on issues such as equality, impartiality and the vital need for a level playing field. The relationship between the IM and all RUs was discussed, as was whether incumbents are better placed to bring forward operational efficiencies. It was felt that any future proposal should ensure stability for the medium to longer term bearing in mind the dynamics of the potential tensions between equality and efficiency.

Participants were broadly in favour of improving the competitiveness of rail and further development of the Single European Rail Area. For sustainable high quality and efficient transport a move to mandatory tendering of contracts with some open access provision was felt to provide improved value through a reduction in public subsidies and benefits through improvements in service quality and infrastructure use and patronage. Fears of social dumping and lowering of safety standards were tempered down drawing on the experience of the Member States that liberalised their rail markets.

Further details can be found in minutes of the conference.

3. CONSULTATION OF SOCIAL PARTNERS

The railway manufacturing industry responded through one questionnaire and worker organisations were also consulted through the Social Dialogue Committee and through ETF (European Transport Workers Association) in the consultation of stakeholders (social aspects were also covered during the stakeholder hearing of 29 May).

The Sectoral Social Dialogue Committee on Railways was consulted on the 26 March and the 19 June, in particular on the options and the social impact assessment. Associations of workers were overall sceptical that the opening of domestic rail passenger markets would contribute to the growth of the rail traffic, the improvement of the efficiency and quality of rail services. Worker organisations present at the meeting highlighted that funding of the rail sector and its infrastructure would be more effective to reach those same objectives. In such context, worker organisations did not wish to position themselves on any of the options related to the IM governance that were presented to them on those meetings as they considered them as supporting measures in favour of market opening. The employer's representatives (from incumbent) did not take part in the discussion on this occasion.

ANNEX III

PROBLEM EVIDENCE

1. ANECDOTAL EVIDENCES RELATED TO THE PROBLEM OF DIVERGING INTERPRETATION OF EXISTING SEPARATION REQUIREMENTS (SECTION 3.2.2.1.1 OF THE MAIN REPORT)

Discriminations in *charging* practices:

- A number of cases have been dealt with by German competition and regulatory authorities in which the German IM (which is part of the German incumbent holding group) was accused of having introduced discriminatory charges. For instance, the competition authority found that the charging system TPS 1998 allows for charges for DB Regio to be 25% - 40% lower than that of its competitors. The German regulator also pinpointed the use of "regional factors" in track access charging (i.e. definition of charges applicable to specific parts of the rail network) which were discriminatory vis-à-vis competitors of the incumbent.
- In Austria, the infrastructure division of ÖBB is responsible for setting the relevant charges, for both infrastructure and station access. The new open-access operator, WESTbahn, has reported that, starting from 2012, station access charges for passenger trains will rise at a much higher rate than in previous years. According to the competitor, station prices have risen, but in particular for those stations on the Westbahn line including St. Pölten (78% more) and Linz (66,33% more). At the same time, track access charges suddenly increased by 14.4%, while in previous years the increases were about 2.5% on average[62]. In addition ÖBB introduced a special surcharge for high-speed trains which did not exist before. The congestion surcharge will be replaced from 2013 onwards by a new capacity utilisation surcharge, which is approximately 60% higher. These increases also affect the incumbent ÖBB's services, however according to the competitor ÖBB is compensated for such increases by the state in the public service contract (see below). OECD (2005b) describes a case in Germany in which the Bundeskartellamt found that IM DB Netz favoured the integrated railway undertaking DB Regio over rivals by means of volume discounts in an early version of its track access charging system.
- In February 2011 ÖBB Personenverkehr and the Austrian Competent Authority SCHIG GmbH signed a framework PSC, in which SCHIG agreed to compensate fully any increases in track access charges throughout the duration of the contract[63]. This follows the conclusion of a new PSC framework contract between the Ministry of Transport and ÖBB, which provides for full compensation for any increase in access charges. WESTbahn have argued that the new charging structure is discriminatory since ÖBB does not face the same risk.
- In May 1998, Deutsche Bahn introduced its charging system ‘TPS 98. This system was essentially based on quantity rebates.The German Cartel Office Bundeskartellamt came to the conclusion that new entrants had to pay 25%-40% higher charges than the holding operators of DB. In another legal procedure regarding the same system the courts

62 See article in "Die Presse", 4.6.2011, http://diepresse.com/home/wirtschaft/economist/kordiconomy/667572/

63 This results from Article 7(5) of the PSO contract concluded between SchIG and ÖBB Personenverkehr of February 2011, as mentioned in a parliamentary question of MP Deimek, Vilimski and others, http://www.parlament.gv.at/PAKT/VHG/XXIV/J/J_09274/fnameorig_230429.html

recognised that a new entrant freight operator had to pay 130% higher charges than DB Cargo. The legal proceedings on this issue lasted until 2005[64].

- On 5 March 2010 the regulator BNetzA decided that the so called regional factors must be deleted from December 2010. Regional factors lead to an increase of up to the factor 1.91 for lines in the countryside which are primarily used by DB's competitors. The authority considered these price factors as an illegal obstacle network access, which was based on any valid reason. After some legal proceedings the authority concluded a deal with DB Netz, according to which these regional factors will be scrapped from December 2011. Since they were introduced already in 2003, htis illegal discrimination of competitors existed for almost 9 years[65].
- In Germany, DB Energie, the DB subsidiary responsible for providing electricity to the rail network applied volume discounts that favour DB operating subsidiaries since only they benefit from the maximum discount available. As a result, competing RUs paid electricity charges 15-20% higher than those paid by DB. In February 2012 BNetzA, the German rail regulator, required that DB Energie reduce the fee by 23%, which it has agreed to do. However, DB Energie did not keep its promise to abolish the discriminatory discount system as of 1/1/2013[66].

Discriminations in *path allocation* practices:

- On 25 July 2012, the Italian Competition Authority (ICA) sanctioned Ferrovie dello Stato (FS) for a violation of Article 102 of the Treaty on the Functioning of the European Union (TFEU) and imposed a fine amounting to € 300 000 following a complaint filed by Arenaways S.p.A., a competitor of FS active on the passenger rail transport market and two Consumers Associations. In particular, the ICA found that FS, through its subsidiaries RFI and Trenitalia had put in place a "complex and unified strategy" to keep Arenaways, which went bankrupted at the time of the decision, out of the profitable route between Milan and Turin between 2008 and 2011. The ICA ascertained that RFI put into place a dilatory conduct when Arenaways asked the assignment of train tracks: when receiving the first track assignment train path allocation request by Arenaways on 11 April 11, 2008, RFI did not process the request, arguing that it could not answer before being sure that the PSCs the economic equilibrium of the PSCs would not be compromised. The access to the tracks was thereafter delayed for over 18 months, i.e. until 13 May 13, 2010, when RFI finally asked the Regulator to start the procedure aimed at evaluating the impact of the economic equilibrium of the PSCs of competitor's.
- At the end of 2010 and beginning of 2011, Italian new entrants complained about several unexpected changes in the Network Statement of RFI which would obstruct their access to the network. First of all the date for the presentation of a safety certificate was advanced from November to August in the year before a new timetable. This would have had the consequence that NTV would not have been able to apply for train paths for the period from December 2011, since their trains would only be operational from October 2011. According to NTV there was no technical reason for advancing this deadline. At the same time, the draft network statement of November 2010 also inflicted other new and

64 http://de.wikipedia.org/wiki/Trassenpreissystem#cite_note-eri-2003-278-9

65 http://de.wikipedia.org/wiki/Trassenpreissystem#cite_note-eri-2010-210-28;
Annual report of BNetzA for 2010, page 63,
http://www.bundesnetzagentur.de/SharedDocs/Downloads/DE/BNetzA/Presse/Berichte/2011/TaetigkeitsberichtBahn2010pdf.pdf?__blob=publicationFile

66 See press release of Mofair, a competitors organisation, of 9.11.2012
http://www.mofair.de/db/bahnpol/meldung_13345.html

onerous conditions on the operators to apply for train paths, in particular the obligation to keep reserve locomotives and cranes in order to continue their operations respectively remove the broken down locomotives in case of accidents. Such requirement is unusual as in other EU countries such tasks are done by the IMs. While it is not a problem for a large company such as Trenitalia, it would be financially so burdensome for smaller new entrant freight operators that it could seriously affect their ability to stay in the market.

- The Italian new entrant NTV complained publically about the high cost and long duration of the homologation procedure for its AGV trains (45 months between July 2008 and March 2012) and claimed that such process has been negatively impacted by FS practices and in particular by the refusal of its infrastructure management subsidiary RFI to grant the train paths necessary for testing purposes.
- In Italy, for example, when incumbent operator Trenitalia withdrew its Eurocity services to Austria and Germany, it claimed a number of the previously used train paths for other services. This meant that the joint venture involving DB, ÖBB and an Italian RU received less favourable paths and was not able to offer equivalent journey times to the former Eurocity services[67]. It is not clear whether the resulting allocation of capacity was more or less efficient, but decisions of this kind on the part of a vertically-integrated railway are likely to give rise to allegations of discrimination even if they are motivated by other considerations.
- The company Locomore wanted to offer train services from Cologne to Hamburg from August 2010. They wanted to apply for a framework agreement which would give sufficient certainty for the heavy investment which is needed for long-distance passenger services. In order to have the necessary time to plan the service and acquire the necessary rolling stock, they wanted to conclude such a framework agreement in 2010 with a view to offer their services from 2012 or 2013. However the infrastructure manager DB Netz, which is part of the integrated DB Holding, refused this and insisted on a start of the operation in December 2011, with the argument that 5-year periods have to be respected for framework agreements. Locomore had to postpone its services, in order not to risk penalty payments in case it is not able to start in December 2011[68] . It referred the case to the regulator BNetzA which ruled that DB Netz has to accept applications for framework agreement even within the five-year periods (a possibility also foreseen in the law) [69]. However DB did not accept this decision and started a legal procedure in the Courts which is still ongoing. Similar problems as in the case of Locomore were also encountered by SNCF which had to withdraw its project to offer a train from Cologne to Hamburg. They criticised that "the procedure of DB Netz for the path allocation is done in a way to leave no chance for competitors to make alternative offers"[70].

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67 See Bahnbrief of DB of February 2010, page 6; http://www.deutschebahn.com/file/2194792/data/bahnbrief_februar_2010.pdf

68 See for this case Wirtschaftswoche, 9.4.2010, http://www.wiwo.de/unternehmen/bahn-konkurrenz-ein-schwarzer-tag-fuer-bahnreisende-seite-all/5635928-all.html

69 See annual report of the German Regulator, BNetzA, Jahresbericht 2010, page 209/210; http://www.bundesnetzagentur.de/SharedDocs/Downloads/DE/BNetzA/Presse/Berichte/2011/Jahresbericht2010pdf.pdf?__blob=publicationFile

70 Süddeutsche Zeitung 10.4.2010, http://www.sueddeutsche.de/wirtschaft/deutsche-bahn-konkurrenten-geben-auf-1.14209

- In Germany, a recent report by the Monopolkommission [71] (MK) has accused the incumbent operator DB of discrimination against competitors when giving access to the network, in particular by providing: (1) Insufficient information about the infrastructure capacity available (regarding both train paths and facilities). (2) No information regarding the physical characteristics of routes (such as curve radii or gradients). (3) Making non-flexible framework contracts and providing insufficient time between contract signature and the start of operations. (4) Lacking a framework of incentives for the IM which would motivate the IM to improve the quality of its infrastructure. (5) Not granting access to service facilities for competitors (although the MK believes this problem is the result of insufficient clarity of current legislation).

Competitive advantages of integrated structures in terms of information asymmetry

- Westbahn, a new entrant in Austria requested the Austrian IM (ÖBB Infrastruktur) to allow all operators the access to real time information so that they could inform their passengers about actual departure times of connecting services – mostly run by the competing incumbent ÖBB - in the light of delays and cancellations. ÖBB Infrastruktur, which has real time data available on the whole Austrian rail network, rejected the request, arguing that it only discloses data belonging to the railway undertaking making the request. Westbahn filed a complaint to the Austrian regulator (which has in turn referred prejudicial questions to the ECJ). In his conclusions of 7 June 2012 the Advocate General of the Court of Justice Niilo Jääskinen supported this claim of Westbahn72.
- In Germany, in the past, the incumbent was in a position to propose bids for public service contracts containing discounted infrastructure charges, which other participants could not enjoy. This practice was criticised by the German regulator (and was later forbidden) A recent case published by MOFAIR, the organisation of new entrant passenger operators in Germany, seems to indicate that this practice is still on going. MOFAIR highlights the case of a public service contract for rail in Saxony-Anhalt where the contract was directly attributed to DB, on the basis of a commitment of DB's subsidiary DB Regio to compensate any rise in track access charging affecting the contract for a duration of 15 years.73 MOFAIR claims that such conditions can only be offered by an integrated company where the losses of the transport subsidiaries are covered by contributions from the holding which are drawn from infrastructure revenues.
- In November 2008 investigators of the French competition authority DGCCRF searched offices of SNCF on the basis of allegations that several new entrants had made about the fact that SNCF, in view of its participation in the timetabling process, obtained knowledge of the train paths requested by these new entrants. On the basis of this knowledge SNCF was alleged to have found out about the identity of the prospective clients of these new entrants and to have approached them proposing more favourable conditions than the new entrants. [74]

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71 See special report of the German Monopoly Commission "Sondergutachten 60 der Monopolkommission, Bahn 2011: Wettbewerbspolitik unter Zugzwang", pp. 105 – 106, pp. 106 – 109, pp. 112 – 113, pp. 114 – 122
http://www.monopolkommission.de/sg_60/s60_volltext.pdf

72 Case C-136/11 Westbahn-Management GmbH v ÖBB-Infrastruktur AG

73 See MOFAIR's press release of 21 September 2012 "Eisenbahnregulierungsgesetz hilft der Deutschen Bahn und nicht dem Wettbewerb"

74 See article in "La Vie du Rail International", 3/12/2008, pages 52-55.

- According to the German competitors' association Mofair[75], the yearly timetable was elaborated in a two-tier system: first DB Netz was coordinating the basic schedule with its sister companies of the holding, on the basis of their needs, only afterwards DB Netz tries to fit the requests of competitors in this schedule. DB Netz refuses to publish schedules which would allow (in an anonymous way) to see which tracks are reserved and whether the infrastructure manager has really checked all the possible alternatives in case the path which was originally rejected cannot be realised. This type of information is given in other countries such as Denmark, Norway, Sweden, etc.

- According to the report of the German Monopoly Commission[76], an independent consultative body to the German government, there have been in the past many complaints on insufficient and untimely information about planned works on the infrastructure. After an action of the regulator, the situation seems to have improved on the basis of a deal which DB Netz concluded at the first-level administrative court in Cologne, having first attacked the regulators injunction to improve the information. However, despite these improvements, according to the Monopoly Commission the integrated infrastructure manager still does not take account of the interests of competitors when planning works, but only considers costs and opportunity of such measures for the companies of the holding[77].

2. ANECDOTAL EVIDENCES RELATED TO DISCRIMINATIONS IN IM FUNCTIONS NOT COVERED BY EXISTING SEPARATION REQUIREMENTS (SECTION 3.2.1.3 OF THE MAIN REPORT)

Discrimination rising from the absence of separation of maintenance and development functions of IMs

- A French MEP has officially expressed to the Commission its dissatisfaction with the attitude of the Italian IM, RFI, which is integrated in the holding group of the railway incumbent Trenitalia. RFI would have performed maintenance works on the Mont Cenis line affecting specifically the provision of cross-border passenger services by SNCF.

- The vertically integrated Lithuanian IM removed 19km of tracks at the border between Lithuania and Latvia for maintenance reasons. The Latvian authorities publically claimed that this action has affected competition from railway undertakings from Latvia.

- In Austria, the regulatory body Schienen-Control received several complaints regarding line closures due to engineering works for the Brenner tunnel in the summer 2012. In order to save on construction costs, ÖBB-Infrastruktur tends to close lines for several consecutive weeks. New entrants claimed that this behaviour leads to increased costs for them since they have to bear extra costs and higher access fees for deviations or a temporary contracting-out of road transport services. While the Austrian regulator did not object to the closure of the tunnel as such, which it considered as necessary, however priority rules applied during the closure were considered as discriminatory[78].

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75 See competitors' report of 2009, page 132, http://mofair.de/content/20090707_wettbewerber-report-eisenbahn.pdf

76 See Sondergutachten 60 der Monopolkommission, Bahn 2011: Wettbewerbspolitik unter Zugzwang, page 179; http://www.monopolkommission.de/sg_60/s60_volltext.pdf, point 179.

77 See Report point 182.

78 See annual report of the Austrian regulator for 2011, http://www.schienencontrol.gv.at/files/schienen-control_taetigkeitsbericht-2011.pdf

Discrimination rising from the absence of separation for traffic management

- In 2010 the German regulator BNetzA ruled that DB has to change the practice of its traffic management centres. DB Netz had so far only invited staff of the railway undertakings of its own holding to attend traffic management activities in the centres. This gave these persons the possibility not only to know about traffic relevant issues (delays, works etc.) much faster than the competitors, but also potentially the possibility to influence the priority given to trains of different RUs in case of delays. This results in competitive advantages of the DB Holding companies in terms of costs and punctuality of their own trains[79].

- Competitors criticised the way in which DB Netz organised its performance regime. A performance regime is a system devised by an infrastructure manager, as part of its charging scheme, which is supposed to penalise delays in the train operation caused either by infrastructure managers or railway undertakings. In the first proposal for such a performance regime 90% of the delays were attribute to railway undertakings, and only 10% to DB Netz, by exempting delays caused by works on the infrastructure. This was criticised by competitors, and the regulator ordered DB Netz to change its system. DB was also criticised by the competitors for having instructed its dispatchers to attribute the delay causes in a way to keep DB Netz penalties as low as possible. Another criticism of this performance regime was that freight trains had to pay the same penalties for delays as passenger trains which are much more time sensitive. At that time competitors had a much higher market share in freight traffic in comparison with passenger traffic where the market share of DB is even much higher. The performance regime of DB Netz has led to lengthy legal procedures, leading to a suspension of the system, and a reformulation which was again under review of the regulator[80].

- In France, the new entrant freight company Euro Cargo Rail (ECR) has since 2011 operated cross-border services between France and Spain in competition with the incumbent operator SNCF. Due to the different gauge sizes between the two countries, these operations require a gauge change at the marshalling yards in Cerbère (Pyrénées-Orientales). Soon after operations began, ECR filed a complaint to ARAF against RFF and SNCF. The new entrant claimed that its shunting and train formation activities had been purposefully impeded at Cerbère, and that the operational management of the service tracks necessary for the management should not be done by its competitor SNCF Fret, but by DCF, the traffic management entity of SNCF which is under the supervision of the independent infrastructure manager RFF. ARAF agreed with the part of the complaint that the management of shunting should not have been under the supervision of

79 See annual report of the German Regulator Bundesnetzagentur Jahresbericht 2011, page 208, http://www.bundesnetzagentur.de/SharedDocs/Downloads/DE/BNetzA/Presse/Berichte/2011/Jahresbericht2010pdf.pdf?__blob=publicationFile

80 See competition report of competitor association Mofair, http://mofair.de/content/20090707_wettbewerber-report-eisenbahn.pdf, page 142, and Activity Report of BNetzA for 2010, page 65, http://www.bundesnetzagentur.de/SharedDocs/Downloads/DE/BNetzA/Presse/Berichte/2011/TaetigkeitsberichtBahn2010pdf.pdf?__blob=publicationFile. According to the Mofair Report, several instances of jurisdiction were dealing with the system (Landgericht and Oberlandesgericht Frankfurt)

Fret SNCF. As a result, the Authority ordered RFF to modify the organisation at Cerbère and to give DCF the responsibility to manage both RUs[81].

- In the Netherlands the regulatory body, the NMa, has reported some complaints over ineffective allocation of functions in 2010. Transport operators voiced concerns about ProRail's neutrality with regard to the Day Plan. This is the updated version of the Annual Timetable for a specific day in which all changes, such as ad hoc capacity requests and planned network closures, have been processed. The reason for these concerns is the presence of NS's presence at the OCCR (Operational Control Centre Rail), where the Day Plan is formulated, as this could be a potential threat to the creation of a level playing field. For this reason the NMa issued a Notice of Opinion concerning the development of the OCCR to the effect that certain conditions must be met in order to ensure ProRail's neutrality. In particular, ProRail must: (1) Guarantee that it will allocate rail capacity in an independent and non-discriminatory manner, (2) Ensure that RUs cannot gain access to confidential information, (3) Charge RUs the costs of the OCCR, by means of an infrastructure charge, (4) Include all information regarding the OCCR in the Network Statement. The NMa is closely following the development of the OCCR to ensure that it is consistent with the development of competition[82].

81 See decision of regulator ARAF of 3.5.2011, http://www.regulation-ferroviaire.fr/index.asp?a=10758&n=2&b=3

82 See opinion of Dutch regulator NMa from 17.6.2010, http://www.nma.nl/images/Zienswijze_NMa_OCCR_OV22-157933.pdf

ANNEX IV

OPTION ANALYSIS

1. APPROACH TO POLICY OPTIONS

The impact assessment identified two main challenges to be addressed in order to find an optimal governance structure of infrastructure managers (IMs) – *efficiency challenge* and *equal access challenge*.

To address the *efficiency challenge*, the IMs should be more market oriented and focussed on the needs of infrastructure users. Firstly, means should be foreseen to improve the communication between IMs and RUs. Secondly, coordination among IMs should be improved. Thirdly, to improve performance, the IM functions should be managed in a consistent manner.

To address the *equal access challenge*, there is a need for further reinforcement of independence of IMs from incumbent operators in order to avoid discrimination of new entrants and conflicts of interest stemming from existence of holding structures. The key question is two-fold: which IM functions should be separated and how strict should the separation requirements be?

This annex considers five groups of options, each proposing measures to remedy the different problem elements. The aim is to justify the decision making of policy creation and make it transparent why certain initial policy measures have been dropped and how the options in different groups will be assessed and combined.

For each group of options the annex explains the context, discusses possible policy choices and screens them on the basis of stakeholder views, effectiveness, efficiency, compliance with subsidiarity principles and overall feasibility. Where relevant, the different aspects of implementation are also discussed.

2. STAKEHOLDER VIEWS

The majority of stakeholders agreed during the targeted consultation that the quality of rail services and the competitiveness of the sector in the EU were affected by different access barriers for RUs. 69% found different interpretation of legislation to be an issue. Infrastructure capacity constraints were considered to be the main access barrier for RUs (quoted by 83%).

The results of the consultation show also that views are highly polarised regarding the appropriateness of solutions to these problems, e.g. how to ensure independent and efficient governance of railway infrastructure. Some stakeholders (a large majority of transport ministries, competition authorities, regulatory bodies, passenger and freight RUs, passengers and freight forwarders associations) advocated a *complete separation* which would ensure full transparency and a level playing field for all operators. Other stakeholders, in particular

holding companies, infrastructure managers depending on such holdings and workers' representatives, argued that there is no empirical evidence about the benefits of complete separation and that some scientific literature, highlights disadvantages such as higher transaction costs and risks of disconnection inefficiencies. These stakeholders think that a *stronger role of regulatory oversight* could be sufficient to solve the issues.

64% of respondents support the idea of creation of a specific body of representatives from all infrastructure users, with the aim of ensuring that their interests are taken into account in a non-discriminatory way.

More detailed overview of stakeholder views is presented in Annex 2 of the IA.

3. DESCRIPTION OF DIFFERENT GROUPS OF OPTIONS

3.1. COORDINATION (C) OPTIONS: COORDINATION BETWEEN IMS AND RAIL OPERATORS

3.1.1. Context

Railway infrastructure is a natural monopoly and its construction and maintenance relies heavily on public support. This means that IMs tend to manage the infrastructure giving priority to the instructions received from the public authorities and to neglect the needs expressed by users in the infrastructure operations and planning. Therefore, the appropriate incentives for IMs to better respond to market needs have to be ensured by relevant governance mechanisms.

3.1.2. Description of options

In this context, the following options have initially been considered:

- **Option C0: Baseline scenario** – do nothing. The Recast reinforces the obligations of IMs to consult infrastructure users on important decisions, for instance giving infrastructure users the opportunity to express their views on the content of their business plan and on the network statement detailing the conditions for access to the infrastructure. The Recast also foresees that performance targets defined in multi-annual contract by Member States and infrastructure managers shall be user-oriented. It requires Member States to set incentives for infrastructure managers to reduce both costs and access charges.

- **Option C1: RUs participate to the administrative board or supervisory board of the IM.** While EU law currently in force implies that RUs do not control the decision making process of IMs in relation with essential functions, this option would foresee that all RUs active on a network would be entitled to a seat in the supervisory board or management of the IM responsible for this network. RUs would therefore take a direct and active part in the management of the infrastructure.

- **Option C2: Coordination bodies**. This option foresees a creation of coordination bodies representing all RUs and providing opinions to IMs. RUs would not participate in the administrative board or supervisory board of the IM, preserving thereby the existing

principle of decision-making independence. However, in order to align strategies and to address jointly issues which cannot be solved by the implementation of the charging principles, performance regime foreseen by the Recast (such as operational costs or capacity under normal conditions), they would be part of a consultative body allowing a constant exchange of information between IMs and RUs.

- **Option C3: Financial incentives alignment.** Under this option financial incentives are introduced for both RUs and IMs to ensure that they contribute to the jointly established efficiency targets.

3.1.3. Options discarded at an early stage

None.

3.1.4. Screening of options

The initial set of options has been screened in terms of stakeholder support, effectiveness in achieving the operational objectives, efficiency and compliance with the subsidiarity principle. In addition, the overall feasibility has been verified, i.e. whether the options are legally and technically possible to pursue. Brief explanation relating to the scores is presented in the column 'motivation'.

Key of scores applied:

--- … -	decreasingly negative
0	neutral
+ … +++	increasingly positive
/	not relevant
√	complying
~	not complying

	Stakeholder support	Effectiveness in terms of operational objectives			Efficiency	Subsidiarity	Feasibility	Motivation
		Better alignment between IMs and RUs	Consistent management of IM functions	Prevent conflict of interests				
Option C0: Baseline	-	0	/	/	0	√	√	Measures foreseen in the Recast will provide some additional incentives to IMs to improve their performance, but would not allow addressing specific operational problems or ensuring communication of strategic needs of users.
Option C1: Participation to IM board	+	++	/	-	+	~/ √	~	This option would ensure alignment between IM and RUs and non-discriminatory access to information. However it may still create problems of conflicts of interest and discriminations in IM decisions depending on the weight of each RU in the board. It would be a burdensome solution and difficult to implement as the number and identity of the RUs operating on a network may evolve.
Option C2: Coordination bodies	++ +	++	/	+	++	√	√	This option is largely supported by stakeholders. It should ensure IM-RUs alignment while preserving their decision-making independence and thereby preventing conflicts of interest. The creation of a coordination body is the less burdensome option easily adaptable to the characteristics of individual IMs.
Option C3: Financial incentives alignment	+	++	/	-	0	~	~	This option can be an effective solution for incentive alignment between IM and RU. However, depending on how incentives are designed, they may be sources of discrimination between IMs. The efficiency of this measure largely depends on the way incentives are adapted to the individual IM which may be considered a matter of subsidiarity.

Along with the baseline scenario**, Option C2 will be retained for further analysis** of different policy scenarios in the impact assessment.

3.1.5. Aspects of implementation

As explained above, ad hoc consultations between IMs and RUs are already required by EU law and IMs have in place different arrangements to dialogue with infrastructure users. Under Option C2, the formalisation of a coordination body would be required. Its role and its purpose would be defined by EU law. In accordance with the principle of subsidiarity, the adoption of more detailed provisions would be left to Member States, subject to the principle of transparency and non-discrimination between its members.

3.2. FUNCTION (F) OPTIONS: CONSISTENT MANAGEMENT OF IM FUNCTIONS

3.2.1. Context

The capacity of an IM to develop and optimise transport infrastructure and ensure quality, reliability, flexibility and customer orientation, depends on its actual control over all key infrastructure functions. According to current legislation the two essential functions of IM are path allocation and track access charging. However, there are substantial interactions between these essential functions and other key IM functions, in particular traffic management, infrastructure maintenance and development. Their distribution among different market players can lead to inconsistencies in management and increased coordination costs.

3.2.2. Description of options

The options below are defined to identify an optimal portfolio of IM functions ensuring its control over all functions necessary for efficient performance.

- **Option F0: Baseline scenario -** do nothing – EU law foresees the possibility to allocate IM functions to different entities and stipulates explicitly that existing essential functions may be allocated to independent charging and allocation bodies, distinct form the IM. There is no specific incentive to ensure a consistent management of these different functions when they are allocated to different entities.

- **Option F1**: **New coordination mechanism**. This option would maintain the current possibility to allocate IM functions to different entities but foresee the establishment of a mechanism to oblige these entities to better coordinate the management of IM functions.

- **Option F2: Unified IM.** Under this option, all IM functions – path allocation and track access charging, but also traffic management, infrastructure maintenance and development are put under the responsibility of a single entity, the unified IM.

3.2.3. Options discarded at an early stage

None

3.2.4. Screening of options

Criteria applied to screening of options are the same as in previous section.

	Stakeholder support	Effectiveness in terms of operational objectives: Better alignment between IMs and RUs	Consistent management of IM functions	Prevent conflict of interests	Efficiency	Subsidiarity	Feasibility	Motivation
Option F0: Baseline	-	/	--	-	-	√	√	This option does not ensure a consistent management of the different IM functions and may create conflicts of interest as some IM functions may be controlled by a RU. It raises costs as interfaces between the different entities in charge of IM functions have to be established.
Option F1: New coordination mechanisms	-	/	+	0	+	√	√	This option could be neutral in terms of conflicts of interest and improve to some extent consistency in the management of IM functions. However the effectiveness of such a measure is lower than the one of option F2 and its efficiency is limited by the persistence of interfaces between the different entities in charge of IM functions.
Option F2: Unified IMs	++ +	/	+++	+	++	√	√	This is the preferred option for stakeholders. It ensures full consistency in the management of IM functions and reduces the risk of conflicts of interest as all functions are de facto subject to the same level of independence. It is the most efficient option as interfaces are removed.

Option F2 will be retained for further analysis.

3.2.5. Aspects of implementation

Option F2 will require that in some Member States (in particular Estonia, France, Hungary, Lithuania, Luxembourg, Slovenia), the responsibility of specific IM functions are transferred from the incumbent to the IM (eg. in France the "Direction des Circulations Ferroviaires" in charge of traffic management and "SNCF Infra", in charge of maintenance activities, should become part of the IM, Réseau ferré de France). In some cases, such change will necessitate an important transfer of staff (nearly 50.000 in France) and resources. It will also lead to some reorganisation of the IM as existing interfaces would disappear. However it is not expected that such changes would have an impact on the working conditions of the staff concerned (applicable social rules are normally the same for IM and RUs staff).

3.3. CROSS-BORDER COORDINATION (CB) OPTIONS: CROSS-BORDER INFRASTRUCTURE MANAGEMENT

3.3.1. Context

An important condition for completing the Single European Rail Area is well functioning cross-border cooperation of IMs. National infrastructure management often neglects interoperability and cross-border infrastructure in favour of the needs of domestic passenger and freight traffic. Infrastructure managers neglect the impact of their decisions on the business situation of international traffic and traffic beyond their network and do not efficiently cooperate to cope with traffic disruptions and temporary traffic restrictions, especially when more than two infrastructure managers are concerned. Cooperation activities under the Rail Freight Regulation and under the Recast will address these issues only partially. Therefore there is still a need to address coordination problems related to development, maintenance and operations beyond EU rail freight corridors and to ensure consistency between the existing coordination activities.

3.3.2. Description of options

In this context, the following options have initially been considered:

- **Option CB0: Baseline scenario –** do nothing. The implementation of the Rail Freight Regulation requires the establishment of specific European rail freight corridors with a common "corridor structure". The Recast will oblige IMs to create IMs associations to coordinate their charging and path allocation practices or to perform these tasks on their behalf.

- **Option CB1: Establishment of a EU network of IMs**. This option consists in the institutionalisation of a network of national IMs to exchange best practices, in particular on operational and infrastructure development issues.

- **Option CB2: Creation of an EU structure integrating IMs**. This option foresees the establishment of a structure, such as a European Economic Interest Grouping (EEIG) integrating the existing national Infrastructure Managers into a single European Infrastructure Manager.

3.3.3. Options discarded at an early stage

None.

3.3.4. Screening of options

The initial set of options has been screened in terms of stakeholder support, effectiveness in achieving the operational objectives, efficiency and compliance with the subsidiarity principle. In addition, the overall feasibility has been verified, i.e. whether the options are legally and technically possible to pursue. Brief explanation relating to the scores is presented in the column 'motivation'.

Key of scores applied:

--- … -	decreasingly negative
0	neutral
+ … +++	increasingly positive
/	not relevant
√	complying
~	not complying

	Stakeholder support	Effectiveness in terms of operational objectives: Better alignment between IMs and RUs	Consistent management of IM functions	IMs Coordination	Prevent distortion of competition	Efficiency	Subsidiarity	Feasibility	Motivation
Option CB0: Baseline	+	0	0	0	0	0		0	Some stakeholders favour the baseline to focus on the implementation of existing law (rail freight corridors and Recast).
Option CB1: Establishment of a EU network	++	0	+	+	0	+	√	++	This Option CB1 is the preferred option for stakeholders. While being neutral on parallel objectives (IMs-RUs alignment and distortion of competition), it will improve efficiently IMs ability to optimise the infrastructure management. Option CB1 would develop and extend existing practices and does not raise problems of feasibility
Option CB2: Creation of an EU structure integrating IMs	-	-	0	++	+	--	~	-	Integration of IMs under a single EU structure will be the most effective measure to ensure coordination of investments and operational practices. It would also prevent conflicts of interest that may occur with national incumbent. However this option is not supported by stakeholders in the short term as it may affect negatively the relation with local users. Because IMs are essentially financed and regulated by national authorities who have a more in-depth knowledge of local markets, this Option raises problems of subsidiarity and feasibility.

Along with the baseline scenario**, Option CB1 will be retained for further analysis** of different policy scenarios in the impact assessment.

3.3.5. Aspects of implementation

Options CB2 and CB3 are expected to have very different implications in terms of implementation. The EU network of IMs under Option CB2 would require the organisation of regular meetings which could be done with the support of and under the auspices of the Commission. Such network would develop its activities with any permanent joint secretariat, at least in short term.

Option CB2 would imply the creation of a single entity, such as an EEIG, responsible for infrastructure management. Responsibilities for the historical debts of national IMs, allocation of public funding provided by individual Member States to specific projects and employment of national IMs staff could raise serious difficulties of implementation. Another difficulty relates to the fact that an increasing number of key international rail links are owned and/or managed by private entity (PPP, concession etc.) which could probably not be integrated in a single EU entity.

3.4. SEPARATION (S) OPTIONS: ENSURING ADEQUATE SEPARATION OF IMS TO PREVENT CONFLICTS OF INTEREST

3.4.1. Context

The current separation requirements (legal, organisational and decision-making independence for the essential functions) do not yet prevent completely the conflicts of interest and discriminatory practices as regards access to rail infrastructure and related services. In addition, the existing legal framework has proven to be insufficient to prevent cross-subsidisation from infrastructure managers to incumbents. The underlying reasons are two-fold: firstly, current legal provisions leave room for diverging interpretation and secondly, even if fully implemented and enforced, full financial transparency would be problematic to achieve.

3.4.2. Description of options

The options below consider whether and how the separation requirements should be revised.

- **Option S0: Baseline scenario -** do nothing. Baseline means decision-making independence for the essential functions, although interpreted differently by Member States. The Commission detailed its interpretation of the practical implications of existing requirements in Annex V of the Communication on the implementation of the First Railway Package[83], however some Member States remain reluctant to accept this interpretation. ECJ is expected to express its view on this issue in spring 2013. Regarding financial transparency, the Recast provides for clear competences and additional means for regulatory bodies to monitor the existing account separation obligations.

- **Option S1: New competences for regulatory bodies.** This option foresees that regulatory bodies are tasked with controlling that existing independence requirements in organisational and decision-making terms are respected. In this framework any RU would have the right to appeal to the national rail regulator if it believes that these independence requirements are not respected.

- **Option S2: Clarify existing EU law.** This would mean revision of the existing provisions in the Directive so that the interpretations provided by Annex V of the

[83] Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of the first railway package, COM(2006)189

Communication on the implementation of the First Railway Package would become indisputable. This would clarify in particular that the existing independence requirements in organisational and decision-making terms require in particular strict separation between the holding and IM supervisory/management board, cooling off periods for IM board members, own staff, IT tools and premises. In this option, the competences for regulatory bodies are also extended as foreseen under Option S1.

- **Option S3: Institutional separation between IM and RUs**. Under this option, the same persons are not entitled to control, hold any interest or exercise any right over an IM and a RU. When both IM and RU are public entities, distinct public authorities must exercise such control over them.

3.4.3. Options discarded at an early stage

Some stakeholders proposed an option of appointing compliance officers in integrated structures. In practice the supervisory board of integrated IM would appoint a compliance officer responsible for monitoring the implementation of any specific measures taken within the integrated structure to ensure non-discriminatory behaviour. The compliance officer would also issue recommendations and report on these measures to the supervisory board and to the regulatory body. However, in practice this measure would not guarantee remedy to conflicts of interests. Compliance officers remain appointed by the holding compromising their independence or their ability to influence strategic decisions, as suggested by past experience in Germany.

3.4.4. Screening of options

	Stakeholder support	Effectiveness in terms of operational objectives			Efficiency	Subsidiarity	Feasibility	Motivation
		Better alignment between IMs and RUs	Consistent management of IM functions	Prevent conflict of interests				
Option S0: Baseline	0	0	0	--	0	√	√	Experience shows that existing separation requirements – as interpreted by some Member States - have not been able to avoid the persistence of conflict of interest. As regards financial transparency, despite the improvements provided by the Recast, monitoring of the use of public finances within integrated structures and identification of cross-subsidisation practices will remain a specifically complex and difficult exercise, even for the most powerful rail regulators.

Option S1: New competences for regulatory bodies	+	0	+	+	-	√	√	Incumbents in integrated structures have called for an increased regulatory oversight as an alternative to further separation. However this option does not differ radically from the baseline since the Recast has already strengthened considerably the powers of regulatory bodies (including for the monitoring of account separation). The effectiveness of such option is limited by the fact that regulatory bodies can only act ex post, which means that violation has already taken place. In addition experience proves that it is specifically difficult for regulatory bodies to provide evidence of the existence of collusion or cross-subsidisation between the IM and the incumbent.
Option S2: Clarify existing EU law	++	+	+	++	+	√	√	More straightforward provisions would allow the existing separation requirements to be implemented in a more uniform and effective manner. This would allow prevention of some persistent discrimination practices and facilitate the management of IM functions in a consistent manner, as holdings' interference in IM decisions should be removed. However, as regards financial transparency and potential cross subsidisations in holding structures, their monitoring by regulatory bodies remains a very complex and lengthy process requiring significant resources and exceptional expertise by regulators. This option does not allow to remove completely the distortion of competition between RUs as the ownership of infrastructure may need better financing conditions.
Option S3: Institutional separation between IM and RUs.	-- /+++	-- /++	++	+++	++	√	√	The views of stakeholders vis-à-vis institutional separation are very polarised. Some incumbents, in particular those part of an integrated structure, and workers in such structures oppose it arguing that it would reduce staff mobility and increase risks of misalignment between IM and RUs. Other parties are of the view that a fully independent IM is on the contrary better placed to take into account the needs of all RUs in a neutral way and play the role of system integrator. This option is the most effective option to guarantee the absence of discrimination and cross-subsidisation.

Options S2 and S3 will be retained for further analysis.

3.4.5. Aspects of implementation

Options S2 and S3 are expected to have very different implications in terms of implementation. While Option S2 implies additional competences and resources for the regulatory bodies, Option S3 should reduce the number of appeals, the need for investigations and therefore it would be less demanding for regulatory bodies.

Option S2 would allow some Member States to retain existing holding structures but both Options S2 and S3 would oblige them to review management boards' appointment and dismissal rules. In both cases, Member States will have to ensure that IMs have their own staff and premises as well as the resources necessary to perform their functions independently. In

addition Option S3 implies the transfer of control over the IM legal entity from the holding to a public authority or another entity over which the incumbent does not exercise control.

3.5. SEPARATED FUNCTIONS (SF) OPTIONS: FUNCTIONS SUBJECT TO THE SEPARATION REQUIREMENTS

3.5.1. Context

As explained in section 3.3 current separation requirements apply only to essential functions, being currently capacity allocation and infrastructure charging. Beyond these essential functions, the insufficient degree of separation for other activities in integrated structure, such as traffic management, maintenance and development causes conflicts of interest.

3.5.2. Description of options

In this context the following policy options have been identified:

- **SF0: Baseline scenario –** do nothing. The separation requirement applies only to the two functions currently defined as essential, path allocation and track access charging. Other functions may be managed under the control of a RU.
- **SF1 Traffic management also covered by separation requirement.** Traffic management, a function which cannot be dissociated from path allocation and has a very important potential for discrimination, is added to the list of essential functions subject to separation requirements.
- **SF2: Traffic management and maintenance also covered by separation requirement.** Essential functions subject to separation requirements are extended to include both traffic management and the maintenance of new infrastructure considering the inter-relation between the two and their high potential for discrimination.
- **SF3**: **All IM functions subject to the same separation requirements.** This would mean that path allocation and track access charging as well as traffic management, infrastructure maintenance and development are subject to the same separation requirements, independently of the fact that these functions are performed by the same entity or by different ones.

3.5.3. Options discarded at an early stage

None.

3.5.4. *Screening of options*

	Stakeholder support	Effectiveness in terms of operational objectives: Better alignment between IMs and RUs	Consistent management of IM functions	Prevent conflict of interests	Efficiency	Subsidiarity	Feasibility	Motivation
Option SF0: Baseline	--	0	---	0	0	√	√	The changes in the Recast do not modify the scope of the IM functions subject to separation requirements and therefore do not prevent discrimination in infrastructure maintenance and development decisions. As different functions are subject to different separation requirements, this option has a negative impact on the consistency of IM functions management.
Option SF1: Current essential functions+ traffic management separated	+	+	+	+	+	√	√	A large majority of stakeholders recognise that traffic management cannot be dissociated from capacity allocation and should therefore be subject to the same separation requirements. This view is only contested by some incumbents who wish to maintain control over on this function arguing that RUs operational constraints have to be taken into account in traffic management.
Option SF2: Current essential functions traffic +management maintenance separated	++	+	++	++	+	√	√	A large majority of stakeholders argue that maintenance planning is a potential source of discriminations between incumbent and new entrants and applying separation requirements to this function is an effective way to prevent them. As even more functions are subject to the same separation requirements, this option has a positive impact on the consistency of IM function management.
Option SF3: all IM functions separated	+++	+++	+++	+++	++	√	√	Applying the same separation requirements to all IM functions effectively prevents conflicts of interest and contributes to the consistent management of these functions. It is the most efficient measure as it facilitates the grouping of all functions under the responsibility of one single entity without problems of interface and coordination.

Option SF3 will be retained for further analysis.

3.5.5. *Aspects of implementation*

Applying the same separation requirements to all IM functions does not necessarily imply that they are managed by one single entity. Its implications in terms of implementation depend largely on the choice of separation requirements retained under options S (see above). Furthermore, separate functions provide the basis for an exchange of best practice and

monitoring of the progress within the network of EU infrastructure managers, notably in terms of user orientation as regards quality, costs and prices of infrastructure services.

4. SUMMARY OF RETAINED OPTIONS

The table below provides an overview of all the screened and retained options in four groups.

Problem element	Respective category of options	Policy options considered	Retained?
Insufficient market orientation of IMs	**C options:** Coordination between IM and RUs	**Option C0:** Baseline – improvements as foreseen by the Recast	√
		Option C1: Participation to IM board	
		Option C2: Coordination bodies	√
		Option C3: Financial incentives alignment	
IM functions distributed among different actors	**F options:** Consistent management of key functions	**Option F0:** Baseline **-** existing essential functions are clarified by the ECJ	√
		Option F1: New coordination mechanisms	
		Option F2: Unified IMs	√
Cross-border IM cooperation not sufficient	**CB options:** Cross-border IM management	**Option CB0: Baseline -** implementation of existing EU law (the Recast, regulation of rail freight corridors, etc.)	√
		Option CB1: establishment of an EU network of IMs	√
		Option CB2: Baseline: creation of an EU structure integrating national IMs	
Conflicts of interests of IMs	**S options:** Way of separation of IMs from RUs	**Option S0:** Baseline - decision-making independence for the essential functions, interpretation dependent on ECJ ruling	√
		Option S1: New competences for regulatory bodies	
		Option S2: Clarify existing EU law	√
		Option S3: Institutional separation between IM and RUs.	√
		Option S4: Compliance officer in integrated structure	
Equal access needs to be assured to all key functions	**SF options:** Functions subject to the separation requirements	**SF0:** Baseline **–** separation requirement applies only to path allocation and track access charging	√
		Option SF1: Current essential functions+ maintenance separated	
		Option SF2: Current essential functions +maintenance+ development separated	
		Option SF3: All IM functions separated	√

5. CONSTRUCTION OF POLICY SCENARIOS

Of 19 options screened in 5 groups, 10 have been retained including 5 baseline scenarios. The combination of all these options could create theoretically 48 scenarios which would however be impracticable to assess. To reduce complexity, the following arguments are considered to reduce the number of possible scenarios:

1. Any of the baseline options in combination with non-baseline options in other groups would not be sustainable as the non-baseline options in each group call for action in the other groups. E.g. unified IMs (F2) would require that similar separation requirements would apply to all IM functions (SF3), not only to the existing essential functions as foreseen in S0. Similarly all IM functions being subject to separation requirements (SF3) would increase the need for coordination bodies (C2). Therefore all four baseline options are maintained only in the Baseline Scenario, necessary for the comparison of other policy scenarios.

2. While all options discussed under each group make sense when taken in isolation, the policy choices retained in some groups may influence or determine the validity of options in another group. Consequently the interaction of policy choices retained for

   a) F options - Consistent management of key functions: "unified IM responsible for all IM functions"

   and

   b) S options – Measure preventing conflicts of interest: "clarifying existing EU law (re-enforced decision making independence) or institutional separation"

inherently mean that any separation requirements apply to <u>all IM functions</u> as foreseen under Option SF3.

This leads to the three policy scenarios on top of the baseline:

- **Scenario 1** - an IM-users coordination body is created, IM functions are unified, an EU network of IMs is created and all IMs functions are subject to the existing separation requirements;.

- **Scenario 2** - an IM-users coordination body is created, IM functions are unified, an EU network of IMs is created and all IM functions are subject to the existing separation requirements with their concrete implications according to the Commission clarified in EU law ;.

- **Scenario 3** – an IM-users coordination body is created, IM functions are unified, an EU network of IMs is created and all IM functions are subject to institutional separation requirements.

Their composition is described in detail in the table below:

Category of options	Baseline Scenario	Scenario 1	Scenario 2	Scenario 3
Coordination between IM and RUs	**Option C0:** Improvements as foreseen by the Recast	**Option C2:** Coordination bodies	**Option C2:** Coordination bodies	**Option C2:** Coordination bodies
Consistent management of key functions	**Option F0:** Existing essential functions are clarified by the ECJ, but scope remains limited	**Option F2:** Unified IMs	**Option F2:** Unified IMs	**Option F2:** Unified IMs
Cross-border IM management	**Option SC0:** Implementation of existing EU law - the Recast, regulation of rail freight corridors.	**Option CB1:** Establishment of an EU network of IMs	**Option CB1:** Establishment of an EU network of IMs	**Option CB1:** Establishment of an EU network of IMs
Way of separation	**Option S0:** Existing separation requirements	**Option S0:** Existing separation requirements	**Option S2:** Clarify in EU law the concrete implications of existing separation obligations	**Option S3:** Institutional separation
Functions subject to the separation requirements	**SF0:** Only path allocation and track access charging separated	**Option SF3:** All IM functions separated	**Option SF3:** All IM functions separated	**Option SF3:** All IM functions separated

All three scenarios foresee establishment of coordinating bodies which should enhance the interaction between infrastructure users and IMs and the creation of an EU network of IMs to facilitate cross-border cooperation. They also provide that all key functions should be unified under the IM. However, when Scenario 1 would continue to apply existing separation requirements (to a larger number of functions), Scenario 2 proposes to clarify the existing rules and thus achieve a reinforcement of organisation and decision making independence and Scenario 3 foresees a more fundamental institutional separation of all key functions.

These three scenarios, along the baseline scenario, are assessed in more detail in Section 6 of the IA report.

ANNEX V

THE ANALYSIS OF THE COSTS AND BENEFITS OF FURTHER SEPARATION

1. INTRODUCTION

This annex explores the costs and benefits of separation, as they occur depending on the way the separation requirements are applied. It should be noted, that the principle of vertical separation is already established in the EU law and need for separation as such is not discussed. Instead the discussion focuses on the way of separation – i.e. how IM functions shall be separated in a most efficient and effective way.

The analysis distinguishes between the three main categories of costs directly rising from separation requirements:

- **Implementation costs,** which are related to one-off arrangement to establish required structures, e.g. creation of "Chinese walls" (safeguards necessary for ensuring the decision-making and organisation independence) between entities being the parts of the same vertically integrated company; or changes in the ownership structure.
- **Transaction costs** - the cost associated with exchange of goods or services and incurred in overcoming market imperfections. Transaction costs cover a wide range of costs: communication charges, legal fees, informational cost of finding the price, etc. In railways some of these transaction costs are related to core operations, such as including long-term capacity allocation, security management, timetable coordination and investment planning. In addition to the operation related costs mentioned, transaction costs could also derive from the need of establishing business relationship, including contractualisation, establishment of partnerships, negotiation, performance monitoring, and alignment of incentives. To justify separation, the competition driven efficiency gains resulting from separation should be higher than additional transaction costs between the IM and the incumbent operator.
- **Regulatory costs** related to regulatory oversight and enforcement by competent authorities.

In addition the costs and benefits linked to **discrimination**, **financial transparency** and **scope efficiencies** of integrated and separated systems are discussed.

Below is recalled the content of the the policy scenarios combining the efficiency (coordination) measures with different level of separation, for which separation related costs and benefits will be assessed.

- **Baseline** – No additional coordination measures, existing separation requirements (legal, organisational and decision-making independence) applicable for the essential functions (path allocation and infrastructure charging). It should be noted, that some costs associated to legal separation but also some costs resulting from decision-making and organisational separation are supposed to be part of the Baseline Scenario.
- **Scenario 1 – focussing only on the efficiency measures -** IM functions are unified (i.e. in addition to current essential functions also maintenance, investments and traffic management) and coordination bodies created to mitigate loss in scope efficiencies; all IMs functions are subject to the existing separation requirements;
- **Scenario 2 – efficiency measures and better enforcement of existing separation principles -** like Scenario 1, but the practical consequences of the existing separation principles will be clarified to allow better enforcement;

– **Scenario 3 – efficiency measures and new institutional separation requirements –** like Scenario 1, but all IM functions are subject to institutional separation requirements

No change of separation requirements is foreseen under Scenario 1 which focuses exclusively on IM efficiency measures. Therefore the analysis of separation related costs concentrates essentially to the comparison of Scenario 2 (enforcement of existing separation principles) and Scenario 3 (institutional separation). Measures taken under Scenario 1 are still considered to the extent they include unification of all IM functions and creation of coordination bodies.

2. CONSTRAINTS

The IA support study concluded that, evidence on which to quantify the impacts of different governance arrangements is limited and, as the stakeholder consultation and literature review illustrates, has been interpreted in different ways by different parties. Fundamental difficulties include:

– Limited empirical evidence - no Member State has unbundled exactly as envisaged in Scenario 2 or 3 without simultaneously making other changes.

– Access to data - the costs of separation is not monitored in sufficient detail to determine the difference between distinct approaches, for example institutional separation as compared with legal, decision-making and organisational separation.

– The benefits, which include a reduction in or elimination of discriminatory behaviour as well as greater financial transparency, cannot be measured easily due to the mixed impacts with other contextual factors and the lagged effects on observed outcomes.

In these circumstances, no full cost benefit analysis can be provided. Instead an attempt is made to compare the scale of potential costs and benefits of separation in case of different governance models.

3. RESULTS OF THE ASSESSMENT

3.1. Implementation costs

There is evidence that restructuring costs are likely to be limited when compared with total industry costs. Even in Great Britain, where restructuring and privatisation went much further than requirements set by EU law, total set up costs only amounted to no more than 3.5%[84] of total annual industry costs.

The table below summarises the requirements and their implications in terms of potential cost impacts.

[84] IA support study.

TABLE 1 One-off cost implications of separation

	Requirement	Cost implication
Scenario 2	Compliance to be monitored by independent authority or third party	No additional costs – regulatory bodies already created under existing legislation
	Statutory/contractual independence of entity entrusted with essential functions, maintenance planning and investment from other entities in the same group	Establishing the necessary statutory or contractual provisions is an administrative change, the costs of which are likely to be negligible
	Members of the board of the entity entrusted with essential functions, maintenance planning and investment should not be on the board of any entity within the same group	Could require the recruitment of additional board members depending on how existing boards are currently comprised – one-off costs of recruitment likely to be negligible
	Members of the board of the entity entrusted with essential functions, maintenance planning and investment barred from serving on the board of any entity within the same group for a number of years	No additional costs beyond those already identified above
	The management board of the entity entrusted with essential functions, maintenance planning and investment must be appointed under clear conditions and legal commitments to ensure the necessary degree of independence	This is an administrative change which would not result in material additional costs, although it could lead to further recruitment in circumstances where a new board had to be appointed in order to comply
	The entity entrusted with essential functions, maintenance planning and investment must have its own staff and be located in separate premises (or be subject to protected access) and access to its information systems must be protected	Could require changes in staff allocation and administration as well as modification of IT systems depending on the degree of functional separation already implemented
Scenario 2	All of the requirements of U1 as well as change in ownership needed to secure institutional separation of infrastructure management and train operations	Primarily the costs of legal activity required to establish separate ownership although there may also be costs arising from the reallocation of staff and functions from the holding entity, depending on the extent of its previous functions

Implementation costs of Scenario 3

In the case of **Scenario 3**, set-up costs would arise from changes in the ownership of existing legal entities and associated contractual relationships. The additional costs are likely to be limited given that the degree of organisational and decision-making separation adopted in the majority of Member States in response to existing legislation is already substantial.

Furhter evidence on which to quantify the impacts of different governance arrangements is limited. The cost of separating functions will depend on whether and how they were integrated under the former structure. Moreover, in larger railway organisations, the incremental costs will depend on the existing management configuration: integrated railways may be organised by engineering function, or by regional or route, or by business market, with different degrees of subcontracting of functions and activities to external suppliers. The

costs of separation may be borne by a number of bodies, over a period of several years, and are not collated or reported in sufficient detail to allow extrapolation.

From the available evidence, the IA support study looked into following cases:

Rail reform in Great Britain

Some of the costs of restructuring the rail industry were identified and reported in Great Britain, where however restructuring of rail sector was very radical and therefore the observed costs should substantially exceed those of the simpler forms of separation envisaged under Scenario 2 or Scenario 3.

The restructuring costs incurred by both British Rail and Railtrack (the initial IM, subsequently replaced by Network Rail) in 1993-94 and 1994-95 are shown in Table 2.

TABLE 2 Restructuring and privatisation costs of British Rail

£ million (current prices)	1993-94	1994-95
British Rail	92	85
Railtrack		46
Total	92	131
As percentage of total industry costs	2.6%	3.5%

Source: Hansard, 26 November 1996, volume 286, British Rail Annual Report 1993-94

The period covered by the table excluded initial feasibility studies but included all of the restructuring activity, incurred within those organisations (but not others, such as the Department of Transport which specified and oversaw the process). These include the creation of Railtrack as a separate legal entity, and part of the subsequent work in support of privatisation. However, it is unclear how much of the reported cost relates to institutional separation which would be required by Scenario 3, not least because:

– A proportion reflects activity associated with bringing Railtrack to market, and would therefore not have been incurred had the objective been institutional separation alone.

– Much of the restructuring cost incurred in 1993-94 was the result of a radical restructuring of British Rail, which included the creation of 25 train operating subsidiaries (subsequently franchised), a number of rolling stock leasing, renewals, maintenance and other companies as well as a separate infrastructure manager.

– The activity undertaken involved reform of an industry structure in place prior to, and therefore not complying with, the requirements of the First Package.

This cost information is nevertheless useful in illustrating that restructuring costs are likely to be limited when compared with total industry costs in any given year. Even in Great Britain, where restructuring and privatisation went further than in any other Member State, total set up costs amounted to no more than 3.5% of total annual industry costs. The costs of implementing Scenario 3 in isolation would have been considerably lower although highly dependent on the exact internal management organisation in each case. If the creation of a separate infrastructure manager in 1993-94[85] resulted in British Rail incurring one third of the

[85] It is likely that only costs incurred in 1994-95 are relevant to the calculation, since those in 1995-96 were heavily driven by the legal and financial activity underpinning flotation of Railtrack and procurement of the various train operating franchises.

restructuring costs actually reported for that year, the total would have amounted to only 0.9% of overall annual industry costs.

Setting up the independent Infrastructure Manager in Spain

The overall cost of the setting up of ADIF, the independent Infrastructure Manager for the Spanish rail industry, identified total restructuring cost of € 6.8 million over the three year period 2004-2006. It is not clear what activities these costs covered, but the figure was equivalent to 0.2% of the reported operating costs of RENFE, the incumbent national rail service provider, in 2004 (the last year in which RENFE operated as a vertically integrated entity). This indicates that one-off costs of functional separation, which will exceed those of the more limited forms of separation under Scenarios 2 or 3, are relatively small in relation to overall industry costs.

Transformation of Czech Railways

Further data is available for Czech Republic, which in 2000 specified a project entitled "Preparation of conditions for the application of the EU Directives in the transformation of Czech Railways (CD)"[86]. The project anticipated much of the work needed to implement the changes eventually put in place in 2003 and was expected to cost €2 million, around 0.1% of CD's annual operating costs at the time. This tends to support the view that the costs of implementing more focused unbundling on a simpler rail network than in Great Britain are likely to be substantially less than those reported in Table 2. However, the evidence from the Czech Republic must also be substantially qualified since:

– There is no information confirming that the outturn costs of the project were comparable to the estimate of costs in the project specification

– The project included a number of elements, such as harmonising infrastructure charges and financial revitalisation, required for implementation of the First Package but which would not be required in order to implement either Scenario 2 or 3.

Finally, corroborating evidence was sought also form the experience of other network industries. Table 3 below gives insight on one-off cost of separation in electricity distribution, which is broadly comparable to the rail sector in that it is network based and has been subject to restructuring, including the creation of institutionally separate entities responsible for activities such as generation, transmission and distribution, in a number of countries within and outside Europe.

[86] Project fiche CZ01-03-01, December 2000.

TABLE 3 One-off costs of separating electricity distribution

Example	Estimated cost	Scale factor	Comment	Source
Creation of Distribution Network Operators in New Zealand	NZ$30 million	3.5% of annual revenues	Represents the cost of creating separate operating entities from a fully integrated structure	PWC (2006)
Creation of distribution Network Operators in the Netherlands	€70-100 million	0.7% - 1% of annual operating costs	Costs attributed to modification of IT systems, transfer, re-contracting and re-administration of staff and legal activity underpinning ownership separation	Deloitte (2005)
Further separation of Distribution Network Operators in the Netherlands	€20 million	0.2% of annual operating costs	Estimate of moving to separation of ownership after functional separation has been completed	De Nooij and Baarsma (2008)
Further separation of Transmission System Operators in Germany	€100 million	0.2% of annual operating costs	Explicitly based on estimates made by De Nooij and Baarsma (2008)	Brunekreeft (2008)

Source: Brunekreeft (2008)

These figures should be treated with care, given the uncertainties surrounding the estimations and differences between the sectors. However, the evidence consistently supports the conclusion that the costs of radical restructuring of a fully integrated industry of the kind undertaken in Great Britain will substantially exceed those of the simpler forms of unbundling envisaged under U1 and U2. More specifically, it suggests that changes in staff allocation and administration together with supporting IT systems changes can be expected to be significantly below 1% of annual operating costs, and that the costs of establishing separate ownership, assuming functional separation has already been achieved, might be only 0.2% of annual costs.

In conclusion, the Member States currently without institutional separation (categories 2-6 in Table 1 of the main report) could be expected to incur potential one-off costs as equivalent to 0.7% of annual operating costs (the 0.5% mid-point estimate for implementing Scenario 2 plus the 0.2% arising from full institutional separation). This would imply expenditure of €0.24 billion. These estimates are considered conservative in the light of the estimates of one-off costs for Spain and the Czech Republic reported above.

Implementation costs of Scenario 2

Under **Scenario 2** the set-up costs would be related to the costs of internal reorganisation deriving from the establishment of the "Chinese walls" necessary to enforce the existing decision-making and organisational separation requirements within a vertically integrated undertaking, as indicated in Table 1. This means that some vertically integrated Member States would incur one-off costs of up to 0.8% of annual operating costs (the 1% indicated by Deloitte (2005), less the 0.2% required for ownership separation estimated by De Nooij and Baarsma (2008)). In practice some Member States, for example Belgium, which have already implemented measures to meet the requirements of Annex V of the Communication on the implementation of the First railway Package[87] , would incur no significant additional costs.

[87] Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of the first railway package, COM(2006)189

On the assumption that, as a whole, these Member States would incur enforcement equivalent to the mid-point average of these two extremes (0.5% of annual operating costs), the resulting expenditure would be €0.17 billion.

Implementation costs of Scenario 1

Under **Scenario 1** there are limited implementation costs related to the establishment of national coordination bodies between IMs and RUs. Some Member States already have mechanisms in place to deal with some or all of the proposed functions of the proposed coordination body, in other cases involving bodies already established, functioning and with effective powers. It has not been attempted to estimate the additional cost of establishing a coordination bodies in all Member States, as the related costs would depend on the number of actors and on the detail of whether any of the functions were transferred from existing bodies or arrangements. In any case, the scale of expected efficiency benefits (very difficult to quantify - see the discussion on misalignment cost below) would be of a much higher scale than establishment and administration costs of the coordination bodies. In addition Scenario 1 foresees the establishment of an EU network of IMs, which would require organising regular meetings. This could be done with the support of and under the auspices of the Commission. Such network would develop its activities without any permanent joint secretariat, at least in short term and thus will have only limited cost implications. In a limited number of Member States (Hungary, Estonia, Luxembourg, Slovenia and Lithuania but also in France) the unification of IM functions will require merging the IM with allocation and charging bodies or specific departments of the incumbent. This reorganisation will necessitate transfer of staff and reorganisation of the IM management chain.

3.2. Transaction costs

The IA support study suggests that the recent study by Merkert et al. (2012) provides relatively robust estimates of recurring transaction costs as it is based on bottom-up investigation of costs through interviews with individual rail organisations in Germany, Great Britain and Sweden. This approach allows for identification of relevant cost categories. Although it has to be noted that the resulting estimates are not fully compatible with the additional transactions costs likely to arise under either policy Scenarios compared to the Baseline since some of the costs covered are driven primarily by factors other than the degree of institutional separation in place, while others arise, at least to some degree, from EU rail legislation that is already in place.

The key results, expressed in the form of transaction costs per train-kilometre and as a proportion of total operating costs, are shown in Table 4. They indicate that, on either measure, the German rail network has the lowest transactions costs and Great Britain has the highest. This is consistent with the view that a more disaggregated industry structure leads to higher transactions costs, although the authors qualify the comparison by noting that the German network may benefit from scale economies and that there is in any case considerable variation in the level of transactions costs between individual rail organisations in Germany.

Table 4 Estimates of rail industry restructuring costs

	Transaction costs per train-kilometre (€, Purchasing Power Parity PPP)	Transaction costs as proportion of operating costs (%)
Germany	€0.08	0.49%
Great Britain	€0.34	1.42%
Sweden	€0.22	1.27%

Source: Merkert et al. (2012)

More specifically, the Merkert et al study sought to identify, through discussion with industry representatives in both IMs and Rail Undertakings, seven main categories of transaction cost. These are summarised in the Table below. In each case, the impact of further unbundling has been summarised, drawing on a more comprehensive qualitative assessment of the likely effects of policy changes on transactions costs.

Table 5 Impact of further unbundling on transactions costs

Transaction cost category	Summary of likely impact
Franchise and transport contract bidding and making open access applications	Overall process should not differ materially from that already in place. These costs are driven primarily by the level of competition rather than the level of separation.
Procuring and modifying assets	Possibly some additional transactions costs incurred under Scenario 3 where new or modified assets affect the wheel-rail interface.
Setting up and amending access and performance regimes	No significant additional costs under either Scenario 2 or Scenario 3 – performance regime already required under existing legislation.
Allocating train paths, timetabling and train planning	Should not differ materially from existing processes under either Scenario 2 or Scenario 3, although any associated disputes may be more costly to resolve under Scenario 3.
Day-to-day operations (including train operation/formation, maintenance and the provision of customer information)	Operational procedures already in place should continue to operate, although disputes over scheduling of engineering works may be more difficult to resolve under Scenario 3.
Reporting, billing and application of performance regimes	Existing procedures should continue to apply, although disputes over responsibility for service disruption could be more difficult to resolve.
Safety, planning and enforcement processes	No material change under either Scenario 2 or Scenario 3. Planning in respect of issues relating to the wheel-rail interface might be affected.

On the basis of this assessment it can be concluded that the majority of transactions costs covered by the study would not increase as a result of the implementation of either Scenario 2 or Scenario 3. Hence, the estimates derived by Merkert et al need to be adjusted for the purpose of this IA.

Recognising that the findings of the study by Merkert et al. are based on an investigation of transactions costs in only three Member States, and in the absence of similar detailed investigation of rail industry transactions costs in other EU countries, it has been sought to identify evidence of similar costs in other sectors. A number of the studies of the electricity sector cited above provide some estimates of transactions costs in addition to the estimates of one-off separation costs already reported. This evidence is considered to be informative since

some studies take account of the implications of different levels of separation. Key results are summarised in the Table 6 below.

Note that these studies do not distinguish between enforcement and transactions costs or between the explicit costs of supporting a given organisational structure and loss of synergy. However, costs are attributed to specific categories of activity including general management, human resources, IT, finance and general support.

Table 6 Estimated transaction costs of separation, electricity sector

Example	Estimated cost	Scale factor	Comment	Source
Creation of distribution Network Operators in the Netherlands	€350 – 450 million per annum	3.5% - 4.5% of annual operating costs	Full costs of organisational separation	Deloitte (2005)
Further separation of Distribution Network Operators in the Netherlands	€20 million	0.2% of annual operating costs	Estimate of moving to separaion of ownership after functional separation has been completed	De Nooij and Baarsma (2008)
Further separation of Transmission System Operators in Germany	€50 million	0.1% of annual operating costs	Base case estimate - explicitly based on estimates made by De Nooij and Baarsma (2008)	Brunekreeft (2008)
Further separation of Transmission System Operators in Germany	€250 million	0.5% of annual operating costs	High case estimate based on top-down analysis	Brunekreeft (2008)

Source: Brunekreeft (2008)

This evidence suggests a range of possible outcomes but supports the view that the costs of further separation after functional separation has already been implemented amount to no more than 0.5% of annual operating costs.

Transaction costs of Scenario 3

To derive a range for the assumed level of transaction costs, the key evidence can be summarised as follows:

– The costs of functional unbundling could be significant, and in the *electricity sector* have been estimated at up to 4.5% of annual operating costs. However the IA support study concluded that there is no evidence that the costs of separation in the rail sector to date are of this magnitude.

– Evidence from Belgium suggests that they are no more than 1.4% of operating costs. The authors of the report prepared for the National Bank of Belgium88 do report some evidence of the impact of restructuring in the form of a recent claim by the Chairman of SNCB-Holding to the effect that the restructuring had resulted in additional costs of €50 – 100 million per annum. These were attributed to the increased cost of IT services, communications and legal services, although the basis on which the estimate was derived is not clear. However, while costs of this magnitude could be considered significant, equivalent to up to 1.4% of annual operating costs, they apparently relate to

88 National Bank of Belgium Working Paper Document No 221 (2012).

the effects of the restructuring of SNCB in 2005 rather than the costs of ensuring compliance with the requirements of Annex V in isolation.

– Evidence from the rail sector indicates that additional transactions costs in Sweden, which has implemented institutional separation, account for a higher proportion of annual operating costs than in Germany under a holding company model. However, the difference, equivalent to 0.78% of operating costs, undoubtedly overstates the impact of institutional separation in isolation since it includes costs that are driven primarily by the level of competition. The difference in transactions costs between Germany and Great Britain, equivalents to 0.93% of operating costs, further overstates the impact since it reflects the complex nature of the contractual structure put in place following the restructuring and privatisation of British Rail.

– Further evidence from the *electricity sector* indicates that the cost of institutional separation implemented following functional separation of transmission and distribution has resulted in ongoing transaction costs of between 0.1% and 0.5% of annual operating costs.

Given the lack of precision in the available cost estimates, a relatively wide cost range of transaction costs has been calculated. The basis of the estimate is the difference in normalised transactions costs between Germany and Sweden derived from the study by Merkert et al., equivalent to 0.78% of operating costs. To obtain a range it has been 20% of this figure to derive a lower bound (giving 0.16%) and 60% of the figure to derive an upper bound (giving 0.47%).

This choice of range has been informed by the following considerations:

– The study by Merkert et al., while it is the most detailed available and the most relevant for the purposes of, covers only three Member States, and it is therefore necessary to estimate a relatively wide range of outcomes to ensure that potential cost impacts in other Member States are represented.

– The assessment of the likely impact of Scenario 3 on the various cost elements included in the study nevertheless suggests that any increase in transactions costs will be limited. The review of the evidence on enforcement costs also suggests no discernible impact on annual operating costs. The proposed range is therefore based on a significant adjustment of the transaction cost differences reported by Merkert et al.

– The proposed range is consistent with a similar range estimated for ownership separation in the electricity sector (of between 0.1% and 0.5%), as reported by Brunekreeft (2008).

Applying the range to the annual rail sector operating costs of Member States in categories 2-6 in Table 1 of the main report, gives a transaction ongoing cost impact of Scenario 3 of between €0.05 billion and €0.16 billion per annum.

Transaction costs of Scenario 2

The study results reported above do not provide a basis for estimating the transaction costs of **Scenario 2.** Many organisations implement so-called Chinese walls in order to preserve confidentiality or decision-making independence, but do not seek to estimate or report the associated costs. However, the costs of implementing Scenario 2 will be restricted to those of introducing decision-making independence in maintenance planning and investments. Scenario 2 could thus be expected to have broadly similar cost impacts to Scenario 3, since it would require the incumbent Rail Undertaking and IM to operate as if they were institutionally independent even though they remained in the same holding group. Hence, the

range of cost impacts estimated for Scenario 2 is considered being broadly equivalent to those for Scenario 3. It should be noted though that Scenario 2 transactions costs could be somewhat lower to the extent that the lack of institutional separation enabled disputes over train planning, the cause of service disruption or the scheduling of engineering works to be resolved more easily. However, these effects are considered being not material.

Transaction costs of Scenario 1

Scenario 1 reduces transaction costs in two ways: (1) with the unification of IM functions, those costs resulting from interfaces between the different entities in charge of IM functions will be removed; (2) better coordination between IMs and infrastructure users will ensure alignment of strategies and objectives. These benefits apply to all Member States, which do not yet have these coordination mechanisms in place.

Under all scenarios some induced increase of transaction costs would appear together with the increase in the number of infrastructure users and the related growth of traffic volumes. The latter reflects the increase in the offer of rail transport services in line with the general policy objectives and will be recovered by track access revenues.

3.3. Regulatory costs

Any separation arrangement would imply regulatory oversight costs linked to the need of the authorities to prevent, control and detect discriminatory behaviour and cross-subsidisation within the integrated and holding structures. Transparency resulting from institutional separation under **Scenario 3** should, compared to the **Scenario 2**, lead to the reduction of regulatory enforcement costs of market opening, both by eliminating the incentive for discriminatory behaviour and by improving the financial information available to regulators.

The potential reduction in regulatory enforcement costs can be estimated from the results of the study by Merkert et al. (2012) cited above. The study takes regulatory costs into account in the calculation of overall transactions costs and these are reported separately, as shown in Table 7. While the authors note that they cannot be certain of whether all of the associated staff within the various regulatory organisations are involved in transactions relevant to the study, they consider that the costs shown provide a reasonable basis for comparing between Member States.

Table 7 Estimates of rail industry regulatory enforcement costs

	Regulatory enforcement costs per train-kilometre (€, Purchasing Power Parity PPP)
Germany	€0.08
Great Britain	€0.08
Sweden	€0.02

Source: Merkert et al. (2012)

Again, the results must be interpreted with particular caution, since the Member States do not align with either the existing requirements or the separation options under consideration. In addition, given the qualification offered by the authors of the study and for other reasons, the findings may understate or overstate true enforcement costs within each Member State. For example:

– The costs reported for Germany relate only to rail specific organisations, the Federal Network Agency (BNetzA) and the Federal Railway Authority (EBA), and do not

include the cost of court action in response to discriminatory behaviour (an important channel of enforcement in the absence of institutional separation according to the study by Merkert el al. (2008).

– The costs reported for Great Britain include the staff employed by the Rail Safety and Standards Board (who account for 37.5% of the cost per train-kilometre shown in the Table 7) who would arguably undertake similar functions whether institutional separation had been implemented or not.

– The level of enforcement costs would be related to the volume of application, access and congestion on the network, which may change considerably under future conditions of domestic market opening.

Regulatory costs of Scenario 3

The difference in cost estimates for Germany and Sweden reported in Table 7 suggest that enforcement costs per train-kilometre could decline by up to 75% as a result of institutional separation as suggested by **Scenario 3**. This is consistent with a lower incidence of discriminatory or other anti-competitive behaviour on the part of an IM under Scenario 3.

Regulatory costs of Scenario 2

As in the case of transactions costs, the cost estimates provided in Table 7 do not provide a basis for estimating the impact of **Scenario 2** on regulatory enforcement. Under Scenario 2, monitoring of the enforcement of the new "Chinese walls" should, in comparison to the Baseline, increase moderately the cost of regulatory oversight. These costs concern only MS where these safeguards have not yet been fully applied (categories 2 to 6 in Table 1 of the IA). On the other hand, extending requirements in respect of independent decision-making to maintenance planning and investments (as introduced by SF options - Functions Subject to Separation) could reduce allegations of discrimination relating to these functions. Furthermore, experience of the competitive entry in Member States with holding structures, such as Austria, Germany and Italy, has gone hand-in-hand with increasing complaints by new entrants concerning access to infrastructure and an increasing need for regulatory decisions. For example, since it introduced new intercity services in Austria, the new entrant WESTbahn has raised complaints about pathing priorities, the use of infrastructure to provide real time information on onward connections, promotion of services through on-station advertising and alleged cross-subsidisation of ÖBB services from a PSO contract awarded without competitive tender.[89] It could be concluded that need for regulatory intervention would have been less had these Member States adopted the institutional separation of infrastructure management and rail operations required under Scenario 3. Given these considerations, it is not expected the costs of regulatory enforcement under Scenario 2 to be substantially lower from those arising in the Baseline Scenario.

Creation of IM-users coordination bodies under **Scenario 1** will imply limited reporting obligation (which can be considered being administrative burdens) for IMs and infrastructure users which are already involved in ad hoc consultations. The establishment of a European IMs' network is not expected to create important enforcement costs.

3.4. Other costs and the benefits of separation

The core benefit of vertical separation is related to elimination of discrimination in gaining access to infrastructure leading to the development of competition and being the means for

[89] Cf. Appendix K 'Country fiches' of the IA support study.

more efficient railway. Separation is also expected to help reducing the asymmetries information and improve financial transparency in the railway business.

Discrimination

By reducing or even eliminating the scope for discriminatory behaviour, vertical separation would evade opportunity costs of potential operations of new entrants omitted due to discrimination in gaining access to infrastructure. Equal access to infrastructure would also provide for the development of competition for, and in, the market, in particular if coupled with market opening initiative.

Already in the Baseline Scenario any discriminatory practices are prohibited by existing EU law and regulatory bodies are competent to act following an appeal or on their own initiative. However, as presented in the problem definition of the IA, the discrimination in infrastructure access, preventing the smooth functioning of Single European Railway area, still occurs.

In case of **Scenario 2** the scope of oversight of regulatory bodies is extended to verify that the detailed independence requirements in organisational and decision-making terms are respected. However, without full institutional separation and without guarantees for financial transparency, an opportunity and motivation for discrimination remains. Moreover, actions of regulators would be mostly reactive, rather than preventive. Even if the case for discrimination is later established, the damage created to new entrant operators could be irretrievable (see Section 3.2 of the IA for evidence and further discussion). Such damage could be illustrated in terms of 'opportunity costs' expressed as loss from non-running of services as well as lost return on investments. Whilst such costs can be significant, quantification is challenging being each time dependent on the circumstances and the nature of services involved. For instance, one of the discrimination cases quoted in the IA report refers to hurdles the Italian new entrant NTV experienced during the homologation procedure for its AGV trains. The process took 45 months between July 2008 and March 2012 main reason for delays being the infrastructure manager's RFI (subsidiary of the Ferrovie dello Stato) refusal to grant the train paths necessary for testing purposes. The excessive duration of the procedure led to a lost return on its €1 billion investment for the development of its new rail transport services.

Scenario 3 would imply a structural change by introducing full institutional separation and thus prevent (rather than correct/react on) the occurrence of discriminatory behaviour. Therefore this Scenario is much more efficient in terms of evading discrimination related opportunity costs.

Cross-subsidisation

Separation would also reduce the risk of cross-subsidisation embedded in integrated and holding structures. Complex bundle of services offered over the same network and potentially by the same or closely linked companies has inherently implications for cost-accountancy and transparency even if account separation requirements are in place. In these terms only full institutional separation, as foreseen under **Scenario 3**, would reduce and ultimately eliminate the risk of cross-subsidisation between different rail services. Improved transparency would provide the decision-makers within the relevant competent authorities with more transparent financial information about asset values and cost structure, allowing improving the allocation of public funds to, and within, the rail sector. However, likewise the opportunity costs, transparency linked benefits would not be easy to quantify. In any terms **Scenario 3** is considered much more effective, given that institutional separation would structurally prevent the case for cross-subsidisation, while **Scenario 2** would still allow the persistence of cross-

subsidisation through the use of complex accountancy tools which are difficult for regulators to monitor and control.

Scope efficiencies

The negative impacts related to separation concern above all the so called 'misalignment' costs resulting from breaking the scale economies between the IM and incumbent operator, which in rail industry can be significant due to loss in system integration. There is no quantitative evidence available to assess such costs consequences, but their scale and nature much depends on the circumstances of the national context and the way in which the system is managed. As a matter of principle, such economies of scope would anyway be applicable only to incumbent operator, creating further frustration in terms of uneven playing field. However, to mitigate any negative consequences, while ensuring equal access to infrastructure, separation and liberalisation measures will need to be supplemented by complementary initiatives designed to ensure that the IM is in a position to play the role of system integrator in rail network. Therefore, **all three policy scenarios** proposed by the Commission foresee creation of coordination bodies between IMs and operators which include, in a non-discriminatory manner, representatives from all infrastructure users and should ensure that their interests are duly taken into consideration.

4. SUMMARY OF SEPARATION COSTS AND BENEFITS

The Table 8 below summarises the findings of the analysis. '+' indicates positive impacts, and '- ' negative impacts. As explained above, a full cost benefit analysis has not been feasible and the scores therefore compare the impacts within a row but are less telling in expressing the relative importance of impacts between different rows.

Table 8 Comparison of the costs and benefits of further separation

Impacts compared to the Baseline	**Scenario 1 (only efficiency measures)**	**Scenario 2 (efficiency and enforcement of separation)**	**Scenario 3 (efficiency and institutional separation)**
Implementation costs (one off)	**0/–**	**– –** Potential scale of costs €0.17 billion	**–** Potential scale of cost €0.24 billion **–**
	Limited costs related to establishment of coordination bodies in many MSs and unifying IM functions in some MS.	Related to the costs of internal reorganisation necessary to put in place "Chinese walls". Impacts the MSs having integrated or holding structures.	~0.9% of yearly operating costs. Impacts the MSs having integrated or holding structures.
Transaction costs	**+**	**–** Potential cost range €0.05 bn and €0.16 bn per annum	**– –** Potential cost range €0.05 bn and €0.16 bn per annum
	Some improvement due to better coordination. Impacts to all MSs.	At least 0.15% of operating costs. Impacts the MSs having integrated or holding structures.	~0.3% of operating costs. Impacts the MSs having integrated or holding structures.
Regulatory costs	**0**	**0**	**+**
	It is not expected the costs of regulatory enforcement under Scenario 1 to be materially lower than those arising in the Baseline.	It is not expected the costs of regulatory enforcement under Scenario 2 to be materially lower than those arising in the Baseline.	Regulatory costs per train-kilometre could decline by up to 75% as a result of institutional separation. Impacts the MSs having integrated or holding structures.

Other costs and benefits, linked to:			
Discrimination	**0**	**0/+**	**++**
	No impact	The scope of oversight of regulatory bodies is extended, but remains mostly reactive thus only partly evading discrimination related opportunity costs.	Full institutional separation would eliminate opportunity and motivation for discrimination.
Cross-subsidisation	**0**	**0/+**	**++**
	No impact	Transparency issues and cross-subsidisation risks remain inherent in integrated and holding structures even if account separation requirements are in place.	Full institutional separation would provide necessary transparency and eliminate opportunity for cross-subsidisation.
Scope efficiencies	**+**	**0/-**	**–**
	All policy scenarios foresee creation of coordination bodies between IMs and operators to mitigate the misalignment issues resulted from the loss of scope efficiencies, which are considered of being higher for full institutional separation. Therefore, Scenario 1 improves the situation slightly compared to the Baseline, while the other 2 scenarios, implying additional separation, would worsen it (though Scenario 2 only marginally). Scenario 1 impacts most MS, while Scenarios 2 and 3 only those having integrated or holding structures.		

In terms of scale, the implementation, transaction and regulatory costs are relatively less significant than (induced or direct) costs linked to discrimination and lack of financial transparency. Misalignment costs could also be significant. However, given that market opening and vertical separation are already the chosen policy path in EU rail reform, the conclusions should be drawn on the basis of which separation method has the potential to provide a level playing field in access to the infrastructure costing most effective and efficient manner, while mitigating to the extent possible any misalignment consequences. **In these terms full institutional separation, as by Scenario 3 seems to be the preferred way forward.**

5. SYNERGIES OF SEPARATION WITH MARKET OPENING

Finally, the ultimate goal of separation is to create more competitive and efficient rail sector and thus encourage service offer, while improving the use of public funds fed via subsidises into railways. The institutional separation envisaged under Scenario 3 is an important precursor to the delivery of the full benefits of market opening, as already implemented for rail freight market and international passenger rail market and further proposed by the 4th Railway package for domestic passenger market. This can be demonstrated by comparing the estimated outcomes of a specific form of market opening with and without separation, which has been developed by the IA support study.

The projections were carried out by the consultant in cooperation with the Commission. There are high uncertainties linked to calculations of aggregated impacts, because of:

– limited empirical evidence;

– any effects are dependent on baseline situations in Member States;

– other principal uncertainties in the baseline developments and exogenous factors.

Therefore the quantification results were not used for comparison of options. However, scenario analysis accompanied with sensitivity tests, as presented below, should give a relatively sound idea of potential outcomes of the proposed policy in different situations, based on the most credible information available as of the date. The core features of analysis and assumptions for the assessment are summarised in the Table 7 below. For the detailed information on the assessment methodology (which covers both – Market Access and Infrastructure governance initiative) see Annex 8 of the IA on Access to Domestic Passenger Rail Markets and Appendix I of the IA support study.

1. TABLE 7 ASSUMPTIONS

Assumption		IM Scenario 3	Domestic opening	Combined impacts
Open access effects				
Sectors	High speed, long distance, medium/regional, international			
Effects	New entrant's open access train-kilometres as a proportion of current "commercial" train-kilometres	1%	2%	3%
	Share of incumbents' "commercial" services in this sector converted to PSC as a result of open access competition	10%	20%	30%
	New entrant's fares as a proportion of the incumbent's	95%		
	Share of new entrant's passengers taken from incumbents	70%		
	New entrants operating costs per train-kilometre as a proportion of incumbent's	80%		
	Potential reduction in incumbent's operating costs (A)	20%		
	Proportion of incumbent's services stimulated to higher efficiency by new entry (B)	10%	15%	20%
	(AxB) Resulting average reduction in incumbent's costs in this sector stimulated by competition from open access	2%	3%	4%
Compulsory competitive tendering effects				
Sectors	All PSCs, including commercial services becoming PSCs because of open access			
Effects	Reduction in incumbent's share of PSC train-kilometres	2%	10%	15%
	Potential reduction in PSC service operating costs (C)	15%		
	Proportion of PSCs subject to effective competition (D)	25%	75%	90%
	(CxD) Resulting average reduction in PSC costs	3.75%	11.25%	13.5%
	Share of PSC cost savings invested rather than retained Scenario 1 - Focus on cost savings Scenario 2 - Reinvestment		0% 50%	
	Quality-related rise: train-kilometres and capital expenditure	0.1%	0.5%	0.75%
	Quality-related rise: passenger-kilometres and revenue	0.1%	0.5%	0.75%
Timescales and discounting				
Start	Implementation of Package, creation of open access rights and award of first competitive tenders for PSCs	2019		
End	Last existing PSC contracts replaced in competitive tendering	2025		
	Base year for discounting purposes	2019		

Table 8 below summarises the financial benefits for:

- the separation initiative only (column 1)
- the domestic passenger market opening only for two scenarios:

- **Market opening Scenario 1** - Focus on savings (column 2) - In this scenario it is assumed that competent authorities would focus on cost savings, taking all the reductions in PSC tender costs as cash savings and not reinvesting any of these in higher rail quality or capacity.
- **Market opening Scenario 2** - Reinvestment (column 3)- In this scenario it is assumed that competent authorities would not focus on cost savings but would instead implicitly "reinvest" half the potential reductions in PSC tender costs by specifying higher quality or capacity in PSCs. In terms of monetary impacts this implies reduction in NPV, while the benefits appear in terms of increase in passenger km-s.

- combined impacts of both initiatives separating two different outcome scenarios:
  - **Combined impacts Scenario 1** – Focus on savings (column 4)
  - **Combined impacts Scenario 2** – Reinvestment (column 5)

Table 8 Combined impacts of market opening and infrastructure governance policies – Summary of core financial estimates

All changes are illustrative estimates NPVs (bil €) to 2035, discounted at 4% to 2019	Separation Scenario 3	Market opening: Scenario 1 - Savings	Market opening: Scenario 2 - Reinvestment	Combined impacts: Scenario 1 - Savings	Combined impacts: Scenario 2 - Reinvestment
	1	2	3	4	5
Transaction costs (mean estimate)	-1.37	-0.42	-0.42	-1.77	-1.77
Domestic service benefits*	5.86	29.85	21.46	43.07	33.71
International service benefits	1.07			1.05	0.89
Freight benefits	1.00			1.00	1.00
Total NPV	**6.56**	**29.44**	**21.04**	**43.35**	**33.83**

* The benefits encompass mainly savings for competent authorities, but also profits of operators.

For freight, a lump estimation of €1 bn is added. It is based on consideration that EU-wide rail freight market has a turnover of around €18 billion but has long been subject to extensive competition from other modes, is not subsidised, and under Directive 2004/51/EC has been completely liberalised since 1 January 2007. Nonetheless, effects of institutional separation, where it does not already exist, and hence greater scope for new entry, might result in some further increases in entry and hence a combination of price reductions, quality improvements and transfer to rail from other modes. If the combined effect of extending institutional separation to all networks resulted in benefits equivalent to 1% of rail freight industry turnover, this could result in additional benefits until 2035 with an NPV of €1 billion (uncertainty ±50%). These freight benefits are additional to the benefits in domestic and international passenger markets calculated on the basis of assumptions in Table 7.

Table 9 below presents a wider range of indicators for individual and combined policies.

Table 9 Impacts of market opening and infrastructure governance policies - range of expected outcomes

All changes are illustrative estimates	Financial benefits (NPV*, € bn)	Increase in annual revenue (€ bn)	Increase in annual CAPEX (€ bn)	Additional passenger-km (bn by 2035)	Increase in new entry market share (% points)
Scenario 1 –Focus on saving					
Vertical separation[90]	6.56	0.1	0.01	0.8	0.5%
Domestic passenger market opening	29.44	0.3	0.03	2	3.8%
Combination of market opening and vertical separation	43.35	0.5	0.1	3.8	6.4%
Scenario 2 – Reinvestment					
Vertical separation alone	4.42	0.1	0.01	1.1	0.5%
Domestic passenger market opening	21.04	0.9	0.13	8.4	3.7%
Combination of market opening and vertical separation	33.83	1.7	0.2	16.4	6.2%

* NPVs to 2035, discounted at 4% to 2019, the benefits encompass mainly savings for competent authorities, but also profits of operators.

The results for both scenarios demonstrate existence of significant synergies between the separation and market access measures as proposed in the 4th package. 16 billion passenger-km potentially made available by implementing market opening and separation polices, while re-investing half of efficiency savings back to railways, would result in 6% increase of passenger-km on top of the baseline developments. In addition, more level playing field in access to infrastructure, as provided by vertical separation measures, would enable to increase the market share of new entrants from 19% in the baseline to 25%.

Further burst will be given by quicker time and cost to market for rail undertakings, as provided by the revised scope of the European Railway Agency, also being the part of the 4th Package.

[90] As foreseen by Scenario 3 of IA Governance IA.

ANNEX VI

ASSESSMENT OF SOCIAL IMPACTS

In a guided system like railways with quite a generalised excess capacity on the tracks the management of the network is crucial to exploit assets as much as possible, thus reaping economies of scale and improving the price/quality relationship. Neutrality in infrastructure management will improve quality, increase the attractiveness of rail traffic and therefore traffic numbers which in turn will lead to more employment and/or higher productivity allowing wage increases and improvements in working conditions.

Separation has an induced impact on employment in the EU, as the lower costs of transport will free resources to carry out other activities thus increasing the competitiveness of the EU and its production and employment.

As to the direct employment deriving from organisational changes, separation will reduce the economies of scope of carrying out the infrastructure and operation tasks within a single organisation. Therefore it will imply that more people will be required to do complementary tasks in the infrastructure manager and in the different operating companies which may increase costs. However, the transparency brought by market contractual relationships with independent companies will also reduce the costs of monitoring by the regulator. It will also help the government to better tailor PSO and investment subsidies to the real needs of society, breaking its "agency" dependency[91] in respect of an integrated incumbent.

The current system where certain incumbents are partly integrated and all new entrants are fully separated from the infrastructure manager creates legal and functional insecurity giving rise to conflicts and litigation, which represent a waste of resources including human ones. It also deters investments in rolling stock.

With unified infrastructure management, it is possible that a more specialised IM will have a greater interest in the better use and correct maintenance of the current infrastructure and the right dimensioning of the future one. But it is difficult to draw conclusions due to the role of governments themselves.

Concerning the different measures, the most favourable ones from a social viewpoint are those that provide the infrastructure manager with a wider portfolio of competencies whether on the day-to-day management of the infrastructure (paths and charges) or concerning its maintenance and development over time.

[91] A public agency always knows better the cost structure of its services than the public authority that controls it.

ANNEX VII

GOVERNANCE AND ACCESS TO SERVICE FACILITIES

1. INTRODUCTION

Access to service facilities such as shunting and maintenance yards or passenger train stations is essential for the effective functioning of competition in railway markets. If new entrants do not get access to facilities at acceptable conditions, they will in many cases not enter the market, even if access to the main infrastructure is secured. In most cases it would be too costly for new entrants to build their own facilities in the Member States where they intend to operate. Moreover, even in case they would be prepared to invest, new facilities would not necessarily have the same good connections to other modes of transport as those offered by existing facilities (ports, airports, bus stations etc.). New entrants may be private rail operators; however access problems also affect State owned companies wanting to enter markets other than their home market. With no new market entry, competition will fail and customers will continue to rely only on the services of the former monopolists, which will not improve through the lack of incentives to do so.

The degree of provision of rail related services varies significantly across the EU. In many countries the state-owned rail undertaking not only controls the infrastructure itself, but also service facilities and therefore their access. This creates a natural conflict of interest. While the EU Directives oblige the operator of the facility to provide access to all railway operators (under certain conditions), integrated incumbent operators may be reluctant to provide such services to new entrants, as the latter are direct competitors of their own transport subsidiaries. This does not only jeopardise fair competition amongst rail operators, but it is also unacceptable when, as in most cases, the facilities were built with public funds, and their use should therefore not be reserved to specific companies who for historical reasons maintain a monopoly position.

The recently adopted Recast of the First Railway package, in its Article 13 and Annex II, addresses problems in the application of the existing legislation, and problems which the existing legislation is not able to solve.

2. EXPERIENCES WITH THE APPLICATION OF COMPETITION LAW

Currently, complaints on access problems to service facilities may only be brought to competition authorities. The existing Directives 91/440/EEC (as amended by Directive 2001/12/EC) and 2001/14/EC do not give railway regulators any powers to control issues of access to rail-related services. According to the rules of competition law, access to a specific facility must only be given if this facility is considered to be "essential" for the operation of a market entrant and thus for establishing competition in the market ("essential facilities doctrine").

The criteria that must be fulfilled for a facility to be considered as essential, and which have been in a number of cases brought before European and national courts, may be summarised in the following five points:

- the facility must be controlled by a dominant firm
- access to the facility is indispensable in order to compete in a market which is related to the one in which the operator is dominant
- the competitor must be unable to duplicate the essential facility under reasonable economic conditions
- access to the facility is refused or granted under unjustifiably restrictive conditions
- it must be feasible to provide access to the facility.

These criteria offer many possibilities for the operator of the facility to escape the obligation to grant access. The burden of proof to show that all these criteria are fulfilled falls on the market entrant. This is difficult because a new entrant, in particular when coming from another Member State, does not necessarily have sufficient information on available alternative facilities and their services, while in most cases the operator, especially if it belongs to an integrated company, owns most of the facilities in the country and therefore has all the necessary information.

Apart from this lack of information on the side of the market entrant, fulfilment of all the five criteria is objectively very difficult to prove. The market entrant must demonstrate that access to a particular facility is *indispensable* in order to compete within the relevant market. Therefore he must practically prove that without access to that facility he has no access whatsoever to the market. This is difficult if the new entrant is already active in other parts of a national market, but needs access to a specific terminal to open a new service. Then it could be said that he does not need access to the specific facility, because he would not have to exit the market completely, given his remaining activities. If the new entrant is not yet active in the market, and has to give up its intention to enter the market because of the denial of access to a facility, the terminal operator may argue that the plans were not realistic anyway, no sufficient business plan existed etc. If the applicant had used the facility previously, and access is now denied, the proof that this criterion is fulfilled may only be made once the railway undertaking exits the market definitively However in this case even a positive decision of a competition authority would be of limited use for the complainant.

Access to the facility may also be deemed not to be indispensable if the terminal operator offers access to an alternative facility. Even if this alternative terminal is far away from the railway line which the new entrant wants to use, and it does not make economic sense to use this facility, it may be difficult to demonstrate that the rail operator would not also be able to compete using the alternative facility.

Fulfilment of the third condition ("the competitor must be unable to duplicate the essential facility within reasonable economic conditions") is also very difficult to prove, because the notion of "reasonable economic conditions" is subject to interpretation.

Finally, the criterion "granted under unjustifiably restrictive conditions" leaves a large margin of discretion for the facility operator to escape access obligations. It is sufficient to combine

access with unrealistic conditions (e.g. limit the usable space in a shunting yard so that shunting operations are impossible). The applicant will have to prove to the competition authority or the court why access needs to be granted in a specific technical way. This opens the door to costly procedures involving expert opinions etc., something which a small rail operator with limited resources would not be able to do.

These difficulties in the application of the "essential facilities" doctrine explain why there is hardly any precedent for successful court cases or complaint procedures before competition authorities on this point. Competition authorities are aware of these difficulties and try to achieve a settlement between the parties in such cases. However, since the incumbents are aware of these legal difficulties in terms of burden of proof, their readiness to settle is normally limited.

Since Directive 2001/14/EC takes up the "essential facilities" doctrine with the formulation that access may not be denied if there is "no viable alternative", the Recast addresses these problems with the introduction of more concrete rules on access to services.

3. EXAMPLES OF ACCESS PROBLEMS TO SERVICE FACILITIES

In order to illustrate the problems, the following overview offers some examples of discriminatory practices in the access to services that have been reported by new entrants (sometimes themselves incumbents in their home state) in several Member States. This list is however by no means exhaustive.

– Discriminations in passenger railway stations:

Incumbents oblige new entrants to accept ticket distribution agreements which give the incumbent the exclusive right to sell tickets at rail stations. Therefore competitors have no right to use the travel centres or ticket vendors in those stations. In some cases, the commission on ticket sales is larger for the incumbent than for external competitors. Furthermore, competitors encounter problems with access to information displays, visual and oral passenger information. In some cases there are even explicit instructions to the train station staff not to inform passengers about the competing offers. This results in difficulties for the new entrants to inform their potential customers about their offers, which deprives customers of the benefit of choice between rail operators.

– Long-term leases of service facilities through the incumbent:

Most of the service infrastructure is leased to the incumbent on a long-term basis, e.g. all tracks of a strategically important marshalling yard. In many cases incumbents also tend to block side tracks by renting them, although they are not needed, for the sole purpose of preventing access for their competitors. If the facility is built to meet the needs of the new entrant, the costs charged to the new entrant by the infrastructure manager for the connection to the main line and to signalling equipment are often prohibitive.

– High costs of shunting locomotives as a barrier to market entry:

Since shunting yards are predominantly not electrified, shunting with mainline locomotives is technically not possible. Buying additional shunting locomotives means an increase in fixed costs for new entrants, which most of them cannot bear.

– Car transport – general access to the marshalling yards:

Competitors do not have a general right of access to the marshalling yards to load their cars onto the trains of the incumbent. Offers of the incumbent to organize this on behalf of the new entrant are often subject to prohibitive prices.

– Massive capacity reduction and reactivation only on discriminatory conditions:

Many railway operators are prevented from using idle facilities by terms set by the infrastructure manager. The infrastructure manager may well demand to cover all costs of reactivation and/or to rent the facility for an excessively long period.

– Lack of transparency as regards the billing for the use of the service facilities:

Operators of service facilities must set up a price list but are not obliged to link services to specific prices. Courts in some Member States have reached this conclusion on the basis of the wording of the Directive.

– Massive capacity reduction without viable alternatives under normal market conditions:

In some Member States infrastructure managers close service facilities and offer competitors / market entrants access to alternative stations which are however very distant from the lines they want to operate. In some cases availability is denied for the complete facility due to the alleged deactivation, although parts of the facility would still be available for the new entrant.

– Supply of traction current, usage of fuelling facilities

Competitors have to deal with unfair pricing and usage conditions in the supply of traction current and when using fuelling facilities. In some cases transport companies belonging to the incumbent operator receive considerable rebates which are not offered to the new entrants, which creates serious competition problems.

4. THE NEW RULES OF THE RECAST ON ACCESS TO SERVICE FACILITIES

The Recast of the First Railway Package addresses these problems above in its Article 13. Key elements of these provisions are:

– organisational and decision-making independence of the infrastructure manager required in case it belongs to an integrated company

– denial of access admissible only if there is a viable alternative for the proposed route

– reservation of adequate capacity to competitors in case not all requests can be followed

– extension of the powers of the rail regulator to control all aspects of access to services.

The new Recast Directive empowers rail regulators to decide about disputes on access to rail-related services, as they know the rail market best and competition authorities do not have the necessary powers to enforce access to service facilities, as explained above.

In view of the conflict of interest in companies which are operators of service facilities and have at the same time transport activities in competition with other railway undertakings, the Directive strengthens the independence of the facility operator in such situations. This is the case if it belongs to a body or firm which is dominant in a national railway transport services markets for which the facility is used. However, this does not concern maintenance terminals and maritime and inland port facilities which are linked to rail activities.

As to the type of independence which the facility operator must have, it must be strengthened when it forms part of an integrated company. The Commission had originally proposed "legal, organisational and decision-making independence". However, in the final text of the Recast only "organisational and decision-making independence" were adopted. This does not mean that separate bodies must be created for each facility. They could all be regrouped under one body, or be included within the infrastructure manager for whom the Directive already provides the same description of its necessary independence (and in addition "legal independence").

As to the new provision according to which access can only be denied if there is a viable alternative which allows the railway undertaking to operate the freight or passenger service concerned on the same or alternative routes under economically acceptable conditions. This provision is meant to clarify what is a "viable" alternative and to avoid the situation where the rail operator would be sent to a remote terminal, which would make the alternative useless.

The provision that an adequate capacity must be reserved for competitors is intended to avoid the claim by the facility operator that the whole infrastructure is in permanent and complete use by the subsidiaries of the incumbent, a claim for which the new entrant will have great difficulty to provide counter-evidence, due to his lack of relevant information. The proposed provision should in principle have no impact on the revenues of the facility operator and leaves a considerable margin of discretion to the rail regulator since it is impossible to say in a piece of general legislation what "adequate capacity" corresponds to in every specific situation.

To address the difficulties encountered by competitors in passenger stations, the Recast includes the obligation for the operator of the station to offer a location for ticketing and to display travel information of all railway undertakings. The Recast also obliges station operators to offer ticketing facilities to all operators, in case they offer these services to any railway undertakings. This is important in particular for smaller train operators running only a few trains and who cannot afford to provide permanent staff in railway stations to sell tickets for their own trains.

The recast also deals with the issue of idle facilities proposing that the service facility that has not been in use for at least two consecutive years by its owner must be offered for lease or rent. Another option could be to tender the sale of the facility, so that prospective rail users may make offers for purchasing it.

The numerous problems of overpricing or non-transparent pricing encountered by new entrants are dealt with in the Recast by clear transparency provisions concerning the network statement and the rule that services are offered at full cost. This ensures on the one hand that facility operators are not obliged to make losses by granting access to their competitors. They will even be enabled to claim a reasonable profit for the relevant services. On the other hand the reference to full costs allows a control of pricing by the regulator and thus avoids prohibitive over-pricing which is detrimental to the development of railway markets.

5. POTENTIAL OF THE NEW RULES OF THE RECAST TO SOLVE THE PROBLEMS FOR ACCESS TO SERVICE FACILITIES

The new rules of the Recast will go a long way in solving access issues for service facilities. They do not only provide for increased regulatory oversight, but also clarify access criteria. They do not only offer ex-post remedies through the action of a regulator, but also contain some structural ex-ante solution by obliging undertakings having a dominant position in a service market to foresee separation of their facilities in organisational and decision-making terms. It is possible that this type of structural solution could be affected by similar problems as the existing "legal, organisational and decision-making independence" for the essential functions of an infrastructure manager in relation to railway undertakings. In particular the efficiency of the "decision making independence" may depend on whether and how the Court of Justice will clarify this concept in the context of the infringement procedures on the First Railway Package.

Therefore the question arises whether it would not be useful to have a complete institutional separation also for the relation between facility operators and railway undertakings, respectively to integrate these facilities in the independent infrastructure managers. This could create the same type of legal certainty as a complete institutional separation of the infrastructure manager. However, while the rules of the directive on decision-making independence for the essential functions of an infrastructure manager have been in force since 2001, the reinforced rules on access to the service facilities have just been adopted after intense discussions in Council and Parliament, and will enter into force only in November 2012. It does therefore not seem to be suitable to propose such measures already in the framework of the Fourth Package proposal. The impact of the new rules can only be fully assessed after a certain time period in which they were applied.

ANNEX VIII

SUMMARY DOCUMENT OF THE CONFERENCE "THE LAST MILE TOWARDS THE 4TH RAILWAY PACKAGE"

HELD ON 24 SEPTEMBER 2012 IN BRUSSELS, BELGIUM

Keynote addresses

Mr Siim Kallas, Vice-President of the European Commission

Vice-President Kallas welcomed all the delegates to the conference and explained that many challenges lay ahead to enable the trans-European rail sector to achieve its full potential through the creation of a single European railway area. Plenty of progress has been made with recent agreement on the rail recast which will considerably change the way the rail market works, stimulating investment, improving market access conditions and reinforcing the role of national rail regulators.

More reform was needed if rail was to achieve its full potential and compete effectively with other modes, by breaking down barriers, attracting more operators to the market, removing nationalistic protections, making the industry more efficient and raising service quality, punctuality and reliability.

EU-wide standards are required, the use of which would facilitate a move to a single European approval system allowing trains to be built and certified to run everywhere in the EU and saving money in the process. The European Railway Agency should become the primary vehicle to issue single certificates for safety and authorisation provided there is technical compatibility.

Access needs to be granted to rolling stock, particularly for market newcomers, otherwise it is very difficult for them to compete. Only a few countries are fully open to competition, a mixture of open access and public service contracts should be encouraged to provide competition in and competition for the market.

Infrastructure management functions such as charging and the allocation of rail capacity, financial transparency, maintenance, renewal, upgrade and development of the infrastructure, day-to-day traffic management and the provision of real-time information must be kept apart from the operation of transport services and be exercised independently through a separated structure.

This conference is not about having competition for competition's sake but about providing a better service and ensuring rail is able to fulfil its underused potential. We hope to hear the views of a wide audience of stakeholders to develop our options for reform.

Mr Dominique Riquet, Member of the European Parliament (PPE-FR)

Mr Riquet echoed a warm welcome to all the attendees and explained that the creation of an integrated transport system had proven difficult with a continued need to overcome bottlenecks of physical and organisational problems. Updated guidelines on connectivity and the compatibility of regulations have started to clarify some of the complex issues but rail needs to compete with other modes such as road and solving some of the interoperability issues will start to assist this.

There is an enormous amount to do and in some cases there has been considerable national resistance, however the freight industry has demonstrated the benefits of opening up the markets. It is time to start to adapt to single European market ways of thinking and embrace interoperability, transparency, create the right fare conditions and vitally open up the infrastructure.

I support the concept of the European Railway Agency (ERA) taking on an enhanced managerial role and one day it is hoped that a single European regulator may exist. In the meantime, rail can no longer be the outlier and must not escape the rules of the single market.

Plenary I: Opening a new page in European Railways

(Moderator: Mr Matthias Ruete, Director General - European Commission, DG MOVE)

Ms Catherina Elmstäter-Svard, Swedish Minister for Infrastructure

Ms Elmstäter-Svard presented how deregulation had taken place in the Swedish market since 1988 following a financial crisis. Despite attempts at a financial overhaul, the quality of rail transport and infrastructure could not be maintained. Railway transport was not customer driven. There was a lack of funding for investment in rolling stock, and in new service concepts. The incumbent had become a powerful but impenetrable “state within a state” that asserted its own interests at the expense of common interests. Radical measures had to be taken.

Real reform came based on separating the responsibility for infrastructure management and the operation of rail transport, both in terms of organisation and decision-making through increased transparency (helping various previously excluded bodies influence the railway system), increased competitiveness (making the split between taxpayers and passengers to develop railway infrastructure more financial stable) and providing rail transport on a commercial basis (based on customer requirements).

These and other reforms such as diversifying the supply of rail transport services within a competitive procurement system were aimed to create and open up more markets to effective competition, to provide better conditions while still maintaining high levels of railway safety. In return, demand for rail transport began to increase, investment in railway infrastructure and rolling stock also increased. More rail companies were established, and so competition increased too. Both railway freight transport and railway passenger transport increased capacity and efficiency. Had new market entrants not been convinced that they could use the

railway infrastructure on non-discriminatory terms, the positive stimulus would simply never have happened. Entrusting the management of the infrastructure to an independent entity with competitive neutrality and non-discrimination removed any suspicion that the state could place effective barriers to entry. A vertically separated railway system considerably reduces the need for any detailed regulation which is neither efficient nor sufficient. European railway legislation must require vertical separation clearly within the framework.

Some difficulties will remain which will need to be resolved in a way that does not damage competition, for example how to deal with the introduction of ERTMS in a neutral way without specifying the equipment to be purchased but ensuring interoperability? Having ensured that the Infrastructure Manager (IM) behaves in a non-discriminatory way, how do we ensure it operates efficiently, and on the basis of the demand of rail companies for capacity so that they can offer transport services that correspond to customers' requirements? Sufficient incentives need to be provided to ensure it effectively fulfils its remit. An effective and consolidated rolling stock market is urgently required. Rolling stock is expensive and has its risks. New and smaller rail companies have difficulties entering the market due to a lack of access to rolling stock on reasonable terms.

The challenges we face in realising railway policy both in Brussels and at home must ultimately be about the benefits for rail customers.

Mr Mauro Moretti, Chairman - CER

Mr Moretti considered that despite the implementation of three railway packages at EU level, there was still need for change in the mindset of managing rail. As each change passed, productivity increased, ever more independence from public budgets was possible and competition against other transport modes and within rail increased.

The rail sector needs a fair and stable regulatory framework, not one that changes every two or three years. Rules must be homogenous and valid for everybody to create a sound business environment, to attract private and public investments and to create a Single European Rail Area.

We must streamline the certification and authorisation processes that constitute huge barriers for market entry and consider the efficiency gains that an enhanced ERA may benefit the sector with, such as centralising some functions currently performed by national safety authorities (NSA), speeding up the processes for rolling stock authorisation and placing on the market, safety certification of railway undertakings (RUs) and the development and application of the legal framework (regarding safety, interoperability and technological development). Control may then take place through one body and replace today's non-transparent procedures applied by different NSA's. Since there is a common and widespread agreement on this point, the Commission's proposal should be "fast tracked" through the legislative procedure in the case of ERA.

Consideration must be given to the best way to open domestic markets. Free interplay of supply and demand and competitive pressure should push companies towards new efficiencies

while understanding that the rail network benefits all customers only if good rules are applied. Open access services must therefore not develop to the detriment of services provided under a regime of public service contracts.

A European legal framework should be drawn up to recognize that national and regional competent authorities must have enough room to find a good match between EU legal obligations and the specificities of their territories and of their customers' needs in terms of tendering.

The best structural way to organise our systems and our companies should be considered, ensuring we guarantee a fair competitive environment for operators while and at the same time minimising the costs for the industry as a whole. Stronger national regulatory bodies would certainly help and constitute an essential tool for a fair functioning of the market.

Evidence on the impact on the market of different organisational models (where the incumbent operator is or is not fully separated from the IM), show mixed results and suggest that other variables (such as system cost, modal share, and State funding) partially count towards explaining performance outcomes. CER conducted a study at the beginning of this year which suggested that different structures work best in different circumstances and therefore a flexibility of structural models may be beneficial.

Mr Philippe De Backer, Member of the European Parliament (ALDE-BE)

As Member of the TRAN Committee, Mr De Backer stated that during his first full year as MEP, rail policy was one of the most discussed items in the Committee. The 4th package has not yet emerged but has already been broadly discussed in the European Parliament as elsewhere. Experience with the recast of the 1st package has shown that emotions can run high and that lobbying will become more intense, approaching adoption of the EC proposals and afterwards, when discussing them in Parliament.

The first Directive (approved in 1991) established that Member States would separate infrastructure and services so trains could be used for cross border journeys. The aim was to increase the attractiveness of transporting goods by rail. The results were disappointing because most of the Member States did not want to give up their national monopolies. 3 rail packages have followed, 21 years later we are still discussing the issue. The single European rail market is still not in place or working as it should be which is unfortunate as rail has the potential to relieve the over congested European roads. Eurostat data shows rail share of passenger and freight transport in still low for the EU27 at 6.3% and 10.2%.

A single European rail market will have enormous added value for Europe, encouraging companies to transport their goods and helping to reach the 60% GHG emission reduction by 2050 as laid down in the White Paper on the Future of transport.

Member States must put interoperability into practice, allowing cross acceptance and a single process of placing vehicles into service. Unreasonable discriminatory demands on foreign railway companies wanting to enter national markets are unacceptable. Transparent rules (thus monitoring and control) are needed and most importantly Member States must implement

them and the EC take infringement action as required. It's unacceptable to let years pass by before taking any action.

Safety is and should stay the main concern for every railway company and is often linked (not in a good way) to liberalisation. Trade unions claim that liberalisation leads to less safety on rail which is completely untrue and unproven (rather the contrary) and the EC should provide information in order to inform Citizens properly.

Thanks to the recast, national regulators will receive more competences and have more responsibilities. The European Railway Agency works well and it is accepted by all stakeholders in the rail sector so should be made the one stop shop that is needed. In the future national technical and safety rules should no longer exist. There should be one authority that gives out licences, gives vehicles authorisation and monitors and controls the market.

It is very difficult to convince Member States of the added value an open market brings, as in most cases national passenger transport is in the hands of the State-owned historic companies. They are often not ready to cope with efficient competition as they are funded with State money and are in most cases accumulating debts. However the advantages if done in a consistent manner are that it will give the passenger greater choice and lead to better quality of service. Market liberalisation should be accompanied by a legal separation between the IM and the RU. Unbundling should be the standard. The debts many companies are bearing now are the result of the existing inefficient integrated structure. Efficiency gains are desperately needed, also for the public purse.

Further discussion on this subject will no doubt become very intense but the EC should put Citizens in the driver seat and come forward with an ambitious proposal for a 4th railway package.

Mr Mark Hopwood, Managing Director - First Great Western, First Group

Mr Hopwood described his train passenger operating business, the largest in the UK with over 25% of the market and the experience gained through the franchise bidding process, winning tenders to operate intercity long distance, regional and commuter services across a geographic range. He also described how an open access operation within the same country had been established since 2000 and how the company had some European exposure from open access in freight.

The UK already operates with a certain level of decentralisation with some contracts being contracted by local rather than national authorities either solely or as co-signatories. Privatisation in the UK had been born from British Rail not delivering, with poor performance and low passenger satisfaction and with government focus at the time on other areas of expenditure. Innovation came from the introduction of market competition which has been so successful that significant growth has now led to a change of political context (all UK political parties support rail investment), limited support for returning to public sector operation and a continued move to funding from the fare payer rather than the tax payer.

In London and South East demand is already 10% above forecasts with TfL projecting demand by 2020 as high as 33% above 2007 expectations. Similarly passenger journeys in the West Midlands show significant year on year increases. Targeted marketing campaigns help to increase patronage for leisure customers and along with the creation of new partnerships with tourist associations and promotion on websites led to increases in revenue and return on investment of 3.9:1 with 10% increases in customer numbers.

A number of local service case studies were described demonstrating how private operators had worked with local councils, IMs and development funders to create and implement schemes for infrastructure enhancements leading to the provision of additional services or improved station services and accessibility and thus also benefiting the social railway.

The customer experience is vitally important, railway decision making cannot be a theoretical exercise. Twice yearly National Passenger Surveys conducted by an independent organisation (Passenger Focus) provide a focus of passenger perception with a number of aspects of the service provided. This is in addition to four weekly customer services monitoring to ensure the service provided is appropriate to the needs of the passenger.

Transparency of cost and performance data is important because it helps the industry, its customers and its funders to understand the real story around what the rail sector costs and how it performs, and whether they are getting value for money. The next step is to make customers and taxpayers much better informed.

A firm framework with flexibility for innovation and partnership working needs to be created to allow private companies such as FirstGroup to grow in Europe post liberalisation. The obstacles to new entrants must be tackled, such as directly awarding in some so-called “open” markets. Competitive tendering levels the playing field as long as all entrants have access to full transparency of information. Without leasing companies state/regional authorities will need to absorb financial risks or new entrants will not be able to lease or acquire stock. Through ticketing arrangements should be managed alongside a "clearing house" mechanism run by an independent body to ensure fairness and reimburse operators quickly.

Mr Vicenzo Cannatelli, Vice President – NTV

Mr Cannatelli explained how NTV entered the Italian rail market following the advent of liberalisation and explained some of the difficulties that saw it take 6 years from incorporation to starting to run services.

Railway companies can be capital intensive businesses with very high fixed costs. The financial turbulence since 2008 has also made funding within European markets more difficult.

When entering the Italian market this year, as it is not fully liberalised many constraints exist such as a no complete and independent separation between IM and incumbent national operator, as both the IM and train operators are 100% owned by the same companies. The cost of high speed access was one of the highest in Europe at more than € 13 per train-km and the homologation process not well defined and continuously thwarted by the incumbent operator.

The approvals process is way too long. It took 45 months from request of homologation to commercial service operation.

No national body has overall ability to grant permission, which is very inefficient. The NSA is technically independent from the railway operator and is supervised by Ministry of Transport while the regulatory body has different tasks including supervision and monitoring of competition and the degree of market contestability.

Furthermore the Italian Government announced in January the creation of an independent Transportation Authority which will have to introduce fair competition in all railway sectors, have power to constrain uncompetitive situations and possibly analyse the benefits of unbundling in the upcoming months.

NTV's introduction in the market has had a major impact on economic and social structure in Italy. NTV have invested over € 1 billion in 25 trains, depots, IT, training and staff. The benefits have spread to the customer as the advent of NTV has improved the incumbents' proposition and customer service to compete. Prices have decreased while higher frequency and additional services are now running leading to growth taking place far in excess of the wider economy. Marketplace innovation has also led to a new more efficient mix of sales channels with 70% coming from the internet. This all demonstrates the vital benefits of the liberalisation agenda.

Plenary II: Railways - an agenda for growth, innovation and employment in Europe

(Moderator: Mr Karel Vinck, ERTMS coordinator)

Mr Melchior Wathelet, Minister of Mobility – Belgium

Mr Wathelet spoke about independence of the RU and IM and that it was clear that this was a sensitive subject and that work is not yet complete. Some barriers exist, some of which were wished for. Rail has an enviable record on safety and respect of the environment. Rail demand is continually growing. Technological renewals are more sustainable, ecologically beneficial and economically better for all. Mobility leads to growth (estimated to be 2% GDP) and therefore we need to remove the bottlenecks, harmonise interoperability rules and introduce ERTMS.

Non-discriminatory access is needed for all operators. Competition raises not just economic but also political issues. The changes are giant steps when you consider the historical level of protectionism we have come from. Rights of access, financial stability and independence have been created along with the establishment of tariffs, separation of accounting functions, safety and interoperability requirements, certification of train drivers and liberalisation of the freight market.

We are making the sector more dynamic, however when we view the sector objectively we must admit that the work is not done. Rail is not the preferred mode of transport for most Europeans or for key businesses such as logistics and haulage companies. To achieve such changes requires the opening up of a single European rail market providing non-

discriminatory access to all operators and encouraging an increase in the predictability of major investment. Tariffs are still too high for consumers and the density on some networks could lead to different solutions being sought. Greater clarity is required on the unbundling package. Member States must take the responsibility to develop a corporate long term infrastructure development plan.

The ERA could be seen to signal a detriment to NSA's, however we must not find new barriers to undermine liberalisation. Sometimes we have been guilty of deciding on the direction of travel without giving ourselves the means to make the full journey and therefore get stuck in the mire. We must not allow that to happen again. The sector needs a specific dynamic approach which should be looked at objectively together by the EC, Member States and the industry.

Mr Svend Leirvaag, Vice - President Industry Affairs - Amadeus

Mr Leirvaag presented how his company Amadeus grew out of the supply chain from the deregulation and liberalisation of the aviation sector and how they are now a global European player, employing 59 different nationalities and represented in 195 countries.

Amadeus started the migration to open systems 15 years ago and has invested over € 2 billion in research and development since 2004 proving that you never stop learning and this is why we should say that this is the "next km" in rail deregulation rather than the "last mile". Its main focus is as a cost efficient outsourcing provider connecting travel providers with consumers through choice and transparency.

Connecting Railways and other modes of transport will become the number 1 priority for European consumers. The future of the integrated European transport system needs to be sustained by a robust Inter-modal system that enables any traveller to plan, book, pay for and collect their ticket seamlessly. The sector needs to start preparing for deregulation and increased competition.

Following discussion with railways and industry stakeholders, the three main challenges in today’s rail industry are the importance of the traveller and satisfying their evolving needs, the role of the opening of the rail market in Europe with its opportunities for increased competition and the need to generate efficiencies and to look for new revenue streams. Technology will be the key to remaining competitive and driving innovation.

An efficient and competitive European railways sector will strengthen the competitiveness of Europe and their enterprises but this requires changes. Currently the dynamics of the marketplace mean that high price variation exists and sharing of technology to drive expansion and keep costs down is not yet widely undertaken. One example of such inefficiency is distribution channel ticketing bonds. These are required with each and every Rail Undertaking rather than a single European bond to cover them all.

Mr Johannes Mansbart, Chief Executive Officer - GATX

Mr Mansbart explained that rolling stock was the key sector asset and determines the performance of the rail industry. It is vital that entrants have availability of rolling stock on reasonable terms.

Challenges currently exist around slow industry integration. ECM responsibility requires solid vehicle operating data and there is still much to be done on the availability and consistency of such data. An automated data exchange should be developed in a standardised format between workshops, keepers, RUs and customers.

New regulations such as vehicle noise emission standards have a material impact on the life cycle costs of rolling stock and as they deliver economic (public), rather than any commercial payback benefits, providers are not commercially driven to seek the best solutions, instead choosing where applicable to pass the costs onto the RU.

Maintenance concepts need to be fine-tuned with unified rules and standards, optimised spare part logistics, shared services, component swaps and more preventive and less reactive maintenance.

The ERA should be given a stronger European role including the rights to enforce common rules on the market and bring clarity to a single information database.

Mr Stefan Roseanu, Chief Executive Officer - CFR Călători (RO)

Mr Roseanu presented how CFR Călători the national railway passenger operator in Romania had been created in 1998 by splitting the former national railway in line with EC directives and how the key challenges were a very old train fleet, poor infrastructure and a lack of investment funds.

Rail travel has been decreasing with 20% reduction in train kilometres travelled and 60% less passengers, with a corresponding increase in car and road usage. This is partly down to the quality of rolling stock offer, the new found accessibility of private car ownership, the increasing competition from the recently deregulated bus market and a change from bulk manufacturing plant commuters (very efficient for rail) to a service industry economy to which rail services have not yet adapted .

Strategic focus in Romania will be on short-distance, long-distance and cross border services, the introduction of regular-interval timetables, integrating rail in metropolitan transport offers to develop suburban services and the acquisition of new rolling stock and modernisation of the existing fleet.

Access to the rolling stock market is important with lead times being so long and lessons should be learned regarding the requirements of long term infrastructure from the aviation and ports sectors. Generally supportive of the idea of open access operation supporting public service contracts which are awarded through competitive tendering to improve value.

Workshop 1 – Rolling stock: reduced time-to-market

(Moderator: Mr Marcel Verslype, Director - European Railway Agency)

Mr Verslype introduced the panel of speakers and then invited Patrizio Grillo from the European Commission to present some initial thoughts on the implications of the 4th railway package and how it could lead to a simplified authorisation process.

Some of the key problems identified in the sector relate to differing interpretations and implementation of EU law by Member States. In some cases national rules are unclear, inappropriate, non-transparent (including incumbent staffing seconded to NSA's) or overlap with existing TSIs. The authorisation process is long (up to 2 years), uncertain and is expensive due to multiplicity and unnecessary repetition of tests and verifications. It has been observed that the cost of a safety certificate and for additional vehicle authorisation can be hugely variable.

As part of the impact assessment different options have been assessed in terms of costs and benefits. These include looking at an enhanced role for the ERA in the safety certification of RUs and in monitoring and control of NSA's along with migration towards a single vehicle authorisation (a European "passport").

The most cost-effective option was that the final decision on RU certification and vehicle authorisation should be taken by ERA in cooperation with NSA's and national authorities. In this way a single vehicle passport reflecting compliance with rules, confirmation of technical characteristics necessary and checked compatibility with the network would be issued by ERA valid in all Member States with the RU responsible for verifying route-specific compatibility.

Mr Alan Bell, Head of Railway Safety Policy - ORR UK

Mr Bell spoke about the issues related to market opening and how removing barriers to entry would increase efficiency for the railway sector while ensuring that the level of safety was maintained or improved. It was however important to identify practical measures to achieve improvements in realistic but short timescales including the proper implementation of interoperability and safety directives.

There is a problem with the length of time to get new vehicles into service in some Member States leading to increased capital costs and hampering innovation by slowing developments in the market. Inconsistent implementation of processes and rules and bureaucracy where nationalistic interests take priority over a collective commitment to a single market also delay the process further. To speed up the authorisation process clear guidelines need to be provided including early and consistent engagement by NSA and clarity on what needs authorising or not. Availability of information (through a document management system), differences in national laws and the constituents of interoperability need to be addressed along with the competence and consistency of national bodies.

ERA role should be enhanced to a 'partner' role promoting harmonisation and ensuring the current structure works as it should by monitoring the implementation of directives and resolving disputes as well as enhancing processes such as responsibility for a single safety certificate. The advantages of the NSA should not be lost including the knowledge base and feedback loop at a local level.

Mr Philippe Citroen, Director General - UNIFE

Mr Citroen explained that there was a need for a drastically simplified European authorisation process as the current situation where European and national rules & processes both have to be applied was the worst possible situation with the results of this complexity being that it takes on average 600 days to gain authorisation and the process is tying up € 1.4 billion capital that could be utilised for other benefits.

There has only been a partial transposition of the safety & interoperability directive, allowing a number of national processes to survive. UNIFE, CER, UIP and ERFA therefore all strongly support the enhancement of the role of ERA to become the European Railway Safety Agency. They should also become an appeal body and have decision-making powers in the event of disputes about vehicle authorisation processes and/or safety certificates

The EC should strongly encourage Member States to implement the present directives, which offer the best possible basis for quick convergence, so as to eliminate unnecessary rules. In this respect ERA should identify the unnecessary and superfluous national rules and be able to request their removal as is done by the Aviation (EASA) and Maritime (EMSA) agencies.

RUs also need to play their part and review their procurement processes to support standardisation amongst the manufacturers as such initiatives have the potential to reduce costs and time to market.

Mr Vicenzo Cannatelli, Vice President - NTV

Mr Cannatelli having already presented in Plenary I, discussed how liberalisation should lead to better efficiency for all players in the industry and cheaper prices for the consumer, however changes were required in order to get private investors to invest capital in the railway. The most fundamental of such changes was the need to set clear rules that are non-discriminatory, clear timings and ultimately a transparency of process. It is currently too easy for incumbents to create problems for new entrants.

Mr Konstantin Skorik, European Business Development Director – Freightliner

Mr Skorik stated that lots of regulation and control creates high complexity and low efficiency. In the freight market there is generally reluctance by manufacturers and operators to "experiment" and bring new innovative products to the market. There are fundamental differences in complexity, timing and cost of certification between locomotives and wagons with the later generally certified to run on the entire continental network and the former problematic due to different Member State requirements on safety and signalling systems, no

cross-acceptance, requirements for repetitive tests, unclear procedures and obstructive NSAs and IMs. In part this is because processes are not transparent with clear deadlines.

ERTMS costs may be prohibitively high and burden rail freight operators making them less competitive against road. No clear strategy exists on who picks up these bills. But success stories are possible as has been demonstrated by the certification of new GE Powerhaul locomotive in the UK which was delivered in less than two years through close cooperation between the parties involved during the design and build phases.

There should be a single certification for rolling stock to the extent possible and a clear role for ERA as a facilitator of cross-acceptance or as a one-stop shop provided NSAs fully accept ERA rulings. NSAs should concentrate on national (safety systems) issues. Clarity of the time limits for various stages of the certification process must be made transparent. Both ERA and NSAs should be incentivised to work fast and adhere to the interoperability rules.

Mr Michael Cramer - Member of the European Parliament (Greens-DE)

Mr Cramer stated that we need fair rather than unfair competition between modes of transport and that a cross modal plan is required to start this process. Cross acceptance of rolling stock must be beneficial and more efficient however a more precise framework is required. The wider European agenda should be to lead to the removal of EU regulations. We need a register of infrastructure so that all bidders have transparent access to the necessary information.

The new Airbus plane cost € 1 million for acceptance worldwide before introduction, whereas rolling stock costs in some cases twice that amount for acceptance in just one country.

Workshop 2 – The optimal Infrastructure Manager for the future

(Moderator: Mr Jean-Eric Paquet, Director, DG MOVE.B)

Mr Paquet introduced the panel of speakers and then invited Sian Prout from the European Commission to present some initial thoughts on the implications of the 4th railway package and how it could lead to changes in the governance relationship for IMs and RUs.

The two biggest problems identified in the governance of IMs related to efficiency and equal access. Railway infrastructure is a natural monopoly and the current governance arrangements do not provide sufficient incentives to respond effectively to the needs of users. There are no incentives for European cooperation with issues existing relating to path allocation, maintenance and development and charging regimes. Efficiency can be improved by encouraging appropriate cooperation between IM and RUs on an equal basis and ensuring the IM has all the functions needed to run the infrastructure in an optimised, efficient and non–discriminatory manner.

The existing separation requirements do not prevent conflicts of interests or discriminatory behaviour possible from non-essential functions. Persistent risk exits of cross-subsidisation without complete financial transparency. Therefore the minimum appropriate degree of separation of the IM from RU's should be defined to ensure that all IM activities which are

potential sources of conflicts of interest are subject to separation requirements, this may be separation which guarantees at least legal, economic and financial independence from RUs and sets as objective institutional independence.

The proposed approach for the creation of common rules for the governance structure of IMs involves ensuring all RUs are on an equal footing including the setting of economic incentives and performance indicators, promoting cooperation between IMs, establishing a coordination body with IMs, RUs, customers, users and public authorities to ensure the proper involvement of public authorities and all users.

Ms Debora Serracchiani, Member of the European Parliament (S&D-IT)

Ms Debora Serracchiani explained that the trend in rail passenger transport usage had risen slightly since 2000 with rail market share at around 6% and 10% in freight. These low levels are proof of the need for improvement. Adequate financing and charging for rail infrastructure, better conditions for competition on the railway and new organisational reforms to ensure appropriate supervision are required as was put forward in the Commission proposal of September 2010.

Despite important elements of the recast ensuring greater competition between rail operators and better supervision by an independent regulator to ensure fair competition along with obligations on complaints handling, the primary goals have not yet been achieved. The new rules should provide a solid basis for financing of infrastructure contracts but it's up to Member States to guarantee the appropriate levels.

If we want to create a single market in railways, non-discriminatory access to rail infrastructure is essential. Member States must not use a one size fits all excuse to preserve their current model. More encouragement should be provided for freight transport across Europe to ensure competitiveness and reliability when compared to road traffic. The goal is a system where a train can access each station in Europe and circulate throughout the infrastructure and hence investment in the interoperability of the network, and also in rolling stock is required along with a real separation of the IM from the operator to remove cases of discrimination which exist in many countries.

The conclusion of the Advocate General appears to be that the holding system is compatible with the existing law. But imagine if in the aviation sector, each domestic airline had to ask the permission of their counterparts in other countries before being able to make any flights, the market would not be as competitive as it is now. Therefore the Commission and the Parliament must now act fast to achieve this goal.

Mr Hubert du Mesnil, President - EIM

Mr du Mesnil stated that a key role of separated IMs is to cooperate with their neighbours to form the backbone of European transport, over and above strict modal or national interests and is one of the main differences from those IMs that remain structurally linked to their national carriers.

Much focus has been given to equal access to rail networks but this does not guarantee good quality treatment. The efficiency and performance of our rail systems needs to be addressed and transparency is a pre-requisite for efficiency.

The optimal IM needs to adapt to the customer needs, it needs to be entirely above suspicion and must stand above any conflict of interest as well as being safe and efficient. This will create value for the whole system, including their clients, users and for tax-payers through control over efficiencies on costs, prices and capacity and be responsible for timetabling through to traffic management.

Mr Garry White, Head of European and Strategic Affairs - Network Rail

Mr White spoke about how the 4th package should contain important proposals intended to bring about full domestic liberalisation and that it should consider the optimal role for the IM including the activities of bodies around it such as regulators and ERA.

Experience from the UK showed that liberalisation opened up valuable opportunities for new and existing operators, promoted new services and investment for passengers creating a competitive market served by over 20 passenger operators, most having won public tenders with no one controlling RU. A number of reports demonstrating a positive correlation between liberalisation and competitiveness and tendering of franchises have been produced. Liberalisation since the mid-1990s has led to major growth in passenger demand (over a billion more passengers each year now), good levels of safety, new levels of punctuality and one of the highest levels of passenger satisfaction. A 5-year multi-annual agreement of €43 billion of funding to the UK infrastructure exists with over €10 billion for increased capacity and capability.

The challenge is to deliver the live railway network needed efficiently, sustainably and transparently as noted in the McNulty study published last year which recommended a wide range of change and reform (e.g. franchises were seen as too short and prescriptive) to achieve potential efficiencies of around 30% through evolution, but ruled out radical legislative change as disruptive and distracting. Flexibility for industry to determine, under transparent and regulated conditions, how independently to work together will benefit passengers, freight users, and taxpayers who fund the industry.

IMs and RUs can deliver efficiencies through better alignment of incentives, higher train utilisation, new technology, and stronger partnership working. Progress is being made towards building these strong partnerships through ‘alliances’ which are co-operative partnerships at a local level, based on transparently sharing information to create joint objectives with shared risk and reward benefits. Alliances are two separate organisations not the creation of new joint entities with both sides retaining legal, regulatory responsibility and final decision making power if there is a disagreement.

The 4th package should place the responsibility for levers of network and system performance in the hands of the IM, freeing RUs to focus on short term operational train performance driven largely by the life of their PSCs. As the amount of tendering increases, the IMs become

critical in taking a system-wide long-term view, bringing together better use of infrastructure and ways of maintaining it, investing in it, and balancing demand. Asset management, on a whole-life system basis, requires the ability to determine how the railway is maintained and renewed and how costs need to be controlled on behalf of customers and funders.

An independent IM becomes a natural system integrator transparently providing information to customers, coordinating research and development with suppliers, leading to innovation for the benefit of the industry rather than any one specific interest in a transparent, non-discriminatory and whole network manner. Planning meetings already take place in the UK to coordinate its priorities, innovations and making its planning of the network reflect cross-industry requirements.

Encouraging the right behaviours and providing IMs with the tools and flexibility, backed-up by effective and appropriate regulation should be the key to achieving the Commission's goals. Regulators with the right balance of powers should be allies in opening fair and efficient markets that are properly funded by Member States. Rather than re-inventing the wheel, the 4th package could seek to support on-going work to improve access to the rail network and adopt common approaches for example with a European Passport (although it may not be necessary if not crossing borders).

Overall the challenge is clear. Europe needs a robust and clear legal framework for the role of independent IM and to create a transparent system that unlocks innovation and growth, drives investment, and grows the railway.

Mr Rafal Milczarski, Managing Director - Freightliner Poland

Mr Milczarski discussed the EC`s White Paper 2050 objectives of getting 30% of road freight over 300 km to shift to other modes such as rail or waterborne transport by 2030, and more than 50% by 2050. Given that current rail freight modal share in WE countries is 13% and in CEE countries is 22%, we are a long way from achieving these objectives.

We therefore need changes to the IMs current functions which are railway traffic management and path allocation along with maintenance and development (this could for instance be excluded and be financed by the state) of infrastructure.

IMs should be non-discriminatory, transparent, efficient and adequately financed. There should be total separation of IM and transportation functions across public infrastructure. Maintenance of rail and road infrastructure should be financed by member states by equal proportions to eliminate modal discrimination (current proportions in Poland are 70% in road and 30% in rail). Rail share in EU cohesion fund spending should be at least 40% in the EU-15 member states and at least 50% in new member states in the period from 2014-2020. Railway investments are mostly for passenger transport and don't focus enough on bottlenecks. Approval boards (operator`s representation) which will make strategic decisions (maintenance and investments priorities, costs level, access charges, etc.) should be established and empowered.

Basic loading and discharge infrastructure and sidings must be made available by default by infrastructure owners. Access must no longer be restricted.

Mr Ludger Sippel - BAG-SPNV

Mr Sippel stated that rail authorities in various countries across Europe have good experience of competitive tendering of regional services and have been able to reduce the level of subsidies on rural, suburban and interregional lines by up to 15%, 23% and 47% while also improving the level of quality significantly. However infrastructure fees and costs for staff and energy are increasing, while public budgets for financing non profitable services are becoming tighter.

Railway infrastructure should be operated efficiently to provide the highest possible capacity at the lowest possible cost with fees reflecting the costs necessary for operating the infrastructure only. The infrastructure framework should encourage competition between RUs. Infrastructure development should take account of regional passenger requirements regarding capacity and availability to improve the offer, attract additional passengers and maximise the use of public budgets.

Problems exist linked to the operation of the infrastructure by integrated railway companies. Station and infrastructure fees (which are not transparent and include high overhead costs) paid by regional rail transport are too expensive compared to the costs they incur to the IM. Some package deals have led to overcompensated direct awards of PSCs and regional IMs may be more efficient than the incumbent company in some circumstances.

Infrastructure development projects to improve regional rail transport are difficult to initiate by passenger rail authorities, even if economically viable as often the incumbent IM focusses on the needs of RUs within the incumbent holding.

It is necessary to fully unbundle RUs and IMs in order to solve the structural problems of the integrated railway companies including transparency concerning business target planning, cash-flow management, terms on internal funding, financial flows across the group, cross subsidisation, domination and profit transfer agreements and discrimination in the development of the infrastructure based on incumbent RUs needs.

Workshop 3 – Rail and the value for society

(Moderator: Mr Alain Flausch, Secretary General – UITP)

Mr Flausch introduced the panel of speakers and then invited Eddy Liégeois from the European Commission to present some initial thoughts on the implications of the 4th railway package and how it could lead to domestic rail market opening.

Problems of poor service quality and operational performance exist in the domestic rail passenger transport market driven by low intra-rail competition, lack of competitive pressure, inefficient use of public funds and a variety of national approaches to the provision of access. The objective is to now improve the competitiveness of rail by further developing the single

European rail area to open domestic rail passenger markets, getting better value for money spent on public rail transport services and creating more uniform business conditions.

Initial thoughts suggest generalised open access with possibility to limit access when "economic equilibrium" of public service contract is compromised would be a sensible way to proceed along with mandatory tendering of public service contracts.

Member States, competent authorities and RUs should also be encouraged to set up integrated ticketing schemes at national level subject to non-discrimination requirements and use existing provisions on transfer of staff if deemed necessary.

Mr Philippe De Backer, Member of the European Parliament (ALDE-BE)

Mr De Backer explained that the perspectives of the 4th package (as was the recast in the process of reforming the railway market) have already been heavily discussed in the Transport committee.

Improving the level of service offered by RUs increases the attractiveness of transporting goods and passengers by rail. Passengers often prefer the car because rail transport has poor service, is not punctual and has limited inter modal connection. For freight, cross border transport is made difficult by Member States by different entry barriers, causing unreliability and delay so customers choose road instead, despite congestion. A move away from the one mode approach to focus on the multimodality for goods and passenger transport is now required.

Passengers and clients should be the first priority of the IMs and RUs again by opening all markets, separating RUs from IMs and being stricter on Member States so they implement the existing European interoperability and safety rules. The necessary European legislation on interoperability is already in place but there is a gap between theory and practise. It is unacceptable that Member States often create barriers to entry by making unreasonable demands for new market entrants. National regulators need to take action. The ERA should be the one stop shop that is needed to create a single market where national technical and safety rules no longer exist, and where only European law applies.

Opening the market will give passengers more choice leading to better service quality but needs to be accompanied by sufficient infrastructure financing and establishment of a cross-modal level playing field. A European framework should be established allowing robust RUs easier access to the open market. Such RUs should have their own corporate governance and be able to pursue their own Human Resource policy including regarding the transfer of workers from one company to another.

Member States play a vital role in the financing of infrastructure, and should make sure PSOs are in place and are efficient and effective, but should not interfere with RUs. Legal separation between the IM and the RU is the best way to create a level playing field with transparency, clarity and no more cross subsidies, leading to more efficient railway companies requiring less state funding.

Freight transport activity is projected to increase, with respect to 2005, by around 40% in 2030 and by over 80% by 2050. Passenger traffic would grow slightly less at 34% by 2030 and 51% by 2050. To cope with this increase, actions are necessary now such as high speed rail which is a sustainable alternative for shorter flights.

The TEN-T network aim is to create a unified transport network, removing bottlenecks, upgrading infrastructure and streamlining cross border transport operations for passengers and businesses on an intermodal basis. Railways are the backbone for these corridors.

Mr Christopher Irwin, Vice President - EPF

Mr Irwin stated that by 2050 the majority of medium distance passenger transport should go by rail and over 50% of road freight should shift to other modes such as rail and waterborne transport and demonstrated what this would mean in terms of changes to modal shift in passenger kilometres and rail tonnage.

Relative consumer satisfaction with rail services in the EU is relatively poor with many passengers considering rail travel a distress purchase rather than the mode of choice. Consumer needs must be addressed using market opening and the advent of competition as a driver, measuring satisfaction and monitoring outcomes and considering end-to-end journey requirements.

Public transport and spatial planning must be considered to address congestion. Investment in capacity needs to be enabled by providing dependable services offering integrated seamless interfaces between modes. Users must be empowered through effective information provision and beneficial market opening (TAP-TSI) opportunities to facilitate collective transport inter-availability, co-modality and through ticketing. The ERA should be reinforced to deliver interoperability with appropriate authority and resources to tackle some of the national duplication and reduce the cost base. Cost benefit analysis appraisals should be used as the lodestar for interventions to ensure the correct priorities are delivered.

Mr Michel Quidort, Director Institutional Relations - Veolia Transdev - EPTO

Mr Quidort explained that the development of a competitive market structure was vital for the supply of public transport services and that his members (9 largest private public transport companies in Europe) support the opening of the passenger transport markets for competition.

Since market liberalisation a number of countries have seen considerable benefits, the UK (additional 450 million passenger journeys, 20 billion passenger kilometres between 1987 and 2009), the Netherlands (20–50% gains through competitive tendering efficiencies), Germany (28% increase in train kilometres, 26% reduction in subsidy paid, 43% increase in passengers, 500 kilometres of re-opened lines and 300 re-opened and new stations), France (RhônExpress 55% increase in passengers in 19 months), Sweden (20–30% subsidy reductions through tendering and much higher customer satisfaction). Competition does not impact safety and employment conditions are not an issue. In the UK, train drivers appear to earn some 50,000 EUR per year, while in Germany the drivers of private operators appear to earn 86-94% of the wages of DB, the German incumbent. Sustainable working conditions are required with lean

management, empowerment, local responsibility and an ability to match the working time needs of local employees.

Competitive awarding procedures must become standard to provide value for society. This should be through a general obligation to tender for PSCs with a clear scope and no impairment of open access to ensure no restriction of market opportunities for new entrants. Direct award should remain an exception restricted to specific situations for limited duration. Tenders should be defined at local level and be coherent territorially and economically. Strong, independent and properly resourced national regulatory authorities should be maintained and co-ordinated through an EU network.

Mr Hans-Werner Franz, Managing Director - VBB

Mr Franz spoke about the social benefit of railways with a need to consider improving the regional economy, environmental aspects and synergies through networks. Competition for the regional and local rail market in Germany is still dominated by DB Regio with 76% of the market even though 91% of awards were made by competition.

Where competition exists benefits have included increases in patronage of up to 30%, improvements in quality and customer satisfaction, lower prices (market entry prices) and similar or reduced financing through cost reductions of 10-50%. Contracts should be at least 8 years (maximum of 15) with gross incentive contracts by taking risk preferred. Employment rises by competition by ensuring social standards and improvements in quality through more staff. However there is a potentially negative dynamic in the cost of open competition when compared to functional tendering.

Infrastructure monopoly is a barrier to market entry. The dominating role of DB in nearly all tending procedures creates a large distortion in the market. Interest in vehicle financing is slowly on the increase again but most banks possess little understanding of the SPNV market and therefore take a conservative approach which plays to DB's advantages of being a federal enterprise and therefore having strong credit-worthiness with more favourable credit conditions, plenty of transport contracts, low residual-value risks and direct access to financial markets.

The EU should improve interoperability, strengthen regulation and regional responsibility for infrastructure and improve open access competition to markets.

Mr Tim Gilbert, President – EPTOLA

Mr Gilbert expressed the views of the European Passenger Train & Traction Operating Lessors' Association, representing the interests of (private) train leasing companies that invest in and lease locomotives, passenger trains and wagons across Europe.

With an asset life of typically 30 – 35 years, lessors are long-term investors in the market who provide flexible access to rolling stock throughout the competitive process. What the market really needs is clarity, consistency and stability to allow continued growth.

Mr Ton Spaargaren – Gelderland province (NL)

Mr Spaargaren described how his province of Gelderland is able to grant concessions for train services and the experiences of competitive tendering of rail PSCs that have been gained.

There is a difference between liberalisation and market forces relating to Government control of market forces through tendering concessions.

This debate took place in the Netherlands when it was decided that the Dutch Rail Company should operate profitably. 32 train services (6 in the province of Gelderland) didn't fit the business case so decentralising to the region under the precondition that these train services would be awarded by tendering took place. The province vision relates to sustainable mobility that supports the economy, prosperity and stimulates social integration. Decentralisation contributed to this vision by placing more focus on passengers by developing successful products for existing and new customers such as commuters, business travellers, peak accessibility, schoolchildren, tourists and leisure shoppers.

The province invested about € 100 million during the last 10 years leading to an increase in train kilometres of 26% and yet still there is a lot of complaining about public transport which doesn't help, instead innovative and surprising solutions should be sought.

The tenders are not awarded exclusively on lowest price but are awarded to the most economically- advantageous tender. They are net cost contracts, i.e. responsibility for the industrial risk as well as the commercial risk is for the operator. The higher the income, the higher the reward, the lower the income, the more effort is needed by the operator. Criteria relating to the concession include quality, sustainability, price, travel information and marketing strategy.

A transport plan rather than a production plan is required with a creative marketing implementation plan (backed by the RUs money) to deliver innovative programmes for growth.

The management of the PSC is based on output criteria such as punctuality, reliability or complaints. Both the Province of Gelderland and the Arnhem Nijmegen city region have awarded intermodal concessions for train services that serve the same route. Agreements have been reached between the contracting bodies about cooperation in relation to passengers on product development, safety, marketing and fare offers, facilities including social safety and priority for solving bottlenecks. The

As the market becomes more dynamic, customers become more demanding and performance levels as well as quality increase. Cultural change relating to attitude and skills is required such as being decisive, using initiative, passion, perseverance, optimism rather than pessimism, market focus and willing to invest.

An intermodal public transport network is desirable with the train as the back bone and bus transport feeding in (easier if trains and busses are in the in the hand of one single operator) at transfer points such as Park and Ride facilities.

Plenary III: Presentation of Workshop findings

(Moderator: Mr Keir Fitch, Deputy Head of the Cabinet of Vice-President Kallas - European Commission)

Mr Fitch stated that having been in a number of the workshops it seemed clear that there was a desire to get the structure of the railway right once and for all. An interactive and competitive railway across all of Europe was in the best interests of everybody. Interoperability is vital to allow innovation through liberalisation and a level playing field is a pre-requisite for encouraging new market entrants.

Mr Fitch thanked all the delegates for their involvement in the workshop sessions and introduced the moderators who would summarise the key points debated in each session.

Mr Verslype summarised the discussion that took place in Workshop 1 on the proposals for a European passport for rolling stock approvals. Lots of questions had been raised and in particular 5 key points had come out of the lively debate that ensued.

Firstly there was an essential need for immediate action to prepare for the target vision of a single certificate, but also specific attention must be given in the short term to the better implementation of the current regime.

Secondly there was general agreement from all participants on the reinforced role of ERA but different possible solutions such as a one-stop-shop, partnership with NSAs or ERA as single authorising body. Thirdly the current legislation is generally considered sufficient by all participants (only one dissenting voice) and therefore should be "tweaked" rather than completely "re-written".

Fourthly an appeal body and procedure to settle conflicts regarding vehicle authorisation is required with appropriate responsibility ensured and fifthly the transparency of rules and processes should be improved and monitored.

Finally it was noted that there is a genuine enthusiasm in defending a Commission proposal which does not exist yet and indeed some participants lobbied for even more ambition and faster delivery.

Mr Paquet summarised the discussion that took place in Workshop 2 on the governance proposals for IMs. The debate had been lively with a healthy number of participants and the structural debate on bundling / unbundling was the most contentious of the issues discussed.

A broad consensus was agreed on the needs of a better governance relationship for optimal IM containing efficiency drivers.

How the IM relates to market signals and all RUs was discussed, as was whether incumbents are better placed to bring forward operational efficiencies. Arguments were raised about equality, impartiality and the vital need for a level playing field. In this respect it is difficult to foresee how one RU in the shape of the incumbent, can make fair decisions on others.

The EC now needs to make a proposal ensuring stability for the medium to longer term bearing in mind the dynamics of the potential tensions between equality and efficiency.

Mr Flausch summarised the discussion that took place in Workshop 3 on improving the competitiveness of rail and further development of the Single European Rail Area which involved mainly representatives from the UK, Netherlands and Germany, all of whom were broadly in favour. SNCF highlighted that backtracking took place when attempting to deregulate the US rail market and that it should not be forgotten that rail is a capital intensive industry. Where RUs have invested important sums on money in railway infrastructure they should be rewarded.

Domestic regional and local rail accounts for 90% of the market and as such changes to elements such as through ticketing to allow a doubling of ridership by 2025. High quality efficient transport is required from a sustainability viewpoint and a move to mandatory tendering of contracts with some open access provision would provide improved value through a reduction in public subsidies and benefits through improvements in service quality, infrastructure use and patronage.

Tendering should not only be dependent on price, otherwise if operators fail to make significant money by overbidding, loss-leading , or failing to deliver their initiatives, the market disappears with all other players and contracting authorities losing value. Barriers to proposed cross-border tenders should be removed.

There is a need to kill off some of the iconic myths such as social dumping or safety issues in liberalised markets as these are simply untrue.

Access to rolling stock is vital for market entry as is the need for consistency and clarity of regulations and stability in the marketplace. In addition the rules that already exist must be implemented. Integrated ticketing and workforce integration could lead to increased productivity.

Plenary IV: Presentation of the Eurobarometer survey and Conclusions of the Conference

Mr Matthias Ruete, Director-General - European Commission, DG MOVE

Mr Ruete thanked all the speakers and participants who shared their important thoughts and contributions on the Fourth Railway Package throughout the day. He introduced Olivier Coppens who presented some high level findings from the Eurobarometer survey which had been conducted across 25 Member States (EU27 except Cyprus and Malta) through approximately 26000 (around 1000 per country) face-to-face interviews in the respondent's homes.

The survey was designed to assess satisfaction with rail, attitudes towards competition in railways and the effects of competition. 46% of respondents were satisfied with the national and regional rail systems in their countries, with 36% unsatisfied. However significant variation exists between individual countries ranging between 67% and 18%. 71% of

Europeans supports more competition, with only 21% opposing. Again variations exist between individual countries ranging from 90% to 46%. However the overarching support is consistent across regular and occasional users.

The most important factors that could encourage Europeans to use the train are lower prices (43% of all respondents), better network with more routes and stations, more frequent and faster journeys, more reliable services and better rolling stock. Respondents believe for all these areas and for the safety of the railway network (which showed the highest variation of 76% to 21% between countries) that more competition in the rail market in their country will have a positive effect. There is also a very strong belief that more competition would lead to more innovative ways of buying tickets.

49% of respondents felt that public funding of the rail sector will increase or remain the same if there is more competition in the rail market whereas 34% believe it will decrease. The full survey is now available at http://ec.europa.eu/public_opinion/archives/ebs/ebs_388_en.pdf

Mr Ruete then summarised the three key workshop issues discussed; reducing the time of placing new rolling stock in the market; optimal IM for the future; and the value of public services by rail for society, will be properly addressed following a robust impact assessment and in-depth stakeholders' consultation.

The consultation has now concluded with questionnaires sent to more than 400 interested parties, several workshops organised involving the main market players and the European associations. A high level outline of the Eurobarometer passengers' survey across the EU with more than 25,000 respondents was presented earlier. All of these along with the conclusions of this conference will be considered when finalising the legislative proposals.

Despite its comparative advantages versus road, rail is not considered reliable enough, flexible enough, innovative enough and affordable enough. There is evidently a problem of efficiency which needs to be addressed. All stakeholders appear to realise that current regulatory arrangements are not optimal. Long and costly procedures and discriminatory access barriers have caused a lack of new market entrants across many Member States.

Stakeholders also seem to agree that a new concept of a single vehicle "passport" valid in all Member States issued by the European Railway Agency (in conjunction with national safety authorities) would improve efficiency. The ERA may also be tasked with the facilitation of the deployment of ERTMS, strengthened communication, improved economic evaluation and cost-benefit analysis, and an enhanced role in international relations and research.

Further improvement of non-discriminatory access to rail infrastructure through clarifying the relations between IMs and RUs (unbundling) are required to create the Single European Rail Area. We are finalising proposals for a regulatory framework for the market opening of domestic rail passenger services covering open access services and rail transport under public service contracts as well as their mutual co-ordination.

The costs savings from public tendering for competent transport authorities have been in the order of between 20% and 30% in the countries that have opened their doors to competition.

Taxpayers expect that rail infrastructure usage will be optimised rather than restricted to the benefit of specific commercial interests for historical reasons.

The discussions at the workshop made it also clear that domestic market opening requires integrating ticketing schemes and access to rolling stock to enable new RUs to participate in tender procedures.

At this stage, the Commission is listening to all ideas from all parties and has not yet adopted its own position. Once the various options are examined, we will publish our impact analysis.

ANNEX IX

GLOSSARY & ACRONYMS

The following definitions are based on existing EU law but do not have any legal value and only aim to provide a simplified explanation of the concepts used in the impact assessment and its annexes. These definitions only serve for the impact assessment.

'railway undertaking' means any public or private undertaking licensed according to EU law, the principal business of which is to provide services for the transport of goods and/or passengers by rail with a requirement that the undertaking ensure traction; this also includes undertakings which provide traction only;

'infrastructure manager' means any body or firm responsible in particular for establishing, managing and maintaining railway infrastructure, including traffic management and control-command and signalling; the functions of the infrastructure manager on a network or part of a network may be allocated to different bodies or firms;

'infrastructure users' means a railway undertaking or an international grouping of railway undertakings or other persons or legal entities, such as competent authorities under Regulation (EC) No 1370/2007 and shippers, freight forwarders and combined transport operators, with a public-service or commercial interest in procuring infrastructure capacity;

'railway infrastructure' means an area comprising railway ground area, tracks and track bed (including inter alia embankments, goods platforms, passenger platforms, crossings), engineering structures (covering inter alia bridges, tunnels, underpasses), level crossings, superstructure (covering inter alia rails sleepers, traversers), access ways for passengers and goods), safety installations, signalling installations, telecommunication installations, lighting installations, catenaries, contact wires and buildings used by the infrastructure department.

'infrastructure capacity' means the potential to schedule train paths requested for an element of infrastructure for a certain period;

'network' means the entire railway infrastructure managed by an infrastructure manager;

'train path allocation ' means the allocation by an infrastructure manager of the infrastructure capacity needed to run a train between two places over a given period;

'operator of service facility' means any public or private entity responsible for managing one or more service facilities or supplying one or more services to railway undertakings;

List of acronyms

ARAF	Autorité de Régulation des Activités Ferroviaires
ARF	Association des Régions de France (French Regions' Association)
CEF	Connecting Europe Facility
CER	Community of European Railway and Infrastructure Companies
CLECAT	European association for forwarding, transport, logistics and customs services
DB	Deutsche Bahn AG (German railways)
DG CLIMA	Directorate-General for Climate Action
DG COMP	Directorate-General for Competition
DG ECFIN	Directorate-General for Economic and Financial Affairs
DG ELARG	Directorate General for Enlargement
DG EMPL	Directorate-General for Employment, Social Affairs & Inclusion
DG ENER	Directorate-General for Energy
DG ENTR	Directorate-General for Enterprise and Industry
DG ENV	Directorate-General for Environment
DG MARKT	Directorate-General for Internal Market
DG MOVE	Directorate-General for Mobility and Transport
DG REGIO	Directorate-General for Regional Policy
DG SANCO	Directorate General for Health & Consumers
DG TRADE	Directorate General for Trade
DGCCRF	Direction Générale de la Concurrence, de la Consommation et de la Répression des Fraudes
ECJ	European Court of Justice
EEAS	European External Action Service
EEIG	European Economic Interest Grouping
EIM	European Rail Infrastructure Managers

EPF	European Passenger's Federation
EPTO	European Passenger Transport Operators
EPTOLA	European Passenger Train & Traction Operating Lessors' Association
ERA	European Railway Agency
ERFA	European Rail Freight Association
ERTMS	European Rail Traffic Management System
ETCS	European Train Control System
ETF	European Transport Workers' Federation
EU	European Union
FIF	Fédération des Industries Ferroviaires
FNAUT	Fédération Nationale des Associations d'Usagers des Transports
FS	Ferrovie dello Stato
GHG	Greenhouse gas
IA	Impact Assessment
IASG	Impact Assessment Steering Group
ICA	Italian Competition Authority
IM	Infrastructure manager
LS	Legal Service
NS	Nederlandse Spoorwegen (Netherland Railways)
NSA	National Safety Authority
NTV	Nuovo Trasporto Viaggiatori
OBB	Austran railways
OECD	Organisation for Economic Co-operation and Development
PPP	Public-Private Partnership
PSC	Public service contract
PSO	public service obligations
PZB	Punktförmige Zugbeeinflussung

RFF	Réseau Ferré de France (French Railway Network)
RFI	Rete Ferroviaria Italiana
RMMS	Rail Market Monitoring Scheme
RNE	RailNetEurope
RU	Railway undertaking
SG	General Secretariat
SMEs	Small and medium enterprises
SNCB	Belgian railways
SNCF	Société Nationale des Chemins de fer Français (National Community of French Railways)
TAP-TSI	Telematics Applications for Passenger Services Technical Specifications for Interoperability
TEN-T	Trans-European Transport Network
TFEU	Treaty on the Functioning of the European Union
UIC	International Union of Railways
UITP	International Association of Public Transport
UK	the United Kingdom