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**COMMISSION STAFF WORKING DOCUMENT**

# Impact Assessment of the Communication "Keep Europe Moving" Sustainable mobility for our continent. Mid-term review of the European Commission's 2001 Transport White Paper

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**COMMISSION STAFF WORKING DOCUMENT**

**Impact Assessment of the Communication on the European Transport Policy"Keep Europe Moving"**

## 1. EXECUTIVE SUMMARY

### Purpose of the document

This document concerns the main **orientations for EU transport policy for the coming years**. It also aims to meet the obligation of making a mid-term assessment of the Commission 2001 White Paper on European Transport Policy. It therefore contains an evaluation of the current political and transport situation, its impacts on transport policy and recommendations for future action. This document explains the mains steps that have been undertaken to prepare options for future transport policy and explains the proposed policy line.

### Impact Assessment procedure

In 2005 the Commission completed four **studies** to analyse the transport policy development implementation for the 2001 WP mid-term review and to provide background material for the future policy orientations. The main study (ASSESS) supported by the Commission Inter-service Steering Group supplied a full set of economic, social and environmental data. This study, complemented by other studies and other information has served to analyse the possible options for the future transport policy orientations.

Among the sources of information were the wide **consultations** that the Commission has held to define its proposal for the future policy lines. These consultations include the consultation of the Member States, a stakeholder conference and a big Internet consultation. All these consultations have provided a valuable insight into the current transport market situation as well as information concerning the expectations and constraints on the future policy lines.

### Problem definition

EU transport policy has for a long time concentrated on providing the mobility for the economy, businesses and people, in an efficient and sustainable way. Creating an internal European transport market has been a target, focusing also on sustainable development and solving the environmental problems related to increasing transport demand. Rising levels of congestion, pollution and $CO_2$ emissions and lack of safety, notably in road transport, have been the main problems addressed in recent years.

A prolonged period of sluggish economic growth and job creation in Europe , terrorist attacks, geopolitical tensions, and high oil prices, and increased globalisation among other developments, have shown the need to focus efforts on economic growth and job creation, notably to make a success of the enlargement of the Union.

The change in the general political context calls for a reorientation of the European transport policy towards these objectives, building on what has already been achieved. The renewed Lisbon strategy and Sustainable Development Strategy have set the scene for the transport sector.

**Objectives for future**

The future EU transport policy needs to provide the mobility needed for economic growth and social welfare while, in parallel, tackling the negative effects that increasing transport activity causes. The future transport policy needs to build on the achievements of the earlier policies as defined in the White Papers of 1992 and 2001, when responding to the new challenges. The analysis shows that policy orientation should best focus on: (1) offering a high level of mobility to people and businesses throughout Europe; (2) protect the environment, employment, the citizen and the passenger; (3) innovate to support mobility and protection by increasing efficiency and sustainability of the transport sector; (4) and strengthening the role of EU at the international level.

**Options for the future policy orientations**

Any future policy orientation for the Common Transport Policy should take into account past and current developments in this field. The assessment of the 2001 White Paper measures and the predicted impacts are taken as a starting point.

A first approach entails the continuation and implementation of the **current** actions already approved by the Institutions. Thus, as a result of the legislation of the past few years, a reasonable option would be to ensure the implementation of the measures agreed and those in the pipeline and not to propose new actions, a so-called "do nothing more option". The "current" option includes the completion of the internal market and its external projection, the implementation of the TENs, Marco Polo and the new Eurovignette Directive, the completion of the Single Sky, the establishment of an integrated maritime market, and the adoption and implementation of road safety and maritime security policies as running today.

A **"deepening"** option strengthening the main lines of the 2001 White Paper, especially regarding its objective of achieving targets for modal shift. In addition to the measures included in the current option, the deepening option would generalise measures based on road charging, including the external costs, to reinforce the modal shift from road to alternative modes. It would also comprise earmarking of charging revenues for new transport infrastructure, notably in rail.

Thirdly, a **"widening"** option seeks to tackle the new challenges identified, and seeks to complement the existing measures to tackle the old problems. Hence, it proposes a more comprehensive way and to make better use of the transport system to support economic growth. It entails a more diversified strategy that exploits the technological and organizational means. It is an approach based on maximizing each mode's own sustainability and efficiency, starting with the modes with the greatest role in transport activity. This widening approach, in addition to the measures in the current option, would include fields like a European maritime area, innovation and ITS, energy efficiency, urban transport, security, as well as intelligent logistics and enhanced airport capacities. This approach would also comprise of the stimulation of current policy lines in TEN policy, road safety and analyses of smart charging systems.

**Impacts of the policy options and their comparison**

The analysed three policy options have much in common, as they all build on the achievements of earlier policies. An assessment of a whole EU level transport policy is not possible in a detailed way as many measures also will be decided at a later phase. This impact assessment has analysed the main policy packages which belong to all the options and has drawn general conclusions from these. The annexed fiches describe the economic, social, environmental impacts of all policy packages, adding their impacts on the new Member States and describing the possibilities of the Union to intervene in this sector.

As a summary, it could be concluded that the current option has generally positive impacts on most policy targets, mobility, protection, innovation and international connections. Environmental impacts are encouraging though some problems would still prevail. In addition, a major shortcoming of the current option is that it would fail to meet the new challenges of security and energy efficiency. Congestion and safety would also need more attention.

The deepening option has similar impacts as the current one in most policy objective fields. It would achieve better environmental protection results but it would risk decreasing mobility and generally negative economic impacts. On the other hand, the charging measures should provide new funds to infrastructure investments.

The widening option would provide positive economic impacts, increased competition but also co-modality between transport modes. Environmental results could be comparable to those of the current option or even better, thanks to an active use of innovative technologies. Innovation and security targets score high in the widening option; other citizen related items should be at least at the level of the current option. The main risk of the widening option is the weak Union competence in many policy fields where new activities are proposed. The collaborative approach would therefore demand engagement from many stakeholders.

**Proposed policy line**

The proposed approach considers the continuation of the permanent objectives of the Common Transport Policy but based on broader range of policy tools on top of the implementation of the current measures, based on the policy option called widening detailed above.

The overall contents of the transport policy could be presented in the following main fields of actions : (1) ensuring the well functioning of the internal market; (2) safe, secure services to citizens comprising activities in working conditions, passenger rights, safety in all modes; urban transport and security at large (3) energy use, notably to promote energy efficiency and alternative fuels; (4) infrastructure to ensure efficient use of infrastructure and new construction as needed, (5) innovation and new technologies to solve congestion, to cut emissions, to improve transport efficiency and logistics throughout the supply chains (6) mastering globalisation.

Around all these main field of actions several possible policies and measures have been identified. The specific decision on each of these measures would be subject to separate impact assessment.

Finally, the policy design and its implementation should need to be continuously fine-tuned on the basis of public consultation and in-depth assessments. A road map of measures could be established and regularly updated. The road map would comprise all possible tools and measures, from legal measures to promotion.

## 2. PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

### 2.1 Procedural issues

EU transport policy requires regular follow-up and assessment to ensure that it is in line with the more general policy orientations and also to ensure that it meets these objectives. Transport policy has been the subject of periodic assessments often in the form of White Papers. The latest White Paper dates from the year 2001 and has been the main policy orientation since then. The 2001 White Paper also included an obligation to undertake a mid-term review.

The Communication – Keep Europe Moving – aims to analyse the transport policy drivers for the coming years and propose new orientations for EU transport policy. In parallel, it seeks to fulfil the obligation to provide an assessment for the above-mentioned mid-term review.

These new policy orientations are evaluated here at the level of policy packages, with the understanding that all future measures will be the subject of specific, individual impact assessments following the Commission's guidelines.

### 2.2 External expertise

During 2004 and 2005 the Commission services completed four **studies** to analyse the transport policy development and its implementation for the 2001 WP mid-term review and to provide background material for the future policy orientations. The main study (ASSESS), supported by the Commission Inter-service Steering Group, supplied a full set of economic, social and environmental data. This study, complemented by other studies and other information, has served to analyse possible options for the future transport policy orientations.

The ASSESS project, which is summarised in this report, was created to provide technical support to the Commission Services for this mid-term assessment. In particular, the ASSESS project has assembled comprehensive information at the European level to carry out an assessment of the achievements to date, the possible policy implementation scenarios to the year 2010, and the longer term prospects to the year 2020.

These scenarios have been analysed with a set of models, of which the core one was the SCENES transport model. The SCENES output then was processed into TREMOVE (vehicle stock, emissions, fuel consumption and government revenues), CGE (regional welfare), SLAM (logistics), a noise model, the SWOV road safety model and a macro-economic model and the ASTRA model on macro-economic impacts[1].

[1] The ASSESS study and references to the other studies mentioned can be found at: "Assessment of the contribution of the TEN and other transport policy measures to the mid-term implementation of the White Paper on the European Transport Policy for 2010" (2005). http://ec.europa.eu/transport/white_paper/mid_term_revision/assess_en.htm

## 2.3 Consultation of interested parties

### *2.3.1 Public consultation*

**The Commission services's public consultation** concerning the review of the 2001 Transport White Paper took place via the Internet from 28 October to 31 December 2005. It was based on a presentation of recent transport developments and a questionnaire related to the 2001 White Paper measures and their impacts[2].

This consultation has been a success in terms of the number of contributions received and the quality of the comments.

187 contributions have been received, totalling more than 1650 pages.

These contributions come from various associations (at international, European and national level) representing all transport sectors (air, maritime, inland waterways, road, rail, urban transport, logistics and intermodality), from employees and users' associations, from business and industry, from environmental associations, from local, regional and national authorities, from local associations, from research organisations, universities and consultants, and from citizens, as shown in the following table. They provided the European Commission services with very valuable information on transport issues and sectors. The main critical issues for the stakeholders and their main priorities for the future are detailed below.

[2] A report on the public consultation and a table summarising the participant's comments can be found at: http://ec.europa.eu/transport/white_paper/mid_term_revision/2005_12_31_public_consultation_en.htm

**Box 1**

| Contributing categories | Number of contributions |
|---|---|
| Modal organisations: | |
| Air | 8 |
| Maritime | 11 |
| Inland waterways | 7 |
| Road | 23 |
| Rail | 13 |
| Logistics & intermodality | 12 |
| Urban transport | 8 |
| Users | 4 |
| Industry and business | 24 |
| Environmental NGOs | 7 |
| Authorities: | |
| National | 3 |
| Regional | 19 |
| Local | 3 |
| Local and regional associations | 13 |
| Employees associations | 2 |
| Research – universities - consultants | 20 |
| Citizens | 11 |
| **TOTAL** | **188** |

*General comments*

Generally, there is support to move market integration forward and to pursue economic growth as well as sustainable mobility. **Mobility** as a support to economic growth and employment appears important to most contributors. Transport is seen as a cost to the economy that needs to be minimised. At the same time, it is evident that Europeans consider efficient transport services to be part of their everyday life on which they want to rely. Mobility in urban areas is not only related to public transport (bus, tram, metro) but also to the development of transport modes such as walking and cycling.

Various stakeholders in the different sub-sectors have indicated the need to improve the **functioning of the market**. In the **railways** sector, the infrastructure managers suggest effective regulatory bodies and full separation between infrastructure managers and operators. The railway companies recommend to further develop framework contracts between infrastructure managers and operators (e.g. for securing the allocation of capacity). In the **maritime** sector, ship owners, shippers and maritime ports call for progress in the area of port policy to increase efficiency. **Inland waterway** operators call for further integration of their activities in the internal market, inter alia by removing administrative barriers. For the **aviation** sector, it is important to take further action to promote better competition.

Stakeholders, including authorities, expressed serious concerns regarding **logistics**. These related mainly to the necessity to place logistics at the centre of the EU's strategy and to focus on the entire transport chain and logistics - rather than single modes - in order to create efficient transport corridors. There were also suggestions for improving the efficiency of the

European logistics chains, e.g. to update the rules regarding the weights and dimension of trucks and to introduce new modular concepts for road vehicles, to harmonise containers to promote combined transport, and to support the development of important logistics platforms.

The development of **transport infrastructure** remains an important issue for many stakeholders including regional authorities from peripheral regions (road, rail, ports, inland waterways, airports). In particular, there were some suggestions concerning the development of airport capacity at hubs and the implementation of dedicated rail networks for freight. The development of financial instruments (PPPs, loans, EIB, etc) to support and to foster investment in new infrastructure is also a major concern. Stakeholders also emphasised the need to make progress in the field of **infrastructure charging**. Generally, the revised Eurovignette directive was considered to be a step in the right direction but further initiatives may be needed to ensure that prices better reflect real transport costs.

The need to reinforce the **social dimension of transport** was also underlined. This was indicated by various stakeholders, not only the employees' associations. In particular, they mentioned the need to harmonise the conditions of competition, to ensure compliance with labour and working conditions and to ensure proper sanctions for non-compliance with EU legislation.

The **protection of citizens** emerges as an important topic for many contributors, in relation to pollution, safety and security issues. Concerning **pollution**, there is a recognition of the efforts made by the road vehicles industry, but efforts should continue. On **safety**, associations want a more urgent and robust approach by the EU on transport safety. Efforts should be reinforced including enhanced safety in vehicles and infrastructures as well as EU maximum speed limits and better Europe-wide enforcement of legislation. **Security** should now be an integral part of the Common Transport Policy. For the disabled association, the critical issues are related to better accessibility and usability of the public transport systems in the EU. They suggest mandatory requirements on accessibility to rail infrastructure and a fully accessible travel chain to be examined from a holistic perspective.

Various regions have expressed their concerns about their **peripheral and remote situation**. The variety of challenges in the transport sector caused by regional differences in Europe is accentuated by the enlargement of the European Union. It indicates that the regional perspective at the European level should be reinforced. It is important to avoid general EU transport solutions and measures that contribute to increased transport costs and reduced competitiveness of industries in the peripheral and remote areas in Europe. These regions have indicated the need to ensure EU financial instruments to address this situation, and to foster regional and local projects including road, rail, airports, short sea shipping and motorways of the sea. Some regional and local stakeholders called for more efforts in **sensitive areas** such as mountains and urban zones.

The need for greater **innovation and R&D** is also an important issue mentioned; in relation not only to road vehicles and safety, but also to other issues including efficient intermodal transport, urban transport systems, inland waterways infrastructure and vessels. The need for further use of ITS technology in transport has been stressed by stakeholders as a way to increase the reliability of logistic chains.

Stakeholders indicated that **globalisation** and growth in global trade call for new actions for the development of international transport. They suggested the reinforcement of the EU's

presence in international organisations dealing with aviation, maritime and rivers issues. For inland waterways, some proposed bringing the existing river conventions into the EU framework. In general, they indicated that the development of infrastructure (TEN-T) as well as efficient border crossing between EU and neighbouring countries is necessary to ensure smooth traffic flows.

The need for **better regulation** and for the promotion of **alternative instruments** (exchange of best practises, etc) has been mentioned by various stakeholders (aviation, maritime, road). Various stakeholders also expressed the need for further Community harmonisation at technical, social and fiscal level. They stressed the need to implement the existing legislation. The consultation of stakeholders and their involvement is also an important issue for most of the contributors.

*2.3.2 Member State consultation*

**A consultation meeting with Member States** took place on 13 July 2005. While there was no specific consensus, the following views had a relatively large number of supporters:

– Many new and peripheral Member States do not identify **congestion** as a major problem for them but are more concerned about accessibility.

– Difficulties in the **road transport** sector and the increase in competition in international road freight transport. Hauliers operate with very small margins. In spite of the fragmented industrial structure prevailing in most countries, a trend is starting to emerge towards bigger companies.

– The transport activity of **railways** is mixed, with some countries gaining traffic and others losing it. The need is felt to ensure that legislation in the railways sector is properly implemented. The financial situation of railway companies is stable in some countries (mostly EU-15) and weak in others (mostly new Member States).

– Traditional **aviation** flag carriers are in a stable financial situation in spite of the invasion of low cost carriers, which also stimulates the regional airports.

– Several new Member States have identified substantial needs in terms of **road infrastructure**, for which they are confident that EU funds will be made available. A number of countries believe that their TEN priorities will be achieved in time.

– A minimum level of consensus was reached on only a few new actions, namely to strengthen financial support to innovation and to **new technologies** like the use of telematics, Galileo, Vessel Traffic Management and Information Systems (VTMIS), eSafety and SESAR.

– Concerning **road safety**, several countries favoured more structured exchanges of best practices, education, and road rescue services, while others called for new intelligent technologies in vehicles and limiting excessive speed and driving under the influence of alcohol.

### *2.3.3 UK Presidency's Member State consultation*

The **UK Presidency** also organized an Internet consultation between EU Transport Ministries on the mid-term review of the Transport White Paper. This consultation took place in September 2005. All MS and candidate countries (BG and RO) participated.

The Commission (Mr Barrot) gave a contribution and indicated the major changes since the adoption of the WP: oil prices, low economic growth, enlargement and security.

The UK Presidency (Mr Alistair Darling, Secretary of State for Transport) summarised the various interventions in a closing statement. The statement focused on five main issues: sustainable development, growth and jobs, enlargement, road safety and citizen's Europe (globalisation). The UK Presidency also mentioned the importance of geographical conditions (peripheral/territorial dimension) for future transport policy development.

### *2.3.4 Stakeholder conference*

**Stakeholder conference of 1st December 2005:** The objective of the conference was to assemble the stakeholders at one and the same event, to take stock of the evaluation exercise of the White Paper and to collect their contributions in order to take them into account when preparing the review. A broad range of representative associations, about sixty, participated in this conference including sectoral organisations of the various modes and aspects of transport, user and consumer associations, and trade unions. Representatives from other Commission departments also took part in the event.

All stakeholders agree that transport is a major element for the future, for competitiveness and for exchanges between citizens. It appeared that the various activities that have begun as a result of the White Paper on transport have progressed well but are not yet completed.

The vast majority of stakeholders agree that decoupling global growth from the growth of transport must not be sought. It seemed obvious that the negative effects of transport on the environment and road accidents must be decoupled from the growth of the transport sector.

The various modes of transport should converge and be complementary. In this spirit, stakeholders agreed that within the trans-European networks, the railway, inland waterway and the maritime infrastructures should be employed more.

There must also be investments. The Financial Perspectives should devote a significant budget to trans-European networks, not far from the Commission's 2004 proposals for a tripling of spending, i.e., about 20 billion €.

In summary, a few examples of stakeholders' messages were as follows:

- Road transport: In social terms, the rules governing access to the profession should be more clearly specified (social dimension). As regards infrastructure, the network needs to be completed.

- Railways: The Commission must monitor and ensure compliance with the implementation of the rules that are adopted. The results of pilot projects with dedicated specialised corridors must be taken into account. The standardisation of the markets is ongoing

(certification, approval, and training). However, the railways sector still has a lot of work to do to adapt to all the demands made of it.

- Air transport: There is recognition of the Commission's global responsibility in international organisations. There are airport capacity problems.

- Maritime transport: There is also recognition of the role of the European Union and of the Commission as global actors in the international organisations, without, however, neglecting the Member States' expertise. However, if we wish to have a Community maritime area, the development of all port activities must gradually be better identified. On this subject, a Green Paper on ports policy would be welcomed because the situation of ports is evolving rapidly and traffic is growing as part of globalisation.

- Inland waterways transport: inland waterways should be brought into the Union's regulatory framework to a larger extent. There is a demand for a European agency in this area. There is also a need for a coordinator.

- Logistics/intermodality: There are three keys to efficient logistics: the time factor (respecting the timetables), efficient transhipments between modes of transport, and training.

- Urban transport: A balance needs to be achieved between the calls for subsidiarity and the demands on the Commission to try to stimulate reflection on the best modes of urban transport; but stakeholders must be the driving force in this. The problem of transport in urban areas is now a major challenge for society and it is normal that the EU is involved while respecting subsidiarity and the role of the cities.

It was recognised that all modes of transport should gradually improve their respect of users' right and in particular for users with mobility difficulties or who are the weakest.

There must be a social dimension in transport. However, there are many difficulties; the social dialogue is not the same in all the sectors, but it must make progress in certain areas.

It was also underlined that it is fundamental to continue working in partnership in a spirit of dialogue with each sector but most of all with a common European interest so that the European transport policy continues developing.

*2.3.5 Energy and Transport Forum consultation*

The **Energy and Transport Forum**[3] produced an Opinion. The Forum supported the political direction that the Commission had sought to follow, but it was disappointed with progress, both at the EU as well as at Member State level.

However, the Forum noted that circumstances had changed since the White Paper was published, and agreed that this must be reflected in new or changed policies, and in much greater success in implementing them.

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[3] The European Energy and Transport Forum is a consultative committee created by the European Commission composed of high level representatives from a large range of sectors and activities in the fields of energy and transport.

The challenges now are to devise and implement policies which can accommodate the ever-changing demand of European trade and from the public for mobility. In pursuit of the objective of a Europe which is competitive on the world market, but complying with environmental and social targets and providing freedom of movement, the Forum listed a summary of the actions it recommended the Commission to pursue:

- Develop legislation on passenger rights in surface transport.

- Ensure TEN-T expenditure is consistent with the White Paper policies.

- Move quickly and consistently towards a pricing structure for transport in which the users pay the full costs, internal and external, of the movement of goods or passengers and, at least until this is achieved, enable revenue or tolls from the use of roads to be used in assisting with the financing of railways or waterways on TEN routes.

- Provide market conditions and infrastructure in order to encourage the use of railways, including taking enforcement action as necessary. Implement a new railway package to require total separation of rail infrastructure from train operations, improve quality of rail freight by implementing the publication of a EU-wide system of performance monitoring.

- Set up a mechanism for evaluating EU airport capacity and enhance EU and Member States' regulatory roles on airports. Develop a comprehensive EU external aviation policy. Introduce a more prescriptive scheme for reducing carbon emissions from air transport that will move towards that sector paying the full external and internal costs that it generates.

- Increase significantly the EU road safety programme and resources, particularly to meet the additional needs of the EU.

- Review the "services of general economic interest" status of urban transport, on the one hand from a social inclusion point of view and on the other hand as a significant issue in the development of a competitive environment in granting licences to operators. Urban transport is also a very significant factor in improving air quality by reducing mass transportation by private vehicles and traffic congestion in urban areas.

- Develop an overall strategy for security across all modes, and determine who pays, ensuring that this does not introduce distortion of the market between modes. Develop proposals for a European insurance scheme for security-related risks.

### *2.3.6 Conclusions of the Member States' Joint Expert Group on Transport and Environment*

Some members of the Joint Expert Group[4] considered that the relevant kind of decoupling was that which could be achieved by reducing the adverse effects of transport operations on the environment rather than decoupling between transport volume and GDP. However, addressing overall transport demand is also important because of the link between volume and environmental impacts. Transport provides added value for other sectors, e.g. industry and

[4] The Joint Expert Group on Transport and Environment is an advisory body for the Commission's DG Energy and Transport and Environment composed of experts from the ministries responsible for transport and for environment in the EU Member States.

retailing. Therefore, those sectors have to take their fair share as well in reducing the need for transport. Another point of interest is the unexpected and counterproductive effects of other EU policies (e.g. fiscal and regional policies) on decoupling. The aim should be an integrated cross-sectoral approach. Finally, some Member States mentioned their difficulties with designing grant schemes aiming at decoupling compatible with the Community guidelines for state aid. Therefore, there is a need for revision of the state aid guidelines.

In relation to modal shift, the group pointed out that all modes of transport have to improve their environmental performance, acknowledging the different levels of efforts made in the past and the different degrees of improvement required. Also the different situation in different regions and the different infrastructure requirements have to be taken into account. Even though modal shift is not in all circumstances an efficient way to improve the environment, it is nevertheless important from the point of view of congestion. One option to improve the environmental performance of transport might be the introduction of sector-specific goals. One has to differentiate between Old and New Member States. Maintaining a modal share for rail transport of 35% in the candidate countries in 2010 will not be achieved by all new Member States. In order to achieve modal shift, funding is necessary, e.g. Marco Polo, but such funding must be conditional on actual improvements, particularly regarding environmental performance. It is important that maritime projects are eligible under Marco Polo. Non-motorized modes of transport (cycling, walking) and public transport have to be taken into account, especially in cities, as an alternative to car use.

There was broad support for charging as a way to reduce external environmental costs, congestion and safety, covering all modes of transport. A point of interest in this context is the public support for pricing. An EU pricing scheme should take into account the subsidiarity principle and the different needs of Member States (central – peripheral). Harmonisation of urban pricing schemes was suggested. A harmonised system for the identification of vehicles will reduce the costs of charging. The extension of emission trading to include transport should be studied.

Cleaner technology and consumer behaviour/awareness are very relevant issues but they were not extensively dealt with in the White Paper. Points that were raised: driving behaviour and in-car instruments, the fact that cars are getting bigger and less environmentally friendly, noise (e.g. silent tyres), chip-tuning, road safety and dependence on oil. The relationship between safety and eco-driving was underlined. Alternative fuels should be promoted more actively.

There was broad support for more EU action on urban transport and recognition that many urban transport problems are in fact common across Europe, not only because of the environmental problems in urban areas but also because of congestion and safety. However, the subsidiarity principle has to be the basis for cooperation, also within Member States. In order to reduce the need for the use of cars, there have to be alternatives (e.g. public transport, non-motorized transport).

## 3. PROBLEM DEFINITION

### 3.1 Transport and mobility in Europe

#### *3.1.1 Importance of transport sector in EU economy*

A description of the Union's transport system will help establishing a diagnostic of its main problems and opportunities. Transport is an important sector in the European economy. With all its related sectors it is estimated to cover up to 7 % of EU GDP. It employs in total over 10 million people (transport services, equipment and infrastructure).

The contribution of transport to added value for EU-15 in 1999 is shown in Table[5].

**Table 1: Contribution of transport services and equipment to GDP**

| | Total | Inland Trans. | Water Trans | Air Trans | Support act. | Motor vehicles | Ships, Boats | Aircraft Spacecraft | Railroad equipment |
|---|---|---|---|---|---|---|---|---|---|
| EU-15 | 6.55 | 2.35 | 0.20 | 0.47 | 1.39 | 1.45 | 0.16 | 0.41 | 0.12 |

Source: EU Productivity and Competitiveness study: an industry perspective.

To the above figures could be added the contribution of transport civil engineering which belongs to the construction sector (added value 5.76%) and the transport services that firms in all sectors provide for themselves (i.e. with their own trucks and other vehicles) and which appear under the added value contributions of those sectors.

The EU is the first world exporter of transport equipment and the second importer after the United States. This sector of activity has at EU-25 level a structural trade surplus which was about 55 billion euros in 2003. In 2003 transport equipment accounted for 16% of the exports of the Union and 9% of its imports. The Union holds 16% of the world car market and 26% of the aircraft world market.

According to the European Automobile Industry Report 2005, the European car manufacturing sector invests 5% of its turnover, i.e., more than € 19 billion per year into RTD and claims to have the biggest share in overall RTD spending in Europe (24%). The aeronautics sector spends more than € 9 billion per year, which amounts to 15% of its turnover.

Civil engineering industries also rely heavily on transport infrastructure procurement. The Union invests almost 1% of its GDP in transport infrastructure. This has fallen in recent years and for EU-15 the figure is now 0.8% of GDP. Over the last decade, it reached a peak early in the 90's at 1.2%, levelled off around 1.05% late in the 90's before falling below 1%. The 10 Member States new have shown a drastic increase in transport fixed capital formation since the mid-90's to reach more than 1.2% of GDP in the year 2000.

Europe is the biggest tourist destination in the world, but it is also the leading point of origin of tourist travel to the rest of the world. Transport market opening and better infrastructure

[5] EU Productivity and Competitiveness: an industry perspective. Mary Mahony and Bart van Ark for the Enterprise DG of the Commission

have improved accessibility to tourist destinations. In 2004 expenditure on tourism in the 25 EU countries was 223 billion €.

The transport sector is a dynamic sector from an economic point of view, which has managed to attain rapid productivity growth. Annual labour productivity in the transport services sector has grown much more than in the rest of the economy, although often less than in the transport sector of the USA, shown for comparison.

**Table 2: Total annual labour productivity growth**

| | 1979-90 | 1990-95 | 1995-01 |
|---|---|---|---|
| Transport EU-15 | 2.8 | 3.8 | 2.3 |
| Total economy EU-15 | 2.2 | 2.3 | 1.7 |
| Transport USA | 3.9 | 2.2 | 2.6 |

Source: EU Productivity and Competitiveness study: an industry perspective.

Productivity gains were highest in the first half of the 1990's. Transport services show better results than transport equipment production: their gains in productivity are consistently higher than in the USA. Unfortunately, for the construction of transport equipment the situation is practically the opposite. In the EU-15, air transport services recorded the higher productivity gains, followed by water transport. Inland transport shows also important gains although it is not possible to know the relative contribution of road and rail. The strong productivity advantage in EU air transport services over the USA ceased after 1995.**Table 3: Transport annual labour productivity growth by sectors**

| | EU-15 | | |
|---|---|---|---|
| | 1979-90 | 1990-95 | 1995-01 |
| Inland Transport. | 2.6 | 3.0 | 2.4 |
| Water Transport. | 3.1 | 5.7 | 2.6 |
| Air Transport. | 3.4 | 9.5 | 3.6 |
| Support Activities | 3.2 | 3.7 | 1.5 |
| Motor vehicles | 4.0 | 3.3 | 0.5 |
| Ships and boats | 6.1 | 1.3 | 0.8 |
| Aircraft, spacecraft | 4.7 | 2.8 | 0.5 |
| Railroad equipment | 3.8 | 4.1 | 1.0 |

Source: EU Productivity and Competitiveness study: an industry perspective.

### *3.1.2 Transport demand developments*

World trade is an essential driver for transport. Even if the Union has grown less than other world areas, it has to some extent participated in the expansion of world trade with both extra-EU-25 exports and imports growing at over 9% in 2004 after three years of slow or negative growth. Meanwhile world trade grew by 5% in 2003, 9% in 2004 and 6.5% in 2005.

EU enlargement has had a big impact on all the drivers of transport demand. Overall transport growth at EU-25 level between 1998[6] and 2004 has been of 18% for freight and 11% for passengers.

The growth in rail freight transport activity (+6%) between 1998 and 2004 is one third of that for road freight transport activity (+19%) in EU-15. In NMS-10 it has declined (-3.5%), but less than might have been expected from past trends. In passenger transport, most modes have grown slower than passenger car transport and much less than aviation. For EU-15, railways grew somewhat less than private car traffic while tram and metro transport grew more than the private car. Passenger car transport is growing at twice the rate in EU-10 as in EU-15. The most important driver of changes in passenger transport in the NMS is the new demand generated by private car ownership. The following tables describe the recent trends in transport growth:

**Table 4: Overall transport activity growth per year**

| EU-25 % pa | 2000 | 2001 | 2002 | 2003 | 2004 |
|---|---|---|---|---|---|
| GDP | 3.6 | 1.8 | 1.2 | 1.2 | 2.4 |
| Freight | 4.4 | 1.8 | 1.5 | 1.2 | 5.1 |
| Passengers | 2.3 | 1.5 | 1.4 | 0.9 | 1.7 |

[6] Last year taken into account in the 2001 White Paper, on which the modal split objective was based.

**Table 5: Freight total growth**

| Growth 1998-2004 | Road | Rail | IWW | Pipelines | Sea | Total |
|---|---|---|---|---|---|---|
| EU-15 | 19.00 | 6.0 | 3.4 | 2.6 | 21.6 | 17.8 |
| EU-10 | 40.4 | -3.5 | -15.8 | 15.0 | 21.7 | 19.9 |
| EU-25 | 21.5 | 2.7 | 2.7 | 6.0 | 21.6 | 18.1 |

**Table 6: Passenger transport total growth**

| Growth % 1998-2003 | Passenger cars | Powered 2 wheelers | Bus & coach | Railway | Tram and metro | Air | Total |
|---|---|---|---|---|---|---|---|
| EU-15 | 8.7 | 11.4 | 3.3 | 6.7 | 11.1 | 21.0 | 8.7 |
| EU-10 | 18.5 | 3.7 | -3.7 | -3.3 | 1.7 | 29.4 | 12.0 |
| EU-25 | 9.5 | 10.9 | 2.2 | 5.4 | 8.8 | 21.4 | 9.0 |

### *3.1.3 Projections for future*

According to the forecasts produced by the ASSESS study (Annex 3), the overall freight demand growth for inland modes (i.e. road, rail and inland waterway) when measured in tonne-kilometres is likely to be near 24% for the period 2000-2010, and about 50% for 2000-2020.

Instead of the previous expectations regarding growth in demand (50% growth of road freight transport between 1998 and 2010 for EU-15, the most recent estimates foresee 26% for 2000-2010, and about 55% for 2000-2020 (EU-25). This is due, among other things, to low economic growth, high oil prices and the first effects of the social and pricing measures on road transport.

Short sea shipping demand, when measured in total tonnes received at the ports, is likely to grow by 16 and 36% respectively for 2010 and 2020 and when measured in tonnes km it will grow by 24% and 59%[7]. Rail tonne-km growth is set to be between nearly 8% for 2000-2010, and about 13% for 2000-2020.

For passenger transport the growth figures would be 17% (2010) and 35% (2020). The figures for private car transport are 17% and 36%. Passenger rail gets better results than freight railways thanks to High Speed Trains (HSTs) and commuter lines: it will grow 11% by 2010 and 19% by 2020.

Passenger aviation is the mode that grows the most, growing by half between 2000 and 2010 (51%) and doubling by 2020 (+108%). The following table summarises the key trends foreseen as a baseline:

[7] Excluding in both cases liquid bulk and Ro-Ro traffic

**Box 2**

| **Most likely 2000-2020 transport activity growth in EU-25** | |
|---|---|
| - GDP | 52% |
| - Overall freight transport | 50% |
| - Overall passenger transport | 35% |
| - Road freight transport | 55% |
| - Rail freight transport | 13% |
| - Short Sea Shipping | 59% |
| - Private car | 36% |
| - Rail passenger transport | 19% |
| - Air transport | 108% |

There is a predominance of road transport which is shared with short sea shipping in the case of freight and which is absolute in the case of passenger transport in respect of the private car. This will continue during the coming years and up to 2020, as both the following charts show.

**Chart 1**

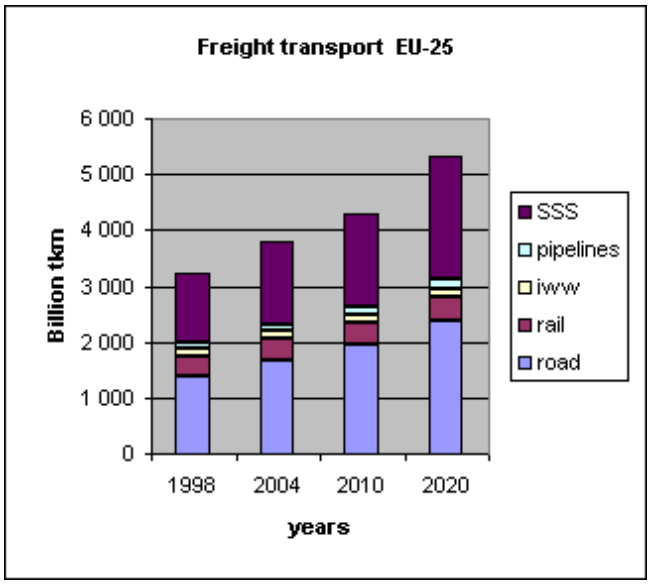
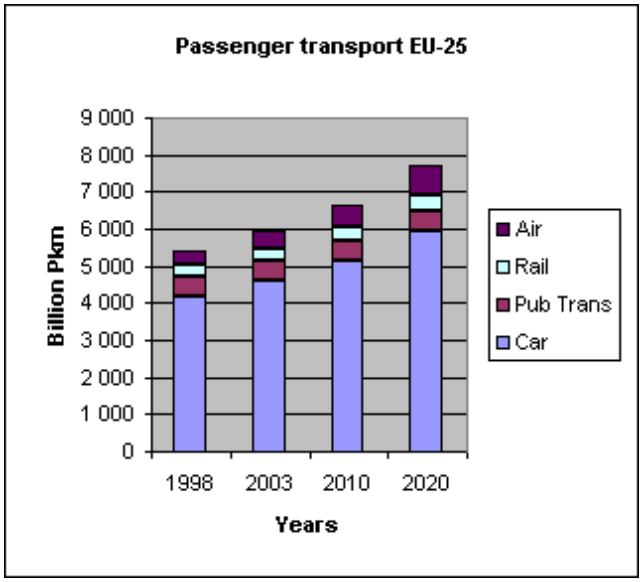


**Chart 2**



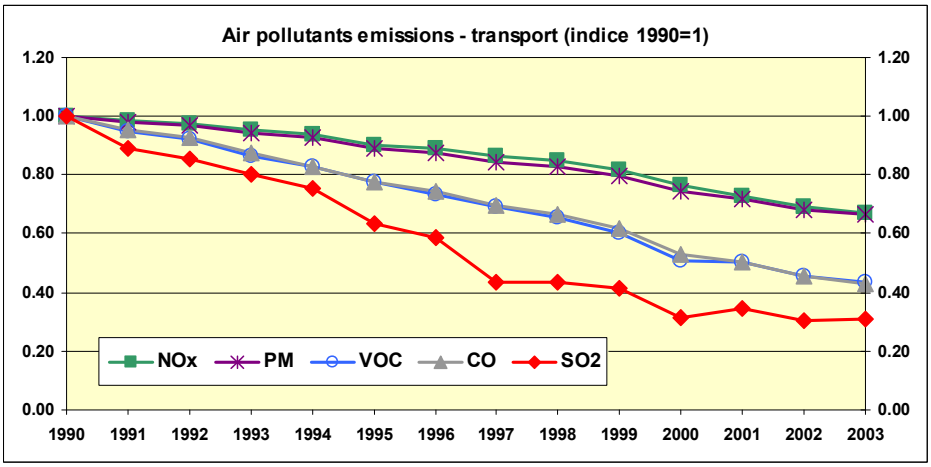

*3.1.4 Impacts of transport*

Transport produces external effects that have an impact on most of the population, notably in urban areas. The total social cost of road provision and use (excluding vehicle operating costs) amounts on average to some 4% of GDP in Western Europe. The social costs are divided as follows: infrastructure costs 1.5%, congestion around 1%, external costs of accidents 0.5%, air pollution 0.6%, noise 0.3% and global warming 0.2%[8].

Concerning environment protection, major improvements have already taken place. As showed by the following graph, the overall levels of emissions from transport have been cut by between 30% and 70% since 1990. This trend is all the more remarkable in that in the meantime, traffic has been growing continuously. The overall level of air pollutants has decreased in the last few years thanks to various programmes such as Auto-oil, EURO standards and CAFE.

[8] UNITE study 2004.

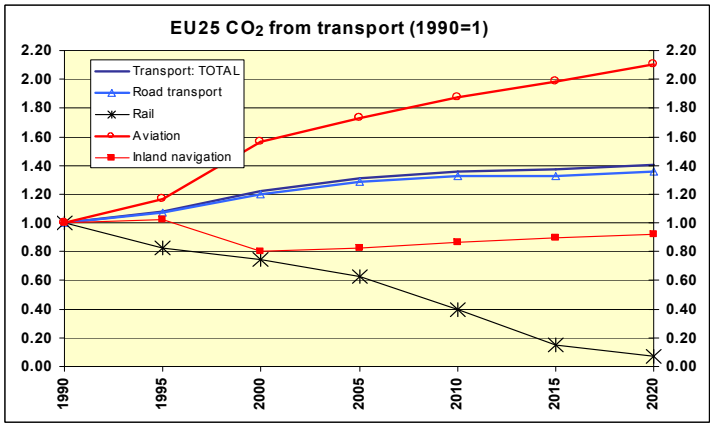
**Chart 3**




Conversely, $CO_2$ emissions from transport grew between 1998 and 2003 by 6.4%. However, $CO_2$ emissions from transport have grown much less than transport activity.

While emissions of key pollutants have been reduced drastically over the last 15 years (Chart 3), the growth in $CO_2$ emissions is still a major challenge, as shown in the following forecasts (Chart 4):

**Chart 4**



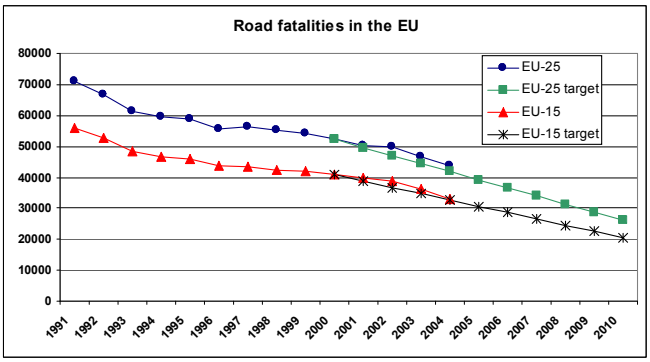

The other environmental impacts of transport include land use for infrastructures, noise around transport corridors mainly relate to aviation and road traffic.

Fighting congestion remains a big challenge facing us. The current level of congestion is estimated to cost, mostly in lost time, an amount similar to about 1% of GDP. Congestion is mostly an urban problem although it also takes its toll in some congested interurban corridors. At the same time it should be noted that congestion is getting worse in and around those metropolitan areas and corridors.

Transport safety has been a permanent target for EU policies. Safety issues are important in all modes but the road sector accounts for most fatalities (41600 in 2005). The 2001 White Paper proposed a reduction of 50% in the number of road fatalities. This objective was endorsed by Council and Parliament. However, the rhythm of reduction is not rapid enough,

as the number of fatalities has only been reduced by 20% in 4 years which means that unless there is an improvement the objective will not be reached.

**Chart 5**




## 3.2 Transport modes

The transport industry is not a homogenous economic sector but composed of modal industries that are in different economic situation and often competing with each other. The following paragraphs highlight the most recent economic developments in the main transport modes.

*Road sector*

Due to the flexibility of its technology and infrastructure, road transport is the only motorized mode being able to provide door-to-door services, and – as compared to rail, inland waterways or short-sea shipping – largely unconstrained by the difficult European topography or the dispersed settlement structure. It can provide flexible services regarding departure time and destination, and it is the fastest transport mode for distances up to about 500 km. Thus it is not surprising that this mode remains highly attractive, despite its weaknesses, such as its high toll as regards accidents and fatalities, and the pressure it exerts on the environment

The road transport of freight and of passengers employs 4.2 million people. In EU-25, it accounts for 72.6% of the inland freight transport and 83.2% of inland passengers transport.

Competition in the road freight sector is strong partly due to the fact that entry costs in the sector are low. Strong competition gives rise to narrow profit margins which can cause some firms to bypass social and environmental rules. In recent years, competition has increased sharply and caused price deterioration. Despite the increase in the productivity of the road transport sector in general, the companies' profits have continued to decrease, sometimes not even reaching 1% of the turnover. The sector continues to be highly fragmented although some consolidation is occurring.

At the level of EU15, the overall turnover increased by 50% between 1995 and 2001. Labour costs show great differences between about 6000 € a year in the new Member States and almost 30000 € a year in EU15 (unweighted averages in both cases).

With 77% of passenger transport activity, transport by private car keeps its advantages over other modes. Some limited levelling of car transport activity measured in passenger-kilometre has taken place in EU15 in recent years. The reasons often quoted for this stabilisation include

the saturation of the vehicle fleet in the richest countries, weak demographic growth and increasing congestion. Nevertheless, the appetite for private car ownership is high in the new Member States where the stock of the vehicles increases by 2.5% a year. The fleet of private cars in EU-10 in the 1990s increased at double the rate of that of EU15. Since then, growth has slowed down but remains still remarkably higher than in the EU15.

Between 1995 and 2004, road passenger traffic grew by 17% and freight traffic by 35%. In spite of this increase in traffic, technological progress was such that road transport air pollution fell in volume over the period 1990-2002 by between 30 and 70% depending on the types of pollutants. Road transport is expected to continue to absorb a large part of the expected freight demand growth.

*Railways*

With respect to freight transport, European railways have strengths where heavy or dangerous bulk products have to be transported over long distances and where time and speed is less relevant as a quality criterion. Thus this mode could be most competitive between major agglomerations in Europe and on distances beyond 500 km or so, and where the necessary door-to-door service can be provided by a well-integrated intermodal transport chain. With respect to passenger transport, a significant market exists for high-speed rail links connecting major European agglomerations, and for providing commuter services for bigger agglomerations. The major weakness of this mode – lack of door-to-door infrastructure, inflexibility, difficulty to deal with mountainous topographies, capacity constraints and environmental pressures such as noise emissions – could be partially overcome by strengthening competition, efficiency and technological progress.

The market opening process is ongoing, but the impact of the restructuring of the sector is already visible and the number of employees in the rail sector has been noticeably reduced while labour productivity increased. Generally the financial situation of the majority of the rail companies is rather bad, due in part to the heavy social contributions inherited from the past which hangs over their production costs.

Rail freight traffic has remained more or less stable over the last years with a growth of 6% between 1995 and 2004. In the United Kingdom and in Germany where the market was opened up in 1995, the growth of rail freight during this period was respectively + 70% and of + 24% in 2004 in relation to 1995. In France over the same period rail freight achieved a negative result (-6%); and in Poland the negative result achieved was much bigger (-30%).

Some passenger transport services are subject to a certain amount of competition, either directly in open access systems or, more generally, by means of public service contract award of exclusive rights after call for tenders. Rail's market share for passenger transport is 5.8%.

*Aviation sector*

Its speed over longer distances as well as the absence of the necessity to heavily invest in expensive infrastructure networks (except airports) are the trump cards of air transport. Its weakness is the constraint imposed by weight considerations, security concerns as well as noise emissions around airports and – as for most other modes – its lack of door-to-door service capabilities. Thus, passenger transport and the transport of light and high-value freight over longer distances will remain the predominant natural market segments for air transport also in the longer run. If embedded into an integrated transport concept, this market segment

is expected to show dynamic growth over the coming years. The aviation sector needs also to face its increasing environmental impacts, notably regarding greenhouse gas emissions and noise around airports.

After a few profitable years, the European airlines have had decreasing annual incomes, a tendency which worsened after the attacks of 11 September 2001. During the following years the airlines had to face the consequences of terrorist threats, the SARS crisis, the war in Iraq and the significant increase in oil prices. The number of passengers transported by plane practically did not increase between 2000 and 2003. However, over the long term, the growth of traffic is very dynamic: the number of passengers on internal Community flights grew at an average annual rate of 4.9% over the period 1995-2003, with passenger traffic growing by 5.8% in 2005.

In recent years, the sector has diversified deeply. The European aviation scene changed remarkably when the low-cost airlines started to gain market shares. Today, these companies cover more than 20% of air transport within the EU. Their market share has been increasing by around 6% in recent years. Moreover, the low-cost airline companies stimulated the growth of certain airports, including in less developed regions.

*Maritime sector*

Maritime transport is the cheapest form of transport in value and in energy terms per tonne km given the large volumes of freight a ship can carry. It is also the slowest of the transport modes, its increase in speed being particularly expensive. It uses the sea as a natural infrastructure which in Europe often offers routings shorter than their inland alternatives where there is plenty of free capacity. However, it requires sea ports whose infrastructure can be expensive to build (e.g. deep draught wharves) or to maintain (e.g. dredging). The lack of a tight control over ships' routings has obliged to keep administrative and customs controls at ports, which is one of the weaknesses of intra-EU Short Sea Shipping (SSS) transport. Apart from some large factories which have their own port access, sea transport requires the collaboration of other modes to provide a door-to-door service. The environmental performance of ships, notably in respect of conventional air pollutants and oil spills, is also poor.

The European Union is very dependent on maritime transport. Nearly 90% of its external trade and more than 40% of its internal trade goes by sea; on the whole nearly 2 billion tonnes of freight are loaded and unloaded in EU ports each year. Maritime companies belonging to European Union nationals control nearly 40% of the world fleet (i.e. including out-flagging).

The trend towards larger ships, mostly container-carriers, will also require ports to expand their infrastructure and deepen their channels to remain competitive, their hinterland access will also have to be enhanced.

The major part of European maritime transport is SSS. However, the strong expected increase in ocean traffic due to globalisation (almost three times increase between 2000 and 2020) will also have an influence on internal EU feeder traffic.

Short sea shipping represents approximately half of the whole volume of the goods transported by sea in EU15 or approximately 1 billion tonnes. The average growth rate is 2.2% a year. The market share of containers and carriers accounts for 23%. Driven by the

high rate of growth in international traffic, the European shipping companies are in a healthy financial situation.

The ports' current financial situation is good overall but competition issues both inside and between the ports is becoming increasingly sensitive. The ports of Hamburg, Bremen, Wilhelmshaven, Amsterdam, Rotterdam, Antwerp, Ghent, Zeebrugge, Dunkirk and Le Havre show average growth in activity of 7.4% in 2003-2004 with the most rapid growth corresponding to Wilhelmshaven (13.9%) and Antwerp (12.7%). Container traffic in Hamburg is growing annually at 14%, exceeding the growth at European level (9%).

*Inland waterways*

It is a cheap but slow mode of transport which has plenty of free capacity available, although it normally does not provide door-to-door service. Its environmental performance is good in terms of $CO_2$ emissions but poor in terms of conventional pollution. The construction or capacity enhancement of inland waterways is also likely to disrupt sensitive ecosystems.

The share of inland waterways in freight transport is 3.4 % overall, but in certain corridors and regions it can exceed 40%.Inland waterway traffic has experienced a comparatively positive development in recent years, despite a slight fall during the dry summer of 2003. This sector is essentially based on SMEs. The sector has in recent years shown the signs of a new-found dynamism. High traffic growth rates were observed between 1995 and 2004: almost 50% in Belgium and 30% in France. A two-figure increase a year on certain routes can be observed in the transport of containers. There are in addition important capacity reserves on certain main waterways like the Danube.

*Urban public transport*

Urban public transport is a sector which offers a wide variety of situations both in respect of infrastructure and of services. Its strengths, besides its impressive safety record, lies in its potential to significantly reduce congestion in large agglomerations, to reduce driving stress and to limit and reduce local pollution. However, its weakness is the lack of door-to-door service capabilities combined with the need to serve more hop-on and hop-off stops than required by individual users and significant waiting times, hence the time-consuming character of public transport systems. Security concerns have increased also in urban transport. While some of these weaknesses could be overcome by increasing the frequency and density of services, by a better integration of other transport modes and by accelerated technological progress, competition with private passenger cars which are becoming cleaner and safer, will remain fierce, namely in less congested, less populated areas.

The market share of urban public transport in the transport of passengers has declined over the long term but it seems now to have stabilised around 9% in recent years. However, it continues to worsen in the new Member States.

The annual turnover of the sector, comprising buses, underground railways or urban rail services, is estimated at 150 billion €. The rail product suppliers state that the urban, suburban and regional rail systems account for approximately 50% of their annual overall turnover (including all rail supplies except for infrastructure).

The majority of the Member States have introduced competition into their urban and regional bus transport markets. Approximately 25% of the services by bus and urban rail (i.e.

underground railway, light underground railway and tram) are subject to a certain amount of competition. In the 1990's, the commercial activity of the bus and urban rail companies in 24 large and medium-sized cities in the EU15 fell on average from 0.7% in the cities without competition, increased on average by 1.8% in the cities with regulated competition and fell on average by 3.1% in the cities with deregulated services.

### 3.3 Changes in the transport policy context

A number of changes have occurred during the past few years that have an important bearing to the European transport policy. This situation has to be taken into account and provides grounds for redesigning the Common Transport Policy.

**GDP growth** has been lower than the 3% hoped-for when the White Paper was drawn up. The Union's rate of growth during the last five years has been just below 2% (1.8% as an yearly average over 2000-2005), lower for example than the 3% reached on average by the USA. The world rate of growth, which is important for assessing foreign demand, has been about 4%. If the Union carries out the reforms required under the Lisbon Strategy, it will be able to keep its current potential growth rate of about 2.25%, otherwise under the pressure of an ageing society the rate could fall to 1.25% in 2040.

The **enlargement** from EU-15 to EU-25 has added a new dimension to European transport problems. The size of the Union has expanded by almost a quarter with enlargement. Trade and cultural integration will increase traffic. For the moment enlargement has similar effects to the earlier enlargement to Spain and Portugal, with rates in cross-border traffic with the new Member States growing at 10% per year. It must be said, though, that trade integration already started during the 90's. However, the new Member States represent 20% of the population of the present 15 Member States, but only 5% of their GDP which reflects the weight of the new Member States in terms of transport activity.

The new Member States rely on a much more transport-intensive economy than the rest of the Union with a high number of tonne-kilometres per euro of GDP (five times higher than in EU15). It was expected that in the new Member States there would be a reduction in the transport intensity of economic growth. However, the years 1999-2003 have proven that the expected reduction did not materialise (see table 7 below).

**Table 7: Relationships between inland freight transport and GDP in EU-25 in the years 1999-2003**

| | 1999 | 2000 | 2001 | 2002 | 2003 |
|---|---|---|---|---|---|
| Tonne-km of rail and road transport per euro GDP | | | | | |
| EU25 | 0.24 | 0.24 | 0.23 | 0.24 | 0.24 |
| EU15 | 0.21 | 0.21 | 0.20 | 0.21 | 0.20 |
| NMS10 | 1.07 | 1.06 | 1.02 | 1.03 | 1.05 |

Sources: ASSESS (Annex XIX) UG, calculated on the basis of Eurostat data (as of October 2005) and Energy & Transport in Figures 2004.

This is in part the result from intensified foreign trade and transport liberalisation. Given the large differences in labour cost and income levels between new and old Member States,

changes in the sites of production (attracting industry) and freight traffic growth (exporting and importing) can be observed[9].

The enlargement has greatly increased the heterogeneity of the EU transport systems. It will have several consequences, and it comes with both opportunities and certain threats for different modes of transport:

- rapidly rising transport demand which is due to economic growth rates about twice as high as in the rest of the Union;

- larger differences between the countries in the existing infrastructure, the vehicle fleets, the environmental and safety performance of the modes, and labour costs;

- deteriorating public transport services and oversized railway companies;

- economic integration of the new Member States and their low cost levels attracts many European firms;

- increased transport demand due to stronger economic growth in the new Member States and increased market integration in the EU;

- longer distances of intra-EU transport flows and changed geography.

This should lead to, *inter alia*:

- new demands for infrastructure development (notably of roads, if the likely convergence of transport demand patterns is to develop as expected) and upgrading;

- stronger competition, notably in road freight transport, which may strengthen the need for competition policies;

- stronger needs to reduce the negative impacts of transport;

- more favourable conditions for rail, since it is more competitive for long-distance freight transport, as well as for maritime transport.

**Globalisation** will put increasing pressure on the Union's ports and airports on which most of international trade and exchanges are based. The expansion of world trade is a long term trend, even though it has accelerated over the past 15 years. Also, geographic patterns have shifted, with a growing share of emerging markets (Asia in particular) in trade flows. These trends are not new, although they may deserve more attention than given in the initial White Paper. However, their implications for the EU transport system and EU policies (e.g. regarding modal developments or logistics) concern notably:

– increased transport demand;

– longer distances, which is *a priori* a favourable factor for maritime and air transport;

– shifts in the geographical distribution of flows;

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[9] ASSESS Final tReport, page 90. Also in Annex XIX.

– concentration of flows due to increased integration and specialisation of transport as well as logistics services.

**Table 8: EU internal and external trade**

The

| **EU-15 Export Growth %** | **2001** | **2002** | **2003** | **2004** |
|---|---|---|---|---|
| EU-15 | 2.4 | 0.6 | -0.1 | 6.6 |
| Extra EU-25 | 4.0 | 0.2 | -2.8 | 9.2 |
| New MS | 7.9 | 5.7 | 4.4 | 9.0 |
| **EU-15 Import Growth %** | **2001** | **2002** | **2003** | **2004** |
| EU-15 | 1.1 | 0.5 | 1.0 | 7.6 |
| Extra EU-25 | -1.6 | -3.8 | -2.0 | 10.4 |
| New MS | 12.9 | 6.0 | 9.1 | 6.5 |

European economy in general, and the transport sector in particular, has had to face the rise of **oil prices** from 20 to over 70 dollars a barrel as a consequence of geopolitical tensions and increased demand. This raises the importance of energy issues for the economy and for the transport sector as transport represents 31% of total final energy demand and relies almost exclusively on oil (98%). According to the most expert estimations, the high oil prices are of a permanent nature and the future EU transport policy will have to adapt to this situation.

According to a recent study[10], the effects of oil rises on transport are different according to the modes. Due to the absence of taxation and low processing and distribution costs, the variation in the price of crude oil directly affects the fuel prices for inland waterway transport, short sea shipping and aviation. In these sectors, a doubling of the crude oil of price will result in a doubling of fuel costs. In road transport due to taxes and to fuel processing and distribution costs only up to 40% of the price of fuel is related to the costs of crude oil. Thus a doubling of the crude oil price will result in 40% higher fuel costs. As to electric rail, electricity prices tend to be almost insensitive to the short run increases in the price of crude oil, but in the longer run a doubling of the crude oil price may reflect in 15% higher prices of electricity.

Energy costs are only a part of total transport costs. Thus, even if fuel costs are sensitive to oil prices, this effect may be dampened by other cost elements. In spite of high increases in fuel prices, and to a much lesser extent on labour prices, road and aviation transport costs have increased quite moderately while the profitability in truck fleet exploitation has worsened in many countries:

– In Dutch domestic road transport the increase in transport costs in the period 1994-2004 is just below 50%, whereas prices have increased by around 25% in the same period.

– The same holds for French road hauliers who have faced an increase of transport costs of 17% in the period 2000-2005, and an increase of only 5% in their transport price over the same period.

[10] Analysis of the impact of oil prices on the socio-economic situation in the transport sector: Study of Ecorys and Consultrans for DG TREN.

– In Spain the profitability in truck fleet exploitation has worsened, especially with the increase in the fuel prices, while freight prices have remained stable since 2000 or even dropped in many traffic relations.

In aviation, European network majors have managed to cut the unit cost of flight operations (which include fuel costs) by 9% in the past 3 years, despite the 63% rise in the price of fuel oil in that period. Distribution and back-office unit costs have been slashed by 24%, due to technologies such as e-ticketing and on-line booking. The one major area where costs are practically not falling is the costs of using airports. In the absence of effective economic regulation, the lack of competition in this sheltered supply markets means there is still insufficient pressure for efficiency improvements.

Since the **terrorist attacks** of 11 September, the issue of transport security - and in particular, increased air transport security - has moved to the top of the political agenda. The issue became even more burning after the Madrid and London attacks, both targeted on public transport. But the aviation industry is by no means the only transport sector which is concerned by security threats. All sectors and modes need to reinforce security measures and re-examine how passenger and freight security can be assured. Attention has to be focused on the entire transport chain and its points of vulnerability. This new dimension of security calls for an investigation of ways to combine efficiency and security improvements in the transport system.

### 3.4 Changes in the general political context

*A renewed Lisbon strategy*

The Lisbon strategy was renewed in 2005 in order to support the economic growth Europe needs. It puts strong emphasis on:

– the need for innovation and research and development, increasing public and private investment in research,

– the creation of a business climate that encourages businesses to start up and grow by cutting red-tape and simplifying legislation,

– creating more employment and helping people find jobs by improving their mobility between jobs (and possibly their physical mobility too),

– and using to use energy efficiently.

Transport policy has to be aligned on all these general objectives for the European Union: transport services underpin economic growth and job creation, as transport is demand driven, taking due consideration of sustainable development goals.

*A reviewed Sustainable Development Strategy (SDS II)*

Sustainable Development is a fundamental objective of the European Union. It is an overarching concept which underpins all Union policies, actions and strategies and requires economic, environmental and social policies to be designed and implemented in a mutually reinforcing way.

The review of the Sustainable Development Strategy (SDS II), launched in 2001, has been started in 2005 with a first report providing an assessment of the progress made since 2001 and outlining a number of future orientations. These initial orientations have been further confirmed and developed in a second Communication on the review of the Sustainable Development Strategy (SDS) by the end of 2005.

The main message of the review is that it is necessary to improve prosperity, solidarity and security in order to deliver a better quality of life. In line with the Lisbon strategy, it underlines the need for growth and more jobs, a cleaner and healthier environment. It states also the need for a more cohesive society where prosperity and opportunity are shared across the European Union and beyond. There is also a need for more innovation, research and education. The review underlines that EU future prosperity and quality of life will depend on the capacity and commitment to change production and consumption patterns and to decouple economic growth from environmental degradation.

For transport, the most relevant message is that the availability of affordable transport has been beneficial; but that it has been accompanied by negative aspects such as congestion, health impacts and environmental degradation.

The SDS II has focused on the following key actions for transport:

- to consider alternatives to road transport, including by developing the Trans-European Networks and intermodal links for freight logistics, to allow goods to shift easily between road, rail, and water transport;

- to continue examining the use of infrastructure charging in the EU;

- to improve the environmental performance of cars by promoting clean and energy efficient vehicles, new vehicle standards, and increasing the use of biofuels; to differentiate taxes on passenger cars according to $CO_2$ emissions.

In support of the sustainable development, several thematic strategies and action plans have been adopted across a wide range of areas, in particular on environmental issues. Often they include specific targets and milestones.

The 6$^{th}$ Environmental Action Programme was adopted in 2002. It outlined the priorities for action on the environment for the next 10 years. It called for the preparation of seven thematic strategies on various issues. The most relevant ones for transport policy are those related to air pollution (pollutants emission standards), the urban environment (urban transport plans), the marine environment (oil transport) and the sustainable use of resources (energy consumption in transport, support of green modes of transport), all adopted in 2005 and early 2006.

Finally, the Commission has recently launched a public consultation on the ways to establish a truly integrated Maritime Policy which will release untapped potential in terms of growth and jobs while strengthening the protection of the marine environment[11].

[11] Green Paper on a Future Maritime Policy for the Union: Towards a future Maritime Policy for the Union: A European vision for the oceans and seas COM ( ) of 7.6.06

### 3.5. Upcoming problems for EU transport

The previous chapters have indicated that there are major challenges for the future European transport policy: the growing demand from citizens and from the whole economy has to be met in a sustainable way. While the globalisation of economies increases trade flows and transport throughout the world, EU has now a full continent to cover and to provide transport services to all corners of the enlarged Union. The Union members have different situations in their transport growth, infrastructure and existing industries. The congestion paralyses the big metropolitan areas, at the same time when some EU regions in peripheries are lacking access to transport services. Building new infrastructure is only a partial answer for many reasons: lack of financing and environmental and other limitations to new infrastructure investments.

The negative impacts of transport call also attention. The transport sector has received good results in cutting down many negative environmental impacts like polluting emissions. Some sectors still need to be tackled while the main problems remain in the increasing green house gas emissions, notably $CO_2$. The other environmental challenges include land take and fragmentation as well as noise.

The environmental impacts of transport are closely linked to its dependence on fossil fuels, oil in practice. The persistent high oil prices demand action and energy efficiency and other measures to limit oil dependency are looked for. Initiatives such as those announced in the Green Paper on energy efficiency need to be pursued with urgency at the different public and private levels involved[12]. At the same time, experience from earlier oil hikes show that the transport sector has very low elasticities and the changes are very slow. People do not change their behaviour easily, often it is limited by every day life's practicalities of housing, work and services that are needed.

There is a continuous need to improve safety in all transport modes but even more so in road transport, the sector that has the most fatalities. Security is a new, increasing challenge for transport policy, also throughout the modes but notably in public transport.

## 4. DEFINING THE OBJECTIVES

The Common Transport Policy has a long history determined by the Treaties, from the attainment of the internal market without national discriminations to the creation of the trans-European networks. Though the transport sector has a strong international dimension, the main EU interest is in intra-EU transport to facilitate trade within the internal market and to avoid creating distortions within it. The Union has major powers for developing the internal market in transport. All transport policy proposals are decided by qualified majority, except for taxation measures which are decided by unanimity. As regards trans-European networks the Commission's financing proposals have to be approved by the Member States, who are responsible for the planning and construction of projects. The Union has shared competence in the field of safety and only limited competence in the field of urban transport.

Since 1992 the Common Transport Policy has aimed to create a framework for sustainable mobility. The 1992 White Paper aimed at sustainable mobility by the reinforcement and proper functioning of internal market; development of coherent, integrated transport systems

[12] COM(2005) 265 of 22 June 2005 (http://europa.eu.int/comm/energy/efficiency/index_en.htm).

for the whole Community using best technologies; development of infrastructure to reduce disparities between regions; sustainable development, notably respecting the environment and reducing $CO_2$; promoting safety; improving social items; developing relations with third countries.

In 2001, a new phase in the Common Transport Policy was reached with the adoption of a new White Paper.

The White Paper identified as major difficulties the following issues: the imbalance in the development of the different modes, congestion on the main overland routes and in cities, as well as in airspace, and the major impact transport is having on the environment and on citizen's health. Accordingly, the White Paper proposed policies to adjust the balance between the different modes of transport, in particular for the transportation of goods, stressed the need to do away with bottlenecks in the trans-European networks, it proposed the objective of reducing the number of fatalities by 50%, it showed the need for an effective policy on charging and it argued that the Community should strengthen its position in international organizations.

Considerable progress has been made through a number of initiatives and decisions adopted by the Council and the Parliament.

### 4.1. Future policy objectives

The future transport policy needs to build on the achievements of the earlier policies when responding to the new challenges. The EU transport systems have to:

- *offer a high level of **mobility** to people and businesses throughout the Union*. The availability of affordable and high-quality transport solutions contributions vitally to realising the free flow of people, goods and services, to improving social and economic cohesion, and to ensuring the competitiveness of European industry. Effective infrastructures are an essential element of providing efficient mobility;

- ***protect** the environment, employment, the citizen and the passenger*. Both in the environmental and social areas great advances have been made since 1992 but they remain an integral part of mobility policy; proper enforcement of EU rules is necessary and the environmental and social effects of globalisation need to be addressed. EU policy also protects European citizens as users and providers of transport services both as consumers and in terms of their safety and, more recently, security;

- ***innovate** in support of the first two aims of mobility and protection by increasing the efficiency and sustainability of the growing transport sector.* EU policy develops and brings to market tomorrow's innovative solutions that are energy efficient or use alternative energy sources or support mature large intelligent transport projects, such as Galileo;

- ***connect internationally**, projecting the Union's policies to reinforce mobility, protection and innovation*, by ensuring that the increasing role of the Union to set world standards and as a world leader in transport industries, equipment and services is even better recognised.

Developing and improving economic and resource efficiency is the key objective for the Lisbon strategy. Increased economic efficiency will enable a reduction in transport costs and in resource use. Freed resources, e.g. in terms of working time and energy savings, may thus be put to better use in other sectors of the economy or in improved transport services. More and/or better mobility will foster the productivity of the European economy and the Union's global competitiveness. The more detailed objectives include:

- Activating and attain better functioning of the internal market in all transport modes
- Improved utilisation of existing networks and optimised financing of new infrastructures.
- Fighting congestion and increasing accessibility
- Developing charging policies

Protection of the population and taking better care of their needs, including the environment around them, will improve safety conditions – e.g. reducing road fatalities towards the 50% target - enhanced preparedness for security threats and contribute to a reduction in the negative impacts of the transport sector on the environment. They will also contribute to territorial cohesion by providing better accessibility to the periphery and better accessibility to means of transport in general (e.g. for disabled people). The more detailed objectives include:

- Protecting the environment and minimising harmful impacts, including greenhouse gas emissions
- Full integration of social dimensions into the transport sectors;
- Developing European urban transport schemes;
- Actively promoting security in all transport modes;
- Enhanced promotion of safety, especially road safety;
- Ensuring adequate protection of user rights.

Improvements in the"efficiency" and "protection" objectives will be facilitated by the use of new technologies, notably the promotion of research and innovation as the third objective of transport policy. A transport sector with a high penetration of ICT technologies will be a major contribution to the competitiveness of the Union. The more detailed objectives could include:

- to support innovation and RTD;
- to increase synergies between modes and better logistics in all transport systems;
- to exploit new, advanced technologies;
- to increase energy efficiency in all transport modes.

Finally, the role of the EU on the global stage is an overarching policy objective that has its place also in the transport sector, notably to ensure EU interests concerning the other three objectives. This objective is characterized by:

- Raising the profile of the EU in the international transport-related organisations;
- Applying the European policy lines to the global market as well, notably regarding social and environmental objectives.

European transport policy is just a sub-set, even if an important one, of the many policies that have an influence on the transport system. Member States, regions and local authorities also develop their own policies. Therefore, it is clear that to meet the ambitious objectives of EU policies, the collaboration and combined efforts of all decision-making levels are needed.

## 5. DEVELOPING THE MAIN POLICY OPTIONS

### 5.1 The White Paper adopted in 2001

The 2001 White Paper predicted very high road traffic growth (50% between 1998 and 2010). It also highlighted that at the same time some other, less polluting and safer modes of transport have large unused capacities and either are growing less than road transport or are being marginalised, as it is the case with freight railways. These problems are likely to worsen as traffic tends to grow in line with economic growth, in particular freight transport, thus the White Paper identified decoupling between transport and GDP as one of its main success indicators.

The paper put some concrete quantitative objectives completed by additional qualitative objectives:

- decoupling between transport growth and GDP growth
- modal shift coming back to the 1998 modal split for EU-15 and keeping a weight for rail freight traffic of 35% for the (at the time future) new Member States.
- road safety should be improved by reducing by 50% the number of fatalities.

From a legislative point of view, the 2001 White Paper action programme has been a success. Major proposals were approved and are being put into practice. Among the measures adopted the following can be highlighted:

– the long-time awaited opening-up of rail freight transport to competition has become a reality for international operators and will be open for national markets too in 2007. There has been a slow implementation of the 1st and 2nd railway packages due to a lack of political will. However, the most advanced Member State experiences show that the decline of railways can be halted and reversed, although it is clear that the objective of coming back to the 1998 modal split objective will not be met;

– the recently upgraded social conditions of road transport will be better enforced thanks to the introduction of the digital tachograph;

– the coordination and harmonisation of the main air traffic management systems has been greatly improved with the approval of the European Single Sky legislation which will put an end to the fragmentation of European skies;

– passenger rights in aviation have been strengthened;

– the new Eurovignette Directive allows the setting of distance-based prices for road infrastructure use that avoid punitive charges to international trade and that can be channelled to the financing of infrastructure;

– the EU has redefined its TEN priority projects and decided to concentrate on 30 priority projects; the common planning of the main trans-European infrastructure corridors allows for benefiting the most from infrastructure building decisions taken in other capitals. In this respect the success of the emerging European High Speed Rail network is being replicated by the coordination shown in building the corridors that criss-cross the new Member States;

– the promotion of intermodal transport and logistics with the Marco Polo programme has given rise to many successful innovative projects;

– the EU has also shown its capacity to develop large-scale industrial programmes such as Galileo, ERTMS and SESAR;

– the Union now has a clear and ambitious objective regarding road safety: a 50% reduction in road fatalities. This objective has been adopted by the Council, the European Parliament and by many Member States. Some Member States have shown that it is possible to obtain good results in road safety campaigns;

– the energy taxation system has provided a buffer to the high oil price increases and has favoured quick dieselisation and, therefore, energy savings;

– the legal framework in maritime safety has been substantially strengthened.

It has to be acknowledged that in spite of very high oil prices, the European transport system has worked very well and absorbed a large part of these effects thanks to the productivity increases due to greatly enhanced competition.

Some of the measures proposed in the 2001 White Paper have not been proposed or adopted. Some measures have had to be discontinued because they were seen as interfering with market mechanisms or because much more technical work was required in particular given the heterogeneity of the new enlarged Union:

– Harmonize minimum clauses in contracts governing road transport activity notably in case of a fuel price rise;

– Approve a Directive laying down the terms of compensation in the event of delays or failure to meet service obligations (which could make transport more expensive);

– Propose a new Community framework for the development of the profession of freight integrator;

– Harmonise the conditions relating to weekend bans for lorries

– Propose uniform taxation for commercial road transport[13];

– Freedom of access to port services;

– Include a common methodology for setting price levels which incorporate external costs and which will specify the conditions for fair competition between modes.

Infrastructure charging still lacks coherence both from the modal and intermodal points of view, even if the revision of the Eurovignette directive in the road sector is a positive step regarding the objective of prices reflecting transport costs. Some market imperfections have not been removed such as administrative barriers in the rail and maritime sectors. The airport sector is still not prepared for the expected growth in traffic even if the Single Sky policy will improve substantially air traffic management.

## 5.2. Impacts of 2001 White Paper

As it is shown in table 4, decoupling of transport growth from economic growth is a reality for passenger transport in most of the years, while it is far for being the case for freight transport.

Concerning modal shift within EU-15, the objective is not being reached, although the decline of rail transport has been halted in absolute terms and the main increases recorded correspond to short-sea shipping and not to road transport.

Concerning the indicative objective for NMS, the 35% target for rail freight within inland transport is not reached either as in 2004 the rail freight modal share was already 32%, against 40% in 1998. There were no objectives for passenger transport for the, at the time, enlargement countries.

Modelling shows that the White Paper emphasis on modal balance as a prerequisite for sustainable transport could be attained by a combination of measures among which the most powerful would be the widespread imposition of user charges to all road users both freight and private vehicles, supported by the accelerated construction of the TEN priority projects.

However, the benefits to be expected from modal shift are in any case limited as an increase by 50% of rail freight traffic would only reduce road freight traffic by 10%.

**Table 9: Degree of attainment of the 1998 modal split objective for EU-15 freight**

| Modal share % over tonne-kilometres | | | | | | |
|---|---|---|---|---|---|---|
| EU-15 | Road | Rail | IWW | Pipelines | Sea transport | Total |
| 1998 | 43,4 | 8,5 | 4,3 | 3,0 | 40,7 | 100,0 |
| 2004 | 43,9 | 7,6 | 3,8 | 2,6 | 42,1 | 100,0 |

[13] The proposal on fuel taxation could give rise to a new proposal taking into account the increased heterogeneity of Member States.

**Table 10**: **Degree of attainment of the 1998 modal split objective for EU-15 passenger transport**

| EU-15 Modal share % over passenger-kilometres | | | | | |
|---|---|---|---|---|---|
| EU-25 | Car | Public transport | Rail | Air transport | Total |
| 1998 | 78.3 | 9.0 | 5.8 | 6.9 | 100.0 |
| 2004 | 77.9 | 8.6 | 5.7 | 7.8 | 100.0 |

In passenger transport the main development has been the growth in aviation traffic which has increased its modal share by almost 1%, while public transport and, to a lower extent, rail continue to lose ground in terms of modal share.

On the basis of the 2001 White Paper measures approved and implemented so far, or which look likely to be implemented before 2010, the ASSESS study predicts that these measures are likely to reverse the decline of rail freight, which nonetheless will continue to lose market share. Short sea shipping and inland waterways traffic will grow more than without these measures. On the other hand, road freight transport activity will grow a little less than without them. The effects of these policies in respect of passenger transport are small. Thus, the current White Paper implementation process will generate some extra growth in passenger rail transport while denting the otherwise moderate growth in private car transport and having minimal negative impact on the strong growth predicted for aviation.

According to recent estimations, congestion (measured using average trip times as an indicator) experienced by road freight would increase by almost 10% in 2010 and by 20% in 2020 in the scenario without the WP. The full implementation of the WP would reduce this figure by 4 % in 2010 and by 5 % in 2020.

Although it is impossible to attribute price and productivity developments to certain previous policy measures it should be expected that market opening will lead to lower prices and higher productivity everything else being equal. Indeed, prices in the transport sectors have normally closely followed general inflation in recent years[14]. There has also been a slight convergence in prices of transport (which includes road and air). The impact of market opening has been strong on rail freight prices, although much smaller for urban and air transport. Rail transport prices are estimated to be around 20-25% lower than they would have been without liberalisation[15].

For rail transport, the results of regulatory changes are mixed: in rail freight, according to the CE study, market opening has led to a 47% increase in productivity, whereas in passenger rail transport productivity has declined by nearly 7%. Here again productivity improvements take time to materialise. In air transport full liberalisation would increase the load factor by 13%.

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14 Annexes to the Commission Staff Working Document: Evaluation of the performance of Network industries providing services of general economic interest (SEC(2005)1781).

15 The Copenhagen Economics - CE - Study (2005), "Market Opening in Network Industries" carried out for the Commission in the context of the Evaluation of the performance of network industries.

There were some 41 600 road fatalities in 2005, which means a 17.5% reduction over four years, but this is insufficient to reach the target to halve the road deaths by 2010 as under current trends there would be 32 500 fatalities in 2010 instead of 25 000. Significant differences remain between Member States, which in the case of the number of fatalities per million inhabitants range from 1 to 3 and in the case of the number of fatalities per million private cars range from 1 to 5.

Concerning $CO_2$ emissions, their growth will experience a substantial slowdown, although they will keep on growing with a 15% increase between 2000 and 2020. A strong improvement in road passenger transport is expected, mainly resulting from vast improvements in car efficiency which - according to the ASSESS study assumptions will improve by 28% between 2000 and 2020, due to the agreement with car manufacturers, to dieselisation[16], and to the introduction of biofuels and hybrids. This increase in car energy efficiency almost compensates the expected increase in passenger car transport activity of 36%. However, light and heavy duty road freight vehicles will see their energy efficiency improved only by 11% between 2000 and 2020 while their traffic will increase by 55%. Still, private cars make up for 70% of road energy consumption. Rail will improve its performance thanks to electrification, although from a whole life-cycle view the reduction in power of nuclear origin may soften this trend. Aviation will gain from the European Single Sky and also from some energy efficiency gains.

[16] Since 1990 the share of passenger diesel cars in the total passenger car fleet has increased substantially in the EU-15. Its share of registrations has increased from below 20% in 1990, via 22.6% in 1995 and 32.8% in 2000 to 48.9% in 2004.

**Table 11: Transport $CO_2$ emissions past and foreseen**

| EU-25<br>In 000 tonnes | Road | Rail | Aviation | Inland navigation | Total |
|---|---|---|---|---|---|
| 1995 | 725408 | 10126 | 99889 | 21081 | 856504 |
| 2000 | 811922 | 9157 | 134324 | 16463 | 971866 |
| 2003 | 843592 | 8135 | 132409 | 17333 | 1001469 |
| 2003/1995<br>% Increase | 16.3 | -19.7 | 32.6 | -17.8 | 16.9 |
| 2020 | 915357 | 891 | 180155 | 19070 | 1115474 |
| 2000/2020<br>% Increase | 13.0 | -90.3 | 34.1 | 15.4 | 15.0 |

Sources Eurostat. Primes for 2020.

According to ASSESS, the White Paper has little effect on sustainability ($CO_2$, air pollutants) unless much stronger measures are taken which in turn cut down mobility. Energy demand and $CO_2$ emissions are expected to remain relatively stable between 2000 and 2020 (+8%). There is little difference between the scenarios of most likely implementation of the White Paper[17] (+7%) and others in which the White Paper is fully implemented (+ 7%) or is even reinforced (+1%) with full charging for infrastructure use, as the effects in energy efficiency improvements of the very large transport modes (road and private car transport) dilute the positive effects of modal shift. Moreover, it should be recalled that the most effective environmental actions of the EU, notably effectiveness in reducing $CO_2$ and pollutant emissions from road vehicles, are outside explicit White Paper measures (e.g. measures affecting vehicle technology as the Euro-standards and the ACEA agreement) and constitute the common background for all the scenarios.

## 5.3 Assessing the direction of future action

Transport flows and systems are very much demand-driven. Transport demand is very dependent on economic development and personal mobility. All citizens and industries are decision-makers but, in addition, transport demand also depends to a large extent on policy decisions in other policy sectors, like urban planning and environmental protection. In addition, it should be noted that the transport industry is a not a homogenous economic sector but more a set of competing branches that have sometimes conflicting views and interests. Some of these industries also have a strong heritage from the past, for instance having been state-owned monopolies. The changes in the transport structures, industries and infrastructures are slow. They take time and often require large investment.

[17] The difference between the 15% increase 2000-2020 shown in Table 11 and the 7% in the most likely scenario stems from the fact that the policy comparisons of the ASSESS study are based on an scenario called Partial A which is different from Partial B which is the one considered in section II of this annex as "the baseline" and built in into the PRIMES model on which Table 11 on $CO_2$ emissions is based. The difference between Partial A (considered in the scenarios policy mix analysis) and Partial B concerns only freight transport and it is due to the fact that Partial B assumes a higher and more likely freight traffic growth based on a smaller impact of road charging and road social measures and a higher built-in trend growth due to a longer observation period. The policy comparison is made by ASSESS only with Partial A as it is the only one fully consistent with the other scenarios. Although a higher freight traffic growth could produce a higher modal shift as a result of the WP policy, the effects on CO2 would still be minimal in respect of the much larger effects of vehicle efficiency measures.

The EU transport policy objectives are of a more permanent nature. The main policies as defined in the White Paper of 1992 and 2001 are well advanced. A wide variety of measures to meet the objectives of the Treaties and the general policy orientations contained in the Lisbon Strategy and in the Sustainable Development Strategy are either established, or in their implementation or preparation phase.

The Common Transport Policy is by now relatively well developed for all modes of transport. While adjustments remain, most important improvements are no longer only in hands of politicians but in the hands of market decision-makers. Given that the *acquis* and its principles are well established, there are no excluding comprehensive overall alternatives for action at EU level.

At the same time we need to recognise that the EU transport policy has new challenges and new targets to be met, as described in the preceding chapters of this document. Also, the Community policy context has to adapt itself to the political reality and provide solutions that give added value.

The preceding chapter has presented the expected results and impacts of the 2001 White Paper. The future orientations continue on these achievements but, naturally, all policy options will have a lot in common. The new, not yet introduced measures may re-direct the line and change the orientations with time.

Based on these reflections, three policy orientations may be discussed which all have a common core, the established policies and measures, but differ in relation to the future activities, either concentrating to consolidate the current policy ambitions, or to insist to meet the original 2001 White Paper targets by the measures foreseen at that moment or, thirdly, accommodating the activities to the new policy context. Accordingly, three policy concepts could be presented:

1. **Current**

The past years have been a period of active transport legislation. So, an option for the future is to concentrate now in implementation of the current policies as already approved by the Institutions.

First of all it is imperative to achieve the objectives of ongoing policies such as the completion of the internal market and its external projection, the implementation of the TENs, intermodality, and the new Eurovignette Directive, the completion of the Single Sky.

The concrete policy measures could comprise rail market completion by removing technical and operational barriers to international rail traffic; market reviews (also including state aid aspects) in other transport modes as well and adjusting measures as needed to ensure a well functioning internal market; completion of passenger rights in all transport modes; completion of social legislation in road transport; TEN planning and investments in the frame of the existing financing resources; support to intermodality and the Marco Polo programme; security measures in all transport modes, notably implementing maritime security Directives and a "black list" in maritime and aviation; road safety promotion following current policies; continuing support to new technologies in the pipeline like Galileo, SESAR, ERTMS and support to RTD as part of the 7$^{th}$ RTD Framework Programme; continue to develop external relation with third countries and participation in international transport organisations.

2. **Deepening**

A natural option would be to make an extra effort to reach the 2001 White Paper quantitative objectives, such as those on modal shift. This option also bases itself on the current, established policies but strengthens the main instruments, of the 2001 White Paper e.g. through widespread charging for infrastructure use and through investments in railways and other alternatives to road transport and the private car.

In addition to the measures included in the current option, the deepening option would use measures like user charges to road freight, including all the external costs, in all European roads; user charges in passenger cars, also including external costs, in all roads; earmarking charging revenues to accelerate the financing and construction of TEN projects and notably railway construction throughout EU; harmonising clauses in road transport contracts to introduce fuel price increases to tariffs.

3. **Widening**

Thirdly, it could be envisaged to widen the Common Transport Policy in order to tackle new challenges in addition to the implementation of the current policies through a pragmatic and co-operative approach. The approach would seek to fight the problems in a more comprehensive way and to make better use of the transport system to support economic growth. It would entail a more diversified strategy that exploits also technological and organizational means. This approach would be based on maximizing each mode's own sustainability and efficiency, starting with the modes with the greatest role in transport activity.

This widening approach, in addition to the measures already approved and included in the current option, would add fields like innovation and ITS, energy efficiency, urban transport, security, and intelligent logistics. Concrete measures would often be further steps to the current option measures but using different policy means and inviting further stakeholders to participate. Examples of concrete measures could be: improving the efficiency of all transport modes by introducing new technologies to market; improving the efficiency of logistics chains by new technology, exchange of best practices or better standards; promoting the European maritime area for the common maritime market; actively seek for new financial means for TEN, also to use regional funding of transport infrastructure, including road transport in new Member Sates; analysing and proposing new measures in urban transport; analysing market access rules in road transport and proposing improvements to ensure SME participation; analysing the need for additional airport capacity and stimulating stakeholders' engagement in new infrastructure; analysing smart charging systems; active promotion of security measures together with all stakeholders, including security in urban transport; an integrated (vehicle technology, infrastructure, behaviour) approach in road safety together with national and local actors.

## 6. ANALYSING THE IMPACTS OF POLICY OPTIONS AND COMPARING THEM

The available policy options, as described above, have much in common as they all build on the current polices and the existing results from the past. Also, this impact assessment covers the whole large field of the EU transport policy in the continent wide Union. The portfolio of possible future measures is very impressive in all policy options. The complexity of policy

actions at the level of the Common Transport Policy as a whole is not easily evaluated using a standard impact assessment process. While the general policy framework is clear, the concrete actions are often decided as an outcome of lengthy consultations and involvement of several stakeholders. This is why the detailed, especially quantified assessment, of policy measures, at this moment is impossible. This impact assessment focuses to provide evaluation on the main impacts and foreseen developments of each of the three possible policy options. Also, it has to be underlined that some of the policy measures are part of all policy options or they may be implemented in each of these but in different depth or in a different manner.

To analyse the contents of the three approaches a preliminary review on the foreseeable impacts of their possible measures is provided in Annex 2. The measures are grouped here under different policy areas: (1) internal market, (2) providing reliable, safe and secure transport services to citizens, (3) optimising infrastructure, pricing for the use of infrastructure, (4) intelligent mobility building on innovation and new technologies, (5) energy use in transport and, finally, (6) global aspect of transport policy. All these measures will have impacts on mobility and transport efficiency, on social and environmental protection, and on territorial cohesion in particular in relation to new Member States. These impacts are analysed in the Annex as well as the possibility for EÙ action in light of the legal basis.

The measures in the **current policy option** have the following advantages and disadvantages:

– they ensure the continuation of the internal market development, leading to more competition and increased productivity. That may also ensure affordable prices to consumers and transport service users contributing to the general competitiveness of the European economy. On the other hand, there is the possibility that new monopolies develop and that SMEs have difficulties to enter the transport market;

– the main elements of the social legislation exist assuring decent working conditions[18], but an extensive social dialogue has not taken place between stakeholders. Transport modes will continue their growth and competition between each other, increasing efficiency to the overall transport system below its real possibilities;

– concerning the environmental and the harmful impacts of transport, the current policy approach should ensure the situation as seen today where most polluting emissions are slowly decreasing but some difficult problems persist, notably in urban agglomerations. In addition, the $CO_2$ emissions continue to grow though at a lower pace than previously. Congestion will remain a problem in metropolitan areas.

– consumer rights will be broadened to other modes from aviation. Safety measures will have impact on improvements but not at the level needed to meet the ambitious targets for instance in road transport;

– infrastructure provision should continue but the scarce EU funds will require a limitation in the projects to a small number of priority projects that are important

[18] See for example "Promoting decent work for all developing fundamental social rights and combining the principles of economic competitiveness and social justice" (COM(2006) 249 final.

cross border initiatives but will not be sufficient to ensure mobility in all areas of the enlarged Union, neither to connect peripheral regions to main economic centres;

– the new Eurovignette directive and the pricing legislation in the first railway package have set up within these two modes a framework for the emergence of different national experiences whose merits will have to be compared, in particular, with a view to bringing additional funding to new infrastructures;

– the current policy option will rely on the new technologies as well and continue to support research and the already existing new projects that are entering to the market (Galileo, SESAR, ERTMS). No new radical changes or innovations are expected from this policy option.

– concerning the global transport policy dimension, the current option should ensure the continuation of the bilateral agreements with main trading partners as well as connections to neighbouring countries.

Secondly, the **deepening option**, has a lot of similarities with the current option with the following advantages and disadvantages:

– concerning the functioning of the internal market, the deepening option should ensure market opening legislation and its implementation, leading to competition and increased productivity;

– its main additional measures are the pricing schemes that will increase costs to transport users, the option will have negative economic impacts, up to the level to cut mobility and periphery accessibility. Pricing will also limit new Member Sates' companies entering to the market of the old Member Sates;

– on the positive side, the deepening option will increase environmental protection and cut harmful emissions while reducing transport flows, and related congestion. Pricing including external costs will ensure this positive development;

– infrastructure investments will profit from the earmarked charging revenues to new infrastructure construction. Rail networks should be the sector profiting most;

– the other impacts, for instance, in relation to citizens' protection, safety, use of innovation and new technologies, as well as the global dimension should be much like the current option approach.

Thirdly, regarding the **widening option**, its advantages and disadvantages are the following ones:

– it should provide high level of mobility to people and businesses. Increased competition, ensured by internal market legislation, should lead to affordable prices and contribute to European competitiveness as a whole;

– this approach aims at entering to social dialogue with stakeholders to support high quality employment and interest for transport professions, also including training activities;

– blind competition between transport modes should be turned into co-modality using better logistics chains and related technologies;

– regarding the environmental impacts, the widening approach has similar elements to the current option but takes a more active use of new technologies and logistic innovations. Accordingly, this option should meet at least as high and probably even higher environmental targets than the current option alone;

– protection of the citizens and their environment is a mainstream element of this approach where energy efficiency, and new technologies generally, serve as the main tools;

– innovation and the ambitious use of new technologies and their introduction to the market, score highly on this approach;

– urban transport will be subject to a new, more ambitious EU level action. A large variety of road safety measures will be launched to better meet the targets together with national and local actors;

– concerning user rights, the approach is similar to the current option. However, the security items are raised in all modes, including urban transport;

– in the global perspective, the widening approach proposes an active policy line to ensure the EU leadership in environmental and social dimensions of the global transport market.

Finally, it needs to be highlighted that many views in the public consultation supported a widening option. Transport policy link to economic growth and job creation was mentioned often.

*Risk analysis*

Regarding the **current option**, the difficulties derived from the introduction of new policy measures are limited as most of the measures are already in the pipeline and problems well identified. The main risk involved in just implementing the current option measures is that the Union misses the opportunity to improve its global competitiveness through a quick absorption of information and communication technologies into Intelligent Transport Systems and into upgraded supply chain logistics. The main risk related to the widening **option**, is the question of the Union competencies. As many of the policies and measures included in this approach are beyond the EU competencies, this approach relies on collaboration and commitment of all stakeholders. There is also the risk, common to the current and widening option that, in the meantime economic growth takes-off much strongly than foreseen and that congestion, safety, energy consumption and pollution get out of control, in which case it may be necessary to introduce some of the mobility constraining measures foreseen in the deepening strategy. The main risk of the **deepening option** is that the pricing measures it proposes, even if accompanied by increased railway investments, cut mobility down as well as the accessibility to and from the periphery. Accordingly, the political feasibility of the deepening option would be limited due to the clash of interests between winners and losers on accessibility and mobility grounds.

## 7. PRESENTING THE NEXT APPROACH: TOWARDS A COOPERATIVE TRANSPORT POLICY

This Impact Assessment has identified the demanding challenges the future EU transport policy needs to meet and a number of difficulties that hinder the contribution of the transport system to economic growth and to the well-being of citizens.

The optimal approach that seems to be emerging from the analysis would consider the continuation of the permanent objectives of the Common Transport Policy but based on a broader range of policy tools on top of the implementation of the current measures, based on the policy option called "widening" above. Such a policy approach would aim to meet the complex policy targets to provide the transport services to the economy, businesses and people, in a sustainable manner. The transport policy toolbox would be boadened to take into account the new elements. This approach would at best guarantee the achievement at the same time of high level of mobility and of environmental protection. The high fossil fuels prices and the need to reduce the strategic dependency reinforce the environmental priority of optimising energy use. In that context, the European transport policy would favour shifts to more environmentally friendly modes, but it should also optimise the performances of each mode of transport on safety/security, on energy efficiency and on environmental impact. It would be necessary to have the full cooperation of regional and cohesion policies, to optimise the use of infrastructure and to allow for flexibility to deal with particular problems at local level or along specific corridors.

The overall contents of such a transport policy could be presented in the following main fields of actions: (1) internal market; (2) safe, secure services to citizens; (3) energy use; (4) infrastructure, (5) innovation and new technologies (6) mastering globalisation:

(1) A well functioning internal market is the basis for the European transport policy. Completion of internal market still needs action, notably in the rail sector. Also the implementation of Single Sky and related air traffic management are needed. The European maritime area is not yet well established and calls for action, like the ports policy definition. Continuous review of markets of all modes and adjustment measures as needed would be undertaken. Market access has to be assured to all market players as well as access to the professions as needed.

(2) It is necessary to further protect the employment, the passengers, the citizens and their environment. Working conditions would be examined, in particular in the road and maritime sectors and social dialogue should be encouraged Basic passenger rights should be extended to all modes of transport. The efforts on safety issues would be maintained and an integrated approach would be followed to address all the relevant factors, from the vehicle design to driver behaviour. Security is an important issue that would be examined in respect of all modes of transport and critical infrastructures. Sustainable mobility is particularly endangered in urban areas. Therefore, it is necessary to examine the benefit of addressing urban transport, also, at Union level.

(3) Energy use in transport has become a more pressing problem because of high oil prices but also because of the related environmental and dependence problems. Energy saving activities and alternative fuels in transport deserve a new position. Measures could comprise RTD and market introduction of energy efficiency and alternative fuels.

(4) Infrastructures are the backbone of the European transport systems. New infrastructures cannot alone solve the problem of accessibility; existing infrastructures would be used as efficiently as possible with the support of new technologies (management systems, vehicles, fuels, etc). The new investments would be encouraged to eliminate bottlenecks and to enhance co-modality. A balanced approach to land-use planning would be needed to ensure the necessary infrastructure development. But, in addition, all available sources of financing would need to be used and efficiently co-ordinated, notably the Structural and Cohesion funds. The specific problems of the new Member States would have to be addressed. Smart infrastructure charging could bring funds to infrastructure building.

(5) It would further develop an intelligent mobility for Europe. New technologies would help solve congestion, cut emissions, improve transport efficiency and logistics throughout the supply chains. A real European strategy on intelligent logistics would be needed. Galileo, SESAR and ERTMS technologies still require support from the EU.

(6) The European Union could be more present in international fora and adopt a common single position on international issues. Dialogue and agreements with trading partners and neighbouring countries should serve as tools.

Finally, the policy design and its implementation should be continuously fine-tuned on the basis of public consultation and in-depth assessments. A road map of measures will be established and regularly updated.

**ANNEX 1**

## Transport 2001 WP mid term review – Evaluation of the current status of the implementation of the initial foreseen measures

| Policies | WP suggested measures | Measures under preparation | Measures adopted | Measures implemented |
|---|---|---|---|---|
| 1. Improving quality in the road transport sector | Harmonisation of driving restrictions on heavy goods vehicles on designated roads | COM(2003)473 setting the framework (times etc.) for driving bans on the trans European networks. | Refused by Council. Given the absence of progress, the Commission proposed its withdrawal. | |
| | Training of professional drivers | | Dir. 2003/59 – the aim is to introduce mandatory training for professional drivers. | 10/09/2006 |
| | Social harmonisation of road transport | | Regulation 561/2006 revises the rules on maximal driving time and minimal rest periods<br><br>Directive 2006/22 reinforces the controls<br><br>Directive 2002/15 establishes maximal working times | From 2007 onwards, except the digital tachygraph which became compulsory for new vehicles since the 1st May 2006.<br><br>From 2007 onwards<br><br>From April 2005 |
| 2. Revitalizing the railways | First railway package: support the creation of new infrastructure, and in particular rail freight freeways | | | Dir. 2001/12-14 - The first railway package, which opened up the international rail freight market. Implemented, but Commission still working with MS to ensure compliance. |
| | Second railway package: opening up the national and international freight market | | Dir. 2004/51 creating further market opening and safety and interoperability improvements. | 31/12/2005 |
| | Second railway package: ensuring a high level safety for the railway network | | Dir. 2004/49 | 01/05/2006 |
| | Updating the interoperability directives on high-speed and conventional railway networks | | Dir. 2004/50 | 01/06/2006 |

| Policies | WP suggested measures | Measures under preparation | Measures adopted | Measures implemented |
|---|---|---|---|---|
| | European Railway Agency | | | Regulation 881/2004, recruitment ongoing |
| | Third railway package: certification of train crews and trains on the Community rail network | COM(2004)142, 3/03/2004. Still being discussed in the Council | Adoption foreseen 1st semester 2007 | |
| | Third railway package: gradual opening-up of international passenger services | COM(2004)139, 3/03/2004. Still being discussed in the Council | Adoption foreseen 1st semester 2007 | |
| | Quality of rail services and users' rights | COM(2004)143, 3/03/2004. Still being discussed in the Council | Adoption foreseen 1st semester 2007 | |
| | Third railway package: improving quality of the rail freight services | COM(2004)144, 3/03/2004. Still being discussed in the Council | Refused by Council and EP | |
| | Enter the dialogue with the rail industries in the context of a voluntary agreement to reduce adverse environmental impacts | | | Dir. 2001/16 & ongoing industry dialogue on guidelines |
| | Support the creation of new infrastructure, and in particular rail freight freeways | Communication on the development of a rail freight network in preparation | Decision 884/2004 on the ENs guidelines,, planned for December 2006 | |
| 3. Striking a balance between growth in air transport and the environment | Single European Sky | Different implementing measures in the areas of charging, airspace regulation and interoperability are to be adopted in the course of 2006-2007.<br><br>Regulation on Joint Undertaking to manage development phase of SESAR. | Regulation on common requirements for the provision of Air Navigation Services has been adopted on 20/12/2005.Regulation on Common rules for the Flexible Use of Airspace has been adopted on 23/12/2005.The Directive on Community air traffic controller licence has been adopted on 5/04/2006 and the regulation on Airspace Classification and access of flights operated under visual flight rules above level 195 has been adopted on 11/05/2006. | The 4 Single Sky Regulations (549 to 552) entered into force on 20 April 2004, thus creating a new institutional framework and fixing general principles of the single European sky. New bodies like national supervisory authorities, single sky committee and industry consultation body are up and running.<br><br>Common Orientation of the Council on 9th June 2006 concerning SESAR |
| | Technical requirements in the field of civil aviation and establishment of the European Aviation Safety Agency. | Proposal to extend the common aviation safety rules to air operations, pilot licensing and third country aircraft are presently discussed by the | Regulation 1592/2002, July 2002, on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, | |

| Policies | WP suggested measures | Measures under preparation | Measures adopted | Measures implemented |
|---|---|---|---|---|
| | | legislator.<br><br>Preparation of a next extension to airport operations and to air traffic management and air navigation services. | amended twice and implemented by several regulations, including notably Regulation 1702/2003 on the certification of aeronautical products (amended twice), Regulation 2042/2003 on the maintenance of these products (amended twice), Regulation 768/2006 on the SAFA database, Regulation 736/2006, Regulation 488/2005 on the fees and charges levied by the EASA,… | |
| | Measures to control application of safety rules by operators | • 3 Regulations to update the list of banned operators | Regulation 2111/05 on the restriction of operation of unsafe carriers in the Community.<br><br>Regulation 479/06 on procedures to be followed for application of Regulation 2111/05.<br><br>Regulation 474/06 establishing the list of banned air carriers. | Member States have not yet adopted the implementing rules provided for by Regulation 2111/05 |
| | Independent safety investigations on accident/incidents and safety data collection and sharing | • Revision of Directive 1994/56 on the Independent Aviation safety Investigator Bodies. The primary aims will be to grant immediate access to evidence by National safety Investigators, clarify their relationship with EASA and possibly creating rapid response mechanisms at EU level.<br>• Guidelines on a multimodal common methodology for independent accident investigations<br>• Implementing measures of Directive 2003/42 for data integration and for data dissemination<br>• Revision of Directive 2003/42 mainly on the protection of the sources of safety information | Directive 2003/42 to establish common rules on reporting of aviation safety occurrences and to develop common tools and taxonomies.<br><br>Decision 2003/425 to create a multimodal group of experts on accident investigations. | |
| | Air transport insurance requirements | | EC Regulation 785/04 on minimum insurance requirements for air carriers. | EC Regulation 889/02 on air carrier liability in the event of accidents. |
| | Airport charges | A Directive on airport charges is under | | |

| Policies | WP suggested measures | Measures under preparation | Measures adopted | Measures implemented |
|---|---|---|---|---|
| | | preparation. To be presented in 2006/2007. | | |
| | Slot on Community airports | A second revision of Regulation (EEC) 95/93 as amended is foreseen for late 2006. | | |
| | Community framework for airport noise management | None at present | Directive 2002/30 on procedures for introducing noise-related operating procedures at Community airports | Transposition complete in almost all 25 MS and infringement action initiated in other cases |
| | Protection against subsidisation and unfair pricing practices in the supply of air services from third countries | No investigation has yet been opened under the Regulation. Methodology for determining the existence of unfair pricing practices under preparation with DG Trade | None | None |
| | Safety of third country aircraft | | Directive 2004/36 was adopted last April. Its full implementation by MS was foreseen by April 2006 but operational activities related to this Directive were already being executed in advance by MS. This measure will help to improve the shortcomings in the assessment of and possible sanctions linked with safety of 3rd countries aircraft. These shortcomings were identified after the Sharm-El-Sheikh accident.<br><br>Commission Regulation 2006/768 was adopted last May. It is an implementation measure in support of Directive 2004/36 as regards the<br><br>collection and exchange of information on the safety of aircraft using Community airports and the management of the information system, including the transfer of a large number of related competencies to the EASA. | A majority of MS had still not communicated transposition measures by the established deadline and letters of formal notice for failure to notify the national implementing measures are currently being sent out by the SG. |
| | Air service agreements with third countries | Horizontal and comprehensive negotiations (EU-US OAA, ECAA, Morocco) have been finalised. ECAA agreement and Morocco agreement to be signed in near future. Waiting for US rule makers to revise interpretation of ownership and | More than 400 bilateral ASAs brought in conformity with EC law by MS. and through23 horizontal agreements:<br><br>The conclusion of 104 bilateral agreements have | ECAA agreement is being implemented through Community designation granted to Community airlines |

| Policies | WP suggested measures | Measures under preparation | Measures adopted | Measures implemented |
|---|---|---|---|---|
| | | control provisions.<br><br>Negotiations with Russia on Siberian overflight payments are under way.<br><br>Further global mandates tabled for the Council (China, India, Russia, Australia, New Zealand, Chile, Ukraine, Lebanon and Jordan)<br><br>MS, monitored by COM, include Community standard clauses in their bilateral negotiations with third countries. | been considered for authorisation by Commission Decisions under Regulation 847/2004<br><br>Air Transport Agreement with Switzerland has been amended to incorporate new aviation acquis | |
| | Airport capacity | A Communication on airport capacity is to be presented late 2006. | | |
| | Kerosene tax | EC and MSs negotiate intra-Community taxation clauses with third countries<br><br>Impact analysis on the inclusion of aviation in ETS under preparation by DG ENV | 18 horizontal agreements and around 200 bilateral agreements now include the possibility for MSs to introduce taxation inside the Community.<br><br>Community excise legislation prohibited taxation of kerosene. This prohibition has been removed since 2004 when Council Directive 2003/96/EC entered into force allowing Member States to tax kerosene within the EU. | |
| 4. Promoting transport by sea, maritime safety and inland waterways | Port services liberalisation | **Proposal for a Directive** of the EP and the Council on "***market access to port services***"; COM(2004)654 final, adopted on 13.10.04, stating: "*Following the rejection in November 2003 by the European Parliament of the conciliation text on a first (2001) Commission proposal on the same issue*".<br><br>THE EP REJECTED THE DIRECTIVE IN JANUARY 2006. The Commission has subsequently withdrawn the text. | | |

| Policies | WP suggested measures | Measures under preparation | Measures adopted | Measures implemented |
|---|---|---|---|---|
| | State Aids Guidelines for Maritime Transport (tonnage tax) | | **Guidelines** on State Aid to maritime transport (**Communication**, OJ C13 of 17.1.2004). | **Guidelines** implemented. |
| | Maritime External Relations (multilateral and bilateral) | **India Maritime Agreement: Council agreed on common negotiating position (Non-Paper).** Commencing official negotiating context for concluding bilateral maritime agreement.<br><br>**China Maritime Agreement**: 3rd implementation meeting.<br><br>**Brazil structured maritime dialogue**: Initiate structured maritime dialogue (decided in April 2005 JC) within next EC-Brazil Joint Committee. Draft ToR sent. Exploratory mission 2H2006.<br><br>**GATS – Maritime Transport Services**: Submission in July 2006 of the revised conditional EC offer to WTO (including maritime transport services). Plurilateral request to be submitted following HK ministerial.<br><br>Ongoing Accession talks for IMO<br><br>accession, after Council green light. | **1st negotiating session to take place on 5/7 July 2006.**<br><br>**China Maritime Agreement**: On May 15/17 2006 3rd meeting was held in Shanghai. Expansion of cooperation to ports, IWT and dredging. 4th meeting to take place in Rotterdam in the fall 2007. Extension of the agreement to new EU-10 (Protocol signed in September 2005).<br><br>Visit of President Barroso to Brasilia 31 May. Joint Declaration endorsed the maritime dialogue.<br><br>Ongoing plurilateral negotiations in Geneva.<br><br>**EU/Community Accession to International Maritime Organisation (IMO)**: Recommendation SEC(2002) 381 final, adopted on 9.4.02. | **China Maritime Agreement**: ratified by 11 MS out of 15. Further 4 ratifications required for full entry into force of agreement. |
| | European Maritime Safety Agency | **Proposal for a Regulation** on the multiannual funding of the pollution response task (ed adopted by the Commission on 16 June 2005) COM(2005)210Final/2 210. | **Regulation 2002/1406** adopted in June 2002, establishing the new European Maritime Safety Agency (EMSA).<br><br>**Regulation 724/2004** of the EP and the Council, adopted on 31.3.04, modifying Regulation 1402/2002. | **Regulation 1402/2002** entered into force following publication in the OJ, in August 2002.<br><br>**Regulation 724/2004** entered into force following publication in the OJ in May 2004. |
| | Double-hull oil tankers | | **Regulation 1726/2003** amending Regulation 417/2002. | **Regulation 1726/2003** (October 2003) and **revised MARPOL** Convention: |

| Policies | WP suggested measures | Measures under preparation | Measures adopted | Measures implemented |
|---|---|---|---|---|
| | | | EU proposal to amend the **IMO-MARPOL** Convention. | - Accelerated phase-in of double hull tankers<br><br>- Banning of the carriage of heavy grades of oil in single hull tankers<br><br>- Compulsory structural surveys of single hull tankers. |
| | Penal sanctions for ship source pollution | | The **Directive** 2005/35 on Ship Pollution was adopted on 7 September 2005. Ship-source pollution committed with intent, recklessly or by serious negligence will be regarded as infringements | |
| | Oil pollution damage compensation fund (increasing ceiling of IOPCF) | | Commission's proposal was not examined by the Council; Member States subsequently negotiated at international (IMO) level a protocol to set up a supplementary Fund. This protocol was adopted n May 2003. | Member States committeed themselves to become contracting parties to the Supplementary Fund Protocol at the latest before December 2005.<br><br>As of June 2006, only 15 Member States have ratified this Protocol. |
| | Maritime Safety packages following Erika sinking (and subsequently Prestige) | | 3rd Maritime Safety Package:<br><br>- **New Directive** on Flag State implementation.<br><br>- **Amendment of Directive 95/21/EC** (Port State control).<br><br>- **Amendment of Directive 2002/59/EC** (Vessel Traffic Monitoring System).<br><br>- **New Directive** on Accident Investigation.<br><br>- **Amendments of Directive 94/57/EC** (Classification Societies).<br><br>- **New Directive** on civil liability and insurance.<br><br>- **New** Regulation on passengers' rights (Athens convention). | |

| Policies | WP suggested measures | Measures under preparation | Measures adopted | Measures implemented |
|---|---|---|---|---|
| | Passenger Ships' Safety (ro-ro-ferries) | | **Directives 2003/24/EC** and **2003/25/EC** of the EP and the Council of 14 April 2003 on specific stability requirements for ro-ro passenger ships. | **Directives 2003/24/EC** and **2003/25/EC** of the EP and the Council of 14 April 2003, entered into force 18 months after publication in the OJ (17.5.03), in October 2004. |
| | Transfer of ships between registers | | **Regulation (EC) 789/2004** of the EP and the Council of 21 April 2004 on the transfer of cargo and passenger ships between registers within the Community and **repealing Council Regulation (EEC) 613/91.** | **Regulation (EC) 789/2004** of the EP and the Council of 21 April 2004 on the transfer of cargo and passenger ships between registers within the Community and **repealing Council Regulation (EEC) 613/91** (published in OJ on 30.4.04). |
| | Training of seafarers, promotion of profession | | **Directive 2003/103/EC** of the European Parliament and of the Council of 17 November 2003 amending Directive 2001/25/EC on the minimum level of training of seafarers; **Commission Directive 2005/23/EC** of 8 March 2005 amending Directive 2001/25/EC of the European Parliament and of the Council on the minimum level of training of seafarers;<br><br>**Directive 2005/45/EC** of the European Parliament and of the Council of 7 September 2005 on the mutual recognition of seafarers' certificates issued by the Member States and amending Directive 2001/25/EC. | **Promotion campaign** has been launched by the Commission and some Member States to attract young people to the seafarer profession. The Council adopted specific Conclusions on boosting employment prospects in the Community maritime sector and attracting young people to the seafaring profession in December 2005. |
| | Integrating short sea shipping into the door-to-door chain, increasing its efficiency, simplifying its use and solving bottlenecks that hinder its faster development | **New Communication** to report on first results of 14 actions under the Programme for the Promotion of SSS (COM(2003) final), planned for June 2006. | **Directive 2002/6/EC** of 18.2.02 on reporting formalities for ships at port's arrival/departure;<br><br>**Commission Staff Working Document SEC(2002)632** of 29.5.02 on Customs procedures for SSS;<br><br>**Communication COM(2003)155 final**, of | **Directive 2002/6/EC** (since 9.9.03);<br><br>Through **co-operation with SSS focal points** (national maritime administrations) number of bottlenecks has dropped from 161 (in 2000) to 35 (in June 2006);<br><br>**21 national SSS Promotion Centres** have been established, advocating |

| Policies | WP suggested measures | Measures under preparation | Measures adopted | Measures implemented |
|---|---|---|---|---|
| | | | 7.4.03, on the SSS promotion programme;<br><br>**Commission Staff Working Document SEC(2004)333**, 17.3.04 on simplified customs procedures;<br><br>**Communication COM(2004)453 final**, of 2.7.04, and **Commission Staff Working Paper (Annex) SEC(2004)875**, 2.7.04, on SSS. | benefits of SSS to shippers, forwarders and other potential clients. |
| | Motorways of the Sea | TEN-T 2006 call and Multi-annual Indicative Programming 2007-2013<br><br>Marco Polo II: new action on Motorways of the Sea<br><br>External dimension of Motorways of the Sea: Commission Communication on the extension of the major trans-European transport axes to the neighbouring countries | **Four motorways axes** (Baltic, Western Europe, South-Eastern Europe and South-Western Europe) have been identified as one of the 30 **priority projects** for the trans-European transport network. | Ministerial conference in January 2006.<br><br>TEN-T 2005 Call for Proposals evaluated. Three master plans being launched in 2006.<br><br>FP6 Research call covering Motorways of the Sea: project negotiations Evaluation of TEN-T Call 2006 ongoing.<br><br>Interreg funded projects to support Motorways of the Sea<br><br>External dimension: Motorways of the Sea project funded by Meda Programme |
| | Eliminating bottlenecks in inland waterway transport (infrastructure) | | TEN Guidelines **Decision 2004**; TEN funding. | |
| | Harmonisation of institutional framework in the inland navigation sector. | Part of Communication on Inland waterway transport NAIADES (COM (2006) 6) | **Recommendation** to the Council for a mandate to negotiate **membership** of the Community to the Rhine and Danube Commission of 1.8.03 (Sec(2003) 597 restr.). | |
| | River Information System | | **Directive (2005/44/EC)** on harmonised River Information Services on inland waterways in the | |

| Policies | WP suggested measures | Measures under preparation | Measures adopted | Measures implemented |
|---|---|---|---|---|
| | | | Community | |
| | Greater harmonisation of boatmasters' certificates | Included in the Action programme NAIADES for 2008 | | |
| | Harmonisation of technical standards of inland waterway vessels | Revision of Directive 82/714/EEC (technical requirements for vessels) | Council Common Position on the adoption of a Directive of the European Parliament and of the Council laying down technical requirements for inland waterway vessels and repealing Council Directive 82/714/EEC, adopted on 23 February 2006 | |
| | Social legislation inland waterway transport | Social dialogue within sector included in the Action programme NAIADES for 2006/7 | | |
| | Policy to enhance inland waterway transport (not foreseen in WP) | **Communication** on the Promotion of Inland Waterway Transport (NAIADES) including Action Programme (COM (2006)6) | | |
| | Social legislation in maritime transport | Ongoing preparation of a **Communication under Article 138§2 ECT** to be adopted by the Commission in June 2006 and to be transmitted to social partners in June 2006. | | |
| | Decision authorising the ratification of the 2006 ILO Convention on maritime labour standards by the Member States | Ongoing preparation of the proposal for a Council decision to be adopted by the Commission in June 2006. | | |
| | Port state control | | **New Directive** on Port State Control as part of the Third Maritime Safety Package.<br>**Council Directive 2001/106/EC** of 19.12.2001 amending directive 95/21/EC on Port State Control.<br>**Council Directive 2002/84/EC** of 5.11.2002 amending the directives on maritime safety and the prevention of pollution from ships.<br>**Communication COM (2002) 681 final**, of 20.12.2002 improving safety at sea in response | **Council Directive 2001/106/EC** of 19.12.2001 amending directive 95/21/EC on Port State Control (published in the OJ on 22.1.02).<br>**Council Directive 2002/84/EC** of 5.11.2002 amending the directives on maritime safety and the prevention of pollution from ships (published in the OJ on 29.11.02).<br>**Communication COM (2002) 681 final**, of 20.12.2002 improving safety at sea in |

| Policies | WP suggested measures | Measures under preparation | Measures adopted | Measures implemented |
|---|---|---|---|---|
| | | | to the Prestige accident. | response to the Prestige accident. |
| | Port reception facilities | | **Directive 2000/59/EC** of the European Parliament and of the Council of 27 November 2000 on port reception facilities for ship-generated waste and cargo residues. | **Directive 2000/59/EC** of the European Parliament and of the Council of 27 November 2000 on port reception facilities for ship-generated waste and cargo residues. |
| 5. Turning intermodality into reality | Marco Polo Programme (I and II) | Commission proposed the **Marco Polo II** programme as successor of MP I as of 2007, which is on the way to be approved by the EP and the Council in first reading with a total budget: of 400 Meuro for the period 2007 to 2013. New action types "Motorways of the sea" and "Traffic avoidance".<br><br>Call for proposals 2006 (Marco Polo I) planned for summer/autumn 2006. | Marco Polo programme launched in the **summer of 2003**. The budget is over 100 Meuro for 2003-2006. It is an EU-initiative that will be continued by Marco Polo II. | Calls 2003-2005 launched. Projects ongoing. |
| | Intermodal Loading Units (EILU) | Mandate to CEN for the standardisation of an EILU. | Proposal for a Directive on intermodal loading units COM(2003) 155 final, amended proposal COM (2004) 361 final.<br><br>The Commission proposes a new European standard Intermodal Loading Unit (EILU), although this will not be mandatory. EILU offers useful box, combining the advantages of ISO containers with those of swap bodies. | Programming Mandate M/337 to CEN for a work programme on the standardisation of a European Intermodal Loading Unit (EILU). |
| | Intermodal Passenger transport | Preparation of a draft action plan. Public stakeholder consultation. | | |
| | Freight integrators | Stakeholder consultation held in 2004. Ongoing study analysing 5 possible areas of action to prepare Commission action. | | |
| 6. Building the Trans-European | Trans European Network projects | | Decision 884/2004/EC on Community Guidelines for the development of the TEN-T | |

| Policies | WP suggested measures | Measures under preparation | Measures adopted | Measures implemented |
|---|---|---|---|---|
| transport network | Funding of TENs | 2007-2013 period: Revision of Financial regulation, ensuring conditionality in REGIO's instruments | Regulation 807/2004 laying down general rules for the granting of Community financial aid in the field of TENs | |
| | Tunnel safety | | Directive 2004/54 of 29 April 2004 on minimum safety requirements for tunnels in the TENs | |
| | TEN infrastructure in the candidate countries | TINA launched in Turkey: definition of core "TEN" network foreseen by 2006 | Romania and Bulgaria included in Decision 884/2004, MoU signed for Balkans in 2004 | |
| | Funding of infrastructure in the New EU Member States | 2007-2013 period: Revision of Financial regulation, ensuring conditionality in REGIO's instruments | Regulation 807/2004 laying down general rules for the granting of Community financial aid in the field of TENs | |
| | Develop administrative capacity in the candidate countries | | | |
| 7. Improving road safety | European Road Safety Action programme | | COM(2003)311. This sets out specific measures and reaffirms the overall of halving the number of road accident victims by 2010. | |
| | Harmonisation of road safety checks and penalties | | OJ C94/04 COM(2004)345 establishing national enforcement plans, and development of other enforcement actions. | Stakeholders dialogue underway |
| | "Black Spots" on TENs | Stake-holder consultation on-going | | |
| | Road infrastructure (tunnel) safety | | Dir. 2004/54 establishing minimum safety requirements in tunnels. | |
| | Seat and head restraints | | Dir. 2003/20 | |
| | Technical investigations of the causes of road accidents | | | Commission Directives 2001/9, 2001/11, 2003/26, 2003/27 |
| | Harmonisation of driving licensing systems | COM/2003/621 | Commission Decision 2002/256 making certain clarifications and reducing the differences for | |

| Policies | WP suggested measures | Measures under preparation | Measures adopted | Measures implemented |
|---|---|---|---|---|
| | | | licences in the future.<br><br>Second reading by Council in March 2006. | |
| | Speed limitation devices | | Dir. 2002/85 | |
| | Pedestrian and cycling protection | | | |
| 8. Adopting a policy on effective charging for transport | Infrastructure charging | Model for calculating external costs and strategy for coherent charging principle across modes | Commission report due by May 2008 | |
| | | Amendment of Dir. 1999/62: improves the scope and application of road charges. COM(2003)448 | Adopted in March 2006 (Dir. 2006/38) | Deadline for transposition March 2008 |
| | | Framework – airport charges | To be proposed | |
| | | Framework – port charges | To be proposed | |
| | Harmonisation of excise duties applicable to commercial diesel | Initial attempt of total harmonisation turned down in 2002.<br><br>Impact assessment of a greater approximation under way | | |
| | Electronic road toll system | | Dir. 2004/52 | R&D work programme and dialogue underway to ensure the establishment of interoperable fee collection systems by 2006. |
| | Harmonising VAT deductions | | | |
| | Taxation of passenger cars according to environmental criteria | Proposal for a Directive requiring taxation of passenger cars to be based at least partially on $CO_2$ emissions in order to ecourage the purchasing of cleaner and more energy efficient vehicles (COM(2005)261). | | |
| | Taxation of energy products and | | Council Directive 2003/96/EC restructuring the Community framework for the taxation of | |

| Policies | WP suggested measures | Measures under preparation | Measures adopted | Measures implemented |
|---|---|---|---|---|
| | exemptions for hydrogen and biofuels | | energy products and electricity. | |
| | Introduction of a minimum share of biofuels consumption in road transport | | Communication of the European Commission of 07/11/2001 on an Action Plan and two Proposals for Directives to foster the use of Alternative Fuels for Transport<br><br>COM(2001)547 final.<br><br>Directive 2003/30/EC. | |
| 9. Recognizing the rights and obligations of users | Air passengers rights including compensation for denied boarding, delays and cancellations, identity of the party responsible, compensation for damage, publication of classification of airlines according to their performance | | A proposal for Regulation concerning the rights of persons with reduced mobility travelling by air COM (2005) 47 final, 16 February 2005 adopted in first reading by the European Parliament in December 2005, adopted by the Council on 9 June 2006. | Regulation (EC) No 261/2004 of the European Parliament and of the Council of 11 February 2004 establishing common rules on compensation and assistance to passengers in the event of denied boarding and of cancellation or long delay of flights, and repealing Regulation (EEC) No 295/91 O J L 046 , 17/02/2004 P. 0001 - 0008<br><br>Regulation (EC) No 2027/97 of 9 October 1997 on air carrier liability in case of accidents OJ L 285, 17 /10/1997, p.1 as amended by Regulation (EC) No 889/2002 of 13 May 2002 OJ L 140, 30/05/ 2002, p. 2<br><br>Regulation (EC) No 2111/2005 of the European Parliament and of the Council of 14 December 2005 on the establishment of a Community list of air carriers subject to an operating ban within the Community and on informing air transport passengers of the identity of the operating air carrier (O.J L 344 27/12/2005 p. 15 |

| Policies | WP suggested measures | Measures under preparation | Measures adopted | Measures implemented |
|---|---|---|---|---|
| | Extending protection of users' rights to other transport modes | A proposal for a Regulation on the protection of international rail passengers COM (2004) 143 final, 3 March 2004<br><br>Establishment of the rights of passengers in maritime and coach transport.<br><br>International bus and coach transport: concluded public consultation, impact assessment study to be launched.<br><br>Maritime transport: studies, ongoing consultation on working document. | Communication of the Commission on strengthening passenger rights within the European Union COM(2005) 46 final | |
| | Public service requirements and the award of public service contracts in passenger transport by rail, road and inland waterway | Revised proposal for Regulation of the Council and the European Parliament concerning public services of passenger transport by rail and by road. COM (2005) 319 final | | |
| 10. Developing high-quality urban transport | Support for pioneering towns and cities (CIVITAS initiative) | Continuation of CIVITAS Initiative, selection of new group of cities in 2007 | CIVITAS Initiative implemented, 100 M Euro allocated to two groups of cities in 2001 and 2004 | |
| | Support for market introduction of alternative motor fuels | Assessment of market development perspectives of alternative fuels by the Contact Group on Alternative Fuels.<br><br>Report 12/2003). | Council Directive 2003/96/EC restructuring the Community framework for the taxation of energy products and electricity offering favourable tax treatment e.g. for biofuels, natural gas and hydrogen.<br><br>Initiatives on Hydrogen for Transport and Biofuels-cities and CIVITAS Initiative implemented | |
| | Promote the use of clean vehicles in urban public transport | Proposal for a Directive on clean vehicle procurement. COM(2005)634 | | |
| | Promotion of good urban transport practices | | ELTIS, benchmarking, STEER programme, RTD projects | |

| Policies | WP suggested measures | Measures under preparation | Measures adopted | Measures implemented |
|---|---|---|---|---|
| 11. Putting research and technology at the service of clean, efficient transport | European Research on new clean car technologies and ITS application to transport | FP7 | FP6 | |
| 12. Managing the effects of globalization | EU external relations in the transport sector | | | |
| | Galileo programme | Proposal for a Council Regulation on the establishment of structures for the management of the European satellite radionavigation programme [COM(2003)471]. | Council Regulation (EC) No 876/2002 of 21 May 2002 setting up the Galileo Joint Undertaking.<br><br>Council Decision on the signing of the Cooperation Agreement on a Civil Global Navigation Satellite System (GNSS) - GALILEO between the European Community and its Member States and the People's Republic of China [COM(2003)578]. | |
| 13. Security | General approach and financing for security in transports | Report on security and its financing | | |
| | Airport security | | EC Regulation No 2320/2002 of the European Parliament and of the Council of 16 December 2002 establishing common rules in the field of civil aviation security<br><br>As well as COM(2005)0429 final of 22.09.2005 - Proposal for a regulation of the European Parliament and of the Council on common rules in the field of civil aviation security (recast) | Under the regulation, the Commission carries out Community inspections on the implementation of the rules. |
| | Ship and port facility security | | EC Regulation No 725/2004 of the European Parliament and of the Council of 31 March 2004 on enhancing ship and port facility security | Under the regulation, the Commission carries out Community inspections on the implementation of the rules. |
| | Port security | | Directive 2005/65/EC of the European Parliament and of the Council on enhancing port | |

| Policies | WP suggested measures | Measures under preparation | Measures adopted | Measures implemented |
|---|---|---|---|---|
| | | | security | |
| | Intermodal security | COM(2006)79 final of 27.02.2006 - Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions on enhancing supply chain security and proposal for a Regulation of the European Parliament and of the Council on enhancing supply chain security | | |
| 14. Other measures not included in WP | Best Practice guidelines on cargo, abnormal traffic, road safety education | Proposal drafted | | |
| | road safety: Vehicle weights and Dimensions | | Dir. 2002/7 | |
| | road safety: Transport of Dangerous Goods | | Dir. 2001/26 | Commission Directive 2001/7<br>Commission Decision 2002/886<br>Commission Directive 2003/28 |
| | road safety: Transportable Pressure Equipment | | | Commission Directive 2001/2<br>Commission Decision 2001/107<br>Commission Directive 2002/50<br>Commission Decision 2003/525 |
| | Definition of road cabotage | Interpretative Communication adopted by college. Published in OJ C21/02 | | |
| | Road passenger market access | COM(2004)527 discussing options for further market opening and service quality. | No specific follow-up planned, except in the field of the passenger right and simplification | |
| | Forthcoming Communication on Freight Transport Logistics, scheduled for June/July 2006, to be followed up by an Action Plan. | | | |

**ANNEX 2:**

## DESCRIPTION OF POSSIBLE POLICY MEASURES INCLUDED AND INDICATION OF THEIR POSSIBLE IMPACTS

The impacts that will be examined are those of the three main policy dimensions: economic efficiency and mobility effect, social and environmental protection ("Env" in the text below). Particular attention will be paid to the impacts on the new Member States ("NMS" in the text below) as established in the 2001 White Paper and to the basis for any possible EU action.

This is a policy orientation paper that identifies fields of action. Each of these fields may include several concrete policy measures to be decided later and which will be subject to impact assessment according to the existing guidelines on the subject. Policies and measures are presented as part of a policy option but some may belong to several options as they may be implemented in a different depth or in a different manner.

I. MOBILITY IN THE INTERNAL MARKET – CONNECTING EUROPEANS

### 1. Current / Widening policy option: Examine experience in the internal road market and propose improvements of market access rules and rules on access to the profession

Policy objective and root problem to be addressed: While international transport has been largely liberalised national road haulage is largely protected, cabotage has a small market segment. The possibility of further efficiency gains has to be assessed. Common rules on the level of professional qualifications and working conditions contribute to high safety and social standards.

Economic and mobility impact:

– The relationship between further liberalisation and more efficiency of road transport has to be assessed (e.g. in respect of the possibilities to improve load factors and reduce empty running). Better training will increase labour productivity although – depending on who finances it - it may also increase firms' costs. More harmonised conditions of access to the profession may restrict supply in some Member States, but in the case of road transport it will provide stability in the market by preventing the costly repetitive entry and exit of very small companies. An increase in transport costs could follow, which will be compensated for in the medium term by higher efficiency.

Social impact:

– Training will increase the employability of workers. Access rules to the profession may reduce employment but will increase job quality. Road transport being a large and highly labour intensive sector, these measures may have an impact on labour markets at large. Safety will very much improve, both for truck drivers and in general. Small companies' situation need to taken into consideration.

Env. impact:

– Experienced, well-trained professionals are more likely to comply with safety and environmental rules and hence be able to reduce emissions, noise and the risk of accidents. Efficiency gains via competition will bring also environmental benefits.

Effects on NMS:

– The competitive advantage of NMS drivers will remain as wage differences are very large (in some countries about 5 times lower than in EU-15). Rather, the improved quality and reliability of road transport services will increase the demand on the services of NMS road transport firms for international transport.

Basis for EU action:

– Internal market, to avoid distortions in competition resulting from large differences between national legislations and to protect the essential interests of the transport sector workers.

**2. Current / widening policy option : Differences in tax levels.**

Objective and root problem to be addressed: The existing differences in excise taxes produce distortions in internal market competition within the road transport market as they introduce an important fiscal advantage or disadvantage within competition which is independent from the internal efficiency and costs of road transport firms ; any excessive differences in tax levels, especially on fuel, would need to be narrowed, a convergence of taxation levels would be therefore advisable.

Impacts: The Commission started an impact assessment to evaluate the different options concerning commercial diesel.

Basis for EU action:

– Treaty provisions on the harmonisation of indirect taxes. Unanimity is required.

**3: Deepening policy option: Harmonising clauses in road transport contracts to protect hauliers in case of fuel price rises.**

Economic impact:

– To contain the disruptive effects of high and volatile oil prices, an obligatory (or indicative) clause in road transport contracts would allow the oil price risk to be borne, beyond certain limits, by the shipper and not by the truck company. Free competition is good, but in this case markets are relatively imperfect because there is a difference in market power between shippers and transport companies. The benefit of a lower price is not captured by consumers but by shippers.

Social impact:

– The clause would help prevent social unrest in the event of high oil prices rises and high rates of bankruptcy of SMEs. Most contracts in road transport are however short-term and contractual clauses may have limited impacts.

Env. impact:

– The measure would marginally increase road transport prices which otherwise could be set too low as risks of oil prices rises are underestimated.

Effects on NMS:

– Important as fuel costs are a higher part of total costs of transport than in EU-15.

Basis for EU action:

– Controversial as it can be argued that contract issues should be left to the market.

**4. Current policy option: Implement the rail transport *acquis* with the help of strong regulatory bodies in the Member States. Rail transport internal market review . Accelerate efforts to remove technical and operational barriers to international rail activities with the help of the rail industry and the European railway agency.**

Objective and root problem to be addressed: The EU needs to tackle remaining structural obstacles to the competitiveness of the rail industry, in particular new operators should have access to infrastructure networks on fair conditions. Moreover, technical barriers should be tackled such as the low levels of interoperability, the lack of mutual recognition of rolling stock and products, the weak coordination of infrastructure and interconnection of IT systems and the problem of single wagon loads.

Economic and mobility impact:

– These measures, aimed at complementing the full implementation of the 1st and 2nd railway packages in all Member States, should result in an increase in competition. This should lead to productivity gains allowing improved performance of rail services (higher reliability, reduced transport times) and lower prices improving mobility conditions. Regulators should play a greater role in ensuring that new operators have access to infrastructure networks on fair conditions. Market monitoring and surveillance activities should also be increased. Current experience shows that competition fosters innovation and cost-cutting. In the period 1995-2001, the EU-15 railways[19] increased traffic units by 12% whilst reducing staff by 20%. The productivity improvements achieved were partly due to market opening in some Member States as well as to other pressures to improve performance (e.g. budgetary rigour). The resulting lower prices and time savings will increase rail transport demand and reduce the traffic shift to other modes (road). Total transport demand will increase if railways become much more efficient in long distance transport than other means of transport. An analysis carried out by the Commission services shows that rail freight transport growth has been stronger (in tkm) between 1995 and 2004 in the Member States which have introduced competition in their rail markets at an early stage.

Social impact:

[19] Study of the financing of and public budget contributions to railways (NERA, London 2003)

– The initial impact of market opening on the sector's jobs may be negative, although new companies will take on new people. The effect on the overall employment level in the economy will be positive. The user could suffer if the service is fragmented in many companies: information and ticketing have to be integrated.

Env. impact:

– New entrants will bring in more efficient equipment and methods. Lower costs in railways will increase transport demand, but will also produce some modal shift (e.g. reducing road and air transport) and therefore the external costs should in most cases fall.

Impact on NMS:

– The difficultly in restructuring highly overstaffed railway companies may create short term problems.

Basis for EU action:

– Greater integration of the Union's transport sector is an essential element of the internal market. It is necessary to ensure fair and non-discriminatory access to infrastructure, notably by taking into account companies from other Member States. Independent and strong regulatory bodies should ensure fairness and non-discrimination.

**5. Current / widening policy option: Examine a possible programme to promote a rail freight oriented network within a broader transport logistics policy.**

Objective and root problem to be addressed: Priority tends to be given to rail passenger transport, over the long distances where railways are competitive, this situation can delay freight trips and make the total time wholly unreliable reducing the competitiveness of railways.

Economic and mobility impact:

– The benefits of dedicating rail routes to freight come through reducing costs as a result of longer, heavier (axle loads increased) and more reliable services, the cost being very reasonable investments to upgrade the selected lines. Rail passenger and freight are different markets that share the same infrastructure. Most railway infrastructure managers give priority to passenger transport, in particular in the event of any incident. This impinges upon the speed and time reliability of freight services. Few dedicated freight lines exist or are being built, some of them linked to seaports (Betuwe, Sines). However the construction of HST lines frees up capacity on existing routes that can be used for dedicated lines (or for regional passenger services). The separation of passenger services from freight, particularly in key congested links, will increase the productivity of passenger rail transport and even more that of freight which suffers from the priority given to passenger services (e.g. around Hamburg). By improving the competitiveness of rail, it will also help to reduce congestion in the main road corridors. ERTMS will also help in this respect by increasing the capacity and improving the management of routes.

Social impact:

– Jobs will be preserved in the rail freight industry with a trend towards increased skills being required to cope with tougher planning requirements (e.g. quality management system). The better services plus lower prices will benefit shippers and allow them to increase productivity and hence employment.

Env. impact:

– The direct effect of infrastructure will be limited because dedicated lines will often use existing track. By increasing the attractiveness of rail transport, dedicated lines in congested areas and corridors will help to reduce the external costs of transport.

Impact on NMS:

– The density of the networks (and the reduction in their freight traffic) allows for more opportunities to establish corridors where freight services are given priority than in the case of theEU-15 Member States.

Basis for EU action:

– Long-distance dedicated routes require cross border coordination among all the Member States involved in a given corridor to obtain a maximum benefit from the dedicated rail lines.

**6. Current policy option: Continue to monitor the state aid and competition aspects of air transport restructuring and integration. Review the functioning of the internal market and propose adjustments.**

Objective and root problem to be addressed: The internal market in aviation is well advanced with the multiplication of routes offering wider choices at lower prices, the entry of low-cost carriers and the development of regional airports. However, the internal market has not yet been completed and therefore needs to be broadened to improve the performance of all segments of the aviation industry such as airports charges and capacity and air navigation services. The benefits from the internal market should also be extended to external aviation relations.

Economic and mobility impacts:

– Competition has helped to make **air transport** affordable to all citizens: tariffs have fallen and the number of intra-Community routes has increased by 40% between 1992 and 2002. The increased competition is well illustrated by the progress of the low-cost carriers whose market share is increasing rapidly (already about 20% in 2004). The intense competition by low-cost carriers also forces the network carriers to improve further their efficiency. The largest 10 EU airlines recorded an average 87% increase in productivity between 1990 and 2002 (TREN calculations based on AEA data). An **EU/US open aviation** area[20] would generate at least an extra 17 million passengers per year, creating between 3000 and 9000 jobs in the airline

[20] "The Economic Impact of an EU-US Open Aviation Area"

sector and more than 5 billion euro in consumer benefits. However, these estimates are limited to the airline industry and do not take account of the benefits to other parts of the economy of the increase in air travel (benefits to directly related sectors are estimated to be at least € 3.6 million per year).

Social impact:

– The initial impact of market opening on the sector's jobs may be negative, although new companies will take on new people. The effect on the overall employment level in the economy will be positive. The user could suffer if the service is fragmented in many companies: information and ticketing have to be integrated.

Env. impact:

– New entrants will bring in more efficient equipment and methods. Lower costs in the sectors opening up to competition (i.e. airports) will increase transport demand and will also produce some modal shift (e.g. reducing rail and road transport) and therefore the external costs should in most cases increase unless other accompanying measures are taken.

Impact on NMS:

– The difficultly in restructuring highly overstaffed airlines may create short term problems.

Basis for EU action:

– Greater integration of the Union's transport sector is an essential element of the internal market. It is necessary to ensure fair and non-discriminatory access to airport infrastructure.

**7) Widening policy option: Improved use of and increasing airport capacities**

Economic effects:

– Airports are becoming increasingly congested. Aviation traffic will more than double between 2000 and 2020 and studies have shown infrastructure will not grow at the same pace. The existing airport capacity will have to be put to its best use through better slot allocation, better technology and procedures, improved airport operations, better rail access, and interoperability via the Single Sky. Moreover, new capacity in terms of additional infrastructure, that is new runways and terminals, will be necessary in a number of places. However lead times for such projects are painfully long, while procedures, though motivated by valid environmental concerns, are long, complicated and sometimes unpredictable. It is important to consider whether a European policy strategy and guidelines should be developed to allow for the speedier realisation of new airport infrastructure. Airports provide a very much needed transport service and, moreover, in themselves constitute dynamic development pools because of the economic activity they generate and attract.

Social effects:

– Accessibility to airports will improve the welfare of the population in the catchment area. Airports create many jobs of all kinds from the lowest to the highest skills. For every 1 million passengers European airports support around 2 950 jobs nationally, 2 000 regionally and 1425 million jobs sub-regionally. The GDP related to airport activity lies between 1.5-2.5% (excluding tourism effect)[21]

Env. effects:

– More airports may reduce high environmental pressures from existing congested airports. However, they will also generate an increased demand which will have negative impacts on $CO_2$, pollution and on noise.

Impacts on NMS:

– As airports in the new Member States are seeing very high, double digit, growth rates some of them could soon be faced with insufficient infrastructure and in need of new runways and terminals. Regional airports would be more necessary than in other places of the Union where HST links exist.

Basis for EU action:

– Single European Sky legislation (interoperability) SESAR project, TEN-T guidelines. However, the building and choice of airport infrastructure to be built is largely a national competence.

**8. Current policy option: Review and complete the Single Sky regulatory framework, implement the modernisation of air traffic management and create SESAR undertaking.**

Objective and root problem to be addressed: The ongoing creation of the Single Sky should further increase the efficiency of EU air transport but leadership is needed in terms of the future structure of air traffic management systems to make sure that the fruits of the reform are delivered on time.

Economic and mobility impact**:**

– The Single European Sky involves the reform of air traffic management in the EU, in particular through the promotion of cross-border service provision and the creation of functional airspace blocks. This approach must be complemented and supported by the creation of a seamless interoperable air traffic management system. The Single Sky[22] would generate benefits of around €5.7 billion over the next 20 years as compared to a total cost of around €1.5 billion over the same period. The biggest benefit will come from the improvement of interoperability of Air Traffic Management systems and from the reorganisation of airspace.

Social impact:

– Air transport costs will be lower, demand will increase and will result in higher job creation for the aviation sector as a whole. Air traffic management is a labour

21 "The social and economic impact of airports in Europe", p 9. York Aviation commissioned by ACI, January 2004.

22 "Financing of ATM to achieve the Single European Sky"

intensive activity. The introduction of automated procedures will reduce the heavy workload and make it possible to cope with the expected high increase in traffic.

Env. impact:

– By reducing air space congestion around airports, this measure will lead to substantial savings (around 6% to 12%) of kerosene aviation fuel and reductions in other emissions.

Effects on NMS:

– Air traffic growth is very fast in the new MS. Although this policy measure is to be implemented in a homogenous way throughout the Union, it will help to accommodate this higher growth.

Basis for EU action:

– The advantages of a coordinated action enforced by the EU regulatory framework were so obvious that the Single Sky found its place within the Common Transport Policy. The EU has competencies in the field of the internal market, safety and security as well as in research and development. This provides a suitable framework for developing the Single Sky in collaboration with Eurocontrol.

**9. Widening / current policy option: Build a comprehensive strategy for a "common maritime area" adopting a White paper on a common European maritime area. Develop a comprehensive European ports policy. Continue to promote short sea shipping and motorways of the sea, with particular emphasis on landward connections.**

Objective and root problem to be addressed: Remove obstacles to internal trade, to permit the EU to set high social, environmental, safety and security standards, and to promote competitive infrastructure and industry development whilst bearing in mind the global context in which shipping operates. The expected growth of sea transport will need to be absorbed through the EU's ports which will have to improve their capacity not to become bottlenecks for economic growth.

Economic and mobility impacts:

– To improve and extend services increased investment within ports and towards the hinterland is necessary as well as increased cooperation and specialisation between European ports. Furthermore, port efficiency will be fostered by sound competition within ports and between them which requires clear rules for public contributions to investment and transparent access to port services. There is as yet no seamless internal shipping market: sea journeys from one Member State to another are considered external due to international regulation. This prevents the EU from regulating its internal traffic and simplifying internal trade. It also prevents coastal shipping from being fully integrated into internal logistic chains. Openings in international law should be fully utilised to address this problem. Administrative complexities and lack of full integration in the transport logistics chain have hindered the development of short sea shipping. Concentration of flows will favour economies of scale and scope, but can also distort competition if not handled transparently. Intra-EU trade will become easier as administrative and logistics costs decrease.

Road congestion will be reduced. The role of seaports as logistic and economic clusters will be enhanced and general productivity will rise. The Customs status of an "Authorised Regular Shipping Service" is already in place today. It allows regular shipping services to be authorised by the Customs to carry Community goods between two Member States with the minimum of formalities.

Social impact:

– Jobs will be created at ports and within their economic clusters. Long distance road transport jobs could in some cases be replaced by short distance ones. Although less labour intensive than road transport, short sea shipping and the related maritime clusters create jobs too. Higher economic efficiency will also trigger the creation of new jobs.

Env. impact:

– Congestion and emissions in inland transport will be reduced, notably in sensitive zones. Emissions of $SO_2$ will be reduced somewhat by the new legislation for shipping.

Effects on NMS:

– Island states will particularly benefit, but this measure will also allow NMS to carry out the necessary upgrading of their ports and maritime transport systems.

Basis for EU action:

– The Union's role in the control of customs areas is based on the Treaty. Moreover, coordination at EU level is necessary in the framework of the internal market.

**10. Current policy option: Implement the NAIADES action plan for river transport.**

Objective and root problem to be addressed: There is spare capacity and room for efficiency improvements on river corridors such as the Danube which should be exploited by modernising and integrating river transport into efficient multimodal logistic chains.

Economic and mobility impact:

– This transport mode has its own geographical market but it has to be updated technically and adapted to the new market demands such as container transport. As described in the NAIADE programme, regulatory and administrative costs have to be reduced, entrepreneurship promoted and state aid guidelines adapted. Improvements will increase the overall efficiency of the transport system as road congestion will be reduced. The role of IWW is particularly important to move goods from congested port areas.

Social impact:

– More competition and larger ships may involve job losses which will be compensated for by higher activity.

Env. impact:

– While inland waterway transport produces substantially less $CO_2$ emissions than road transport, there is a problem of conventional air pollution, and also the fact that infrastructure works may threaten sensitive areas.

Impact on NMS:

– IWW has limited importance in NMS traffic, existing systems have to be upgraded where they exist (Hungary, Poland, Czech Republic) .

Basis for EU action:

– Internal market, TENs.

II. MOBILITY FOR THE CITIZEN – RELIABLE, SAFE AND SECURE TRANSPORT

**11. Current / widening policy option: Encourage training and take-up of transport professions by young people. Examine in consultation with stakeholders the rules on working conditions in road haulage and propose adjustments where needed. Encourage dialogue between social partners across borders, notably to apply the ILO Maritime Labour Convention.**

Objective and root problem to be addressed: In some sectors such as road and rail transport shortages of qualified personnel have appeared; in the maritime sector a lack of EU candidates has contributed to an increase in foreign labour. EU legislation on qualifications and working conditions has helped to create a level playing field which is respectful of the needs of SMEs. Their effective implementation is of paramount importance.

Detailed description: See measure number 1

**12. Current policy option: Examine how increased quality of service and establishment of passenger rights can be promoted notably in maritime, bus and coach transport.**

Objective and root problem to be tackled: Quality of service is an important competitive asset in all modes but only air passenger rights have been strengthened.

Economic and mobility impact:

– The measure will slightly increase transport costs, but will not reduce mobility because passengers will be attracted by higher quality. A level playing field will be established in respect of air transport where these rights already exist.

Social impact:

– Depending on the gains in quality and prices some jobs could be lost. However, passengers will appreciate better services and demand for these services will increase.

Env. impact:

– The measure should be neutral in this respect.

Effects on NMS:

– Because of financing problems, the quality of public services is deteriorating. The protection of passengers' rights, while necessary, may worsen these financial difficulties by increasing costs.

Basis for EU action:

– Treaty provisions on transport policy.

**13. Current / widening policy option: Implement an integrated approach to road safety targeting vehicle design and technology (including e-safety), road infrastructure and driver behaviour, through concerted action including regulation where needed. Awareness efforts will be raised with an annual road safety day. First European safety day. Continuously review and complete safety rules in all other modes. Consolidate the European safety agencies and gradually extend their safety related tasks.**

Objective and root problem to be tackled: The relatively low level of accident fatalities in rail, sea and air transport, which has to be further reduced, stands in sharp contrast with the high number of road fatalities. The target to halve the number of deaths in the period 2001 to 2010 remains valid.

Economic and mobility impact:

– The cost of road accidents amounts to almost 2% of GDP, which gives an idea of the magnitude of the benefits which could be derived from a reduction of fatalities by 50%. In the maritime sector, the EU's share of the world fleet rose to 25% after enlargement. Given current pressure on all transport infrastructures, accidents create the likelihood of huge and costly congestion problems arising (e.g. Mont Blanc accident).

Social impact:

– A great deal of human suffering will be avoided. Inspections and controls are much more labour intensive than medical care, which is becoming capital intensive. Resources freed from accident treatment can be applied to more productive activities, raising long-term employment prospects. Savings can be made in the social security sector (fewer accidents means less loss of social security contributions, fewer payments to insured persons for treatment, etc).

Env. impact:

– Accidents often damage the environment and cause congestion – quite apart from the loss of resources.

Impact on NMS:

– Much to gain as increasing motorisation and poor infrastructure combine to produce more accidents than in the old Member States.

Basis for EU action:

– CTP, joint competences, subsidiarity issues controversial.

**14. Widening policy option: Examine the functioning of current security rules in air and maritime transport, propose adjustments where needed on the basis of experience and consider extending security rules to land and public transport and to intermodal transport and critical infrastructure. Review rules in air and maritime transport. Examine security regime for land transport.**

Objective and root problem to be tackled: Security is an essential element of transport quality, given its accessibility the transport system is vulnerable to all kind of criminal disruptions. An equilibrium has to be found between operational needs and security requirements. A level playing field needs to be guaranteed where the cost of security measures risks distorting competition.

Economic and mobility impact:

– If no adequate protection system is put in place, transport insurance costs will rise, transport and in particular public transport will become more expensive and there will be less demand for it.

Social impact:

– High human suffering and permanent fear will be avoided. Security protection is a relative labour intensive activity. Jobs will be created.

Env.impact:

– Terrorist attacks create considerable disruption the net effect of which on the environment is negative.

Impact in NMS:

– New Member States may have financial difficulties in paying for new protection systems.

Basis for EU action:

– Transport security requires coordinated action at EU level.

**15. Widening policy option: Publish a Green Paper on urban transport to identify European value added to action at local level.**

Objective and root problem to be addressed: Congestion, conventional pollution health damage and accidents are largely concentrated in urban areas and need to be addressed in an integrated way. To avoid duplication of efforts and opportunities missed, the EU can promote the study and exchange of best practice in areas such as transport infrastructure, norm-setting, congestion and traffic management, public transport services, infrastructure charging, urban planning, safety, security.

Economic and mobility impact:

– The development of better public transport and other alternatives to individual car use, combined with demand management measures such as pricing, parking fees and traffic restrictions, as well as a more efficient freight distribution, will help reducing congestion. The derived time savings and increased reliability of transport will increase the time available for work and leisure and reduce production costs.

Social impact:

– Jobs can be created in public transport services, fleet renewal and infrastructure upgrading as well as in freight distribution centres. An increased production may result in job creation.

Env. impact:

– The reduction of congestion will result in less pollution, energy consumption, noise and it will improve safety.

Effects on NMS:

– Urban public transport needs particular attention in new Member States due to its financial difficulties. Substantial investments are needed in infrastructure upgrading and fleet renewal. Social restructuring in the sector is ongoing and is linked with the level of public transport supply that can be maintained in the longer term.

Basis for EU action:

– It has to be considered to what extent the subsidiarity principle, which clearly applies in the field of urban transport, would prevent the Commission from launching initiatives in those cases when this could be clearly justified. One example is the identification, support to and dissemination of best practices at EU level – including by setting up a structured stakeholder dialogue – which will increase the general efficiency in dealing with urban transport problems.

III. OPTIMISING INFRASTRUCTURE

**16. Current/ widening policy option: Encourage and coordinate investment in new or improved infrastructure to eliminate bottlenecks, to enable co-modal transport solutions and to connect peripheral regions with the mainland. Identification of the TEN-T multiannual investment programme up to 2013. Ensure a balanced approach to land use planning.**

Objective and root problem to be tackled: Transport infrastructure interconnects markets and brings people together increasing competitiveness and territorial cohesion. However, many parts of the Union have insufficient infrastructure – as it is the case with the new Member States -, or poorly maintained, in other cases, bottlenecks remain, notably in cross-border areas. Investment in viable alternatives to congested road corridors can include intelligent solutions involving co-modal logistic chains. The outermost regions suffer from a strong accessibility deficit not only in relation to the continental internal market but also in their own hinterland. Instruments like state aids could be used to reduce the effects of remoteness on their competitive position and to improve connections with the rest of the EU and with neighbouring third countries.

Economic and mobility impact:

– Lack of transport capacity, in particular for cross-border links, is hampering the completion of the internal market and progress towards social and territorial cohesion, especially for peripheral regions. Transport time reductions will increase total factor productivity, GDP and foreign trade through better accessibility. Projects are tested individually to ensure their socio-economic profitability. The benefits of the TEN programme as a whole have been demonstrated, but financing remains a problem. While the priorities have already been decided by the Union in the TEN Guidelines decision, the timing of its financing has to be adapted to the resources available by first starting those projects that, after being examined, prove to be more beneficial at European level. In particular, it will be important to identify those precise sections that will be most valuable to link the national markets (e.g. cross-border, heavy international traffic) and to increase competitiveness. An earlier impact on economic growth can also be obtained by favouring projects which are more mature in technical and financial terms.

Social impact:

– Temporary employment is created during construction and increased total factor productivity and competitiveness generates more jobs when projects become operational. Improved accessibility increases the competitiveness of peripheral regions and therefore territorial cohesion. The main EU budgetary instruments to deal with social cohesion issues are the Structural and Cohesion Funds. In countries with high unemployment, the TENs will improve employment if they are linked to a wider development strategy.

Env. impact:

– Infrastructure has an impact on the environment which has to be minimized and weighed up against the higher efficiency of a more integrated economy. In cases where economic priorities favour motorways, the impact will not be clear-cut, although the impact on safety will be very positive. Low quality road infrastructure produces many accidents and external costs (e.g. large trucks crossing town centres). New infrastructure also produces some degree of traffic generation.

Impact on NMS:

– The infrastructure endowment of these Member States is much lower than that of the rest of the Union. Therefore, better accessibility will increase their competitiveness, in the framework of an overall development strategy. The support NMS will receive from the Cohesion and Structural Funds will be crucial to improve their accessibility.

Basis for EU action:

– TEN title, subsidiarity considerations important but EU action relatively uncontroversial.

**17. Current / widening policy option: Maximise investment in trans-European infrastructure of European interest by mobilising all available sources of financing**

**including the TEN budget, Structural and Cohesion Funds and capital market lending (including from the European Investment Bank, EBRD, PPPs).**

Economic and mobility impact:

– Through its budgetary and financial instruments the EU is a powerful investor with a large financial leverage and promotion capacity, synergies must be exploited where each instrument takes the leadership in the fields that it knows better and receives a good support and collaboration from the others. Lenders and equity investors need that their stakes are reimbursed and remunerated. Thus, a solution to the lack of financing may be to shift part of the infrastructure financing burden from the taxpayer to the user by applying user charges and earmarking them for the infrastructure as proposed by the Commission in its initial Eurovignette proposal and subsequently allowed. In this way, infrastructure charges provide a signal of the demand for the construction of further infrastructure. In this context, PPP procurement can help ease the pressure on public finances. PPPs may attract private sector financing and investment and encourage innovation in finding solutions for projects. The 'value for public money' can be improved through more efficient procurement and project management as well as through synergies between construction and project management. On a life cycle basis, project risks have to be clearly identified, and attributed to the party best able to carry them. The selection of viable projects has to be undertaken on the basis of a careful comparison between the PPP and the purely public solution, to avoid cost increases through high risk premiums. An appropriate regulatory framework at European and national level needs to be flexible to adapt to the solutions proposed.

Social impact:

– The social and employment impacts of a project can be brought forward if appropriate financing and PPPs make as early a start on the project as possible.

Env. impact:

– Infrastructure may help to solve current congestion, safety and pollution problems.

Effects on NMS:

– NMS have large infrastructure deficits, including lack of maintenance. Due to the insufficient public budgets and the poor scope for user charging, the value of the Cohesion and Structural Funds has to be improved through the encouragement of smart procurement procedures, which might include all forms of PPPs. In several cases PPPs may constitute an important alternative to consider for the realisation of infrastructures which generate substantial toll revenues, as ports, airports and appropriate sections of motorways. NMS may need technical advice from the Commission services to cope with the complexity of PPP projects.

Basis for EU action:

– In the context of the internal market, the EU has a duty to ensure that the public procurement part of a PPP contract is transparent and does not discriminate on grounds of nationality.

**18: Deepening policy option: Accelerating the construction of the TENs by earmarking to them all user and polluter charges.**

Objective and root problem to tackle: A solution to the lack of resources for investment in transport infrastructure would be to earmark all user charges to the financing of priority, mostly railway, infrastructure as proposed by the Commission in its initial Eurovignette proposal.

Economic and mobility impact:

– With earmarking, part of the infrastructure financing burden would be shifted from the taxpayer to the user. However, if earmarking is adopted, other outlays with a higher socioeconomic profitability may be excluded or projects of limited utility may be financed just because resources are available. The effects of earmarking on the stock of infrastructure will depend on the amount by which the current budgetary expenditure on infrastructure is reduced. If charges were obtained just from congestion and internal costs (wear and tear), this would have some logic to it (congestion indicates lack of infrastructure capacity), although projects with large indivisibilities (e.g. seaports) would be discriminated. However, earmarking on the basis of environmental charges may be counterproductive as it may stimulate the financing of projects with high negative environmental effects (e.g. mountain roads). It is also difficult to allocate revenues inside the network of one and the same mode and to ring-fence a pool, as traffic may originate in distant sections of the network. Regardless of how they are financed, projects have to be worthwhile and acceptable on environmental grounds. Thus, a stringent case-by-case project appraisal should be carried out considering all alternatives.

Social impact:

– Earmarking may increase the acceptance of excise taxation and user charging among the population. Infrastructure creates jobs during construction and later on in all the sectors that are able to increase their production as a result of the new links. The final effect of infrastructure programmes depends on the economic slack in the country and sector and on the overall additional efficiency gains derived from the new project (i.e. opportunity costs in terms of job creation of the funds).

Env. impact:

– Earmarking to the mode will favour the more commercially profitable modes over environmentally friendlier ones. Cross-financing of rail or intermodal solutions in sensitive zones will help mitigating this general effect.

Effects on NMS:

– The effects depend on the level of the charges as, if it is fixed too high, the use of the infrastructure will be low and money invested in the initial project will have been wasted.

Basis for EU action:

– The EU has competencies on the setting of charges and indirect taxes but not on the use made of the revenues.

**19. Current policy option: Launch broad reflection and consultation on smart infrastructure charging and propose an EU methodology for infrastructure charging building on the current road charging directive. The latter requires the Commission to examine external cost charging in all modes. EU policy definition of smart charging for infrastructure.**

Objective and root problem to tackle: Infrastructure is a scarce asset whose use has to be conveniently managed – inter alia by internalising costs - and which has to be expanded when necessary and possible. Fees may be modulated to take into account environmental impacts or congestion risks, in particular in environmentally sensitive and urban areas. In such areas, other forms of capacity allocation could be used such as market exchanges of transit rights.

Economic and mobility impact:

– An efficient pricing system is essential for a correct allocation of resources including the use of natural resources. Pricing is a better way to ration scarce infrastructure capacity than queuing, as the equivalent of 1% of GDP is lost due to congestion. Correct pricing requires also the establishment of a level playing field between the different modes and within each mode, the first requirement to establish such a system is transparency (e.g. for air companies to know why some airports are more expensive than others). The piling up of revenues from congestion pricing is an indicator of the need for more infrastructure which can be financed, at least in part, from those revenues.

Social impact:

– In most cases transport tends to be underpriced not covering all external costs which favours mobility, activity and therefore employment, although congestion can also be seen as a tax on labour. In some cases however, transport could be overpriced. The use of the current pricing systems to extract monopolistic rents (e.g. in airports and ports) reduces the efficiency of the transport system allowing profits to be extracted from rent-seeking and not from productive efficiency which has also an impact on consumer and user prices. Thus the social impact of applying transparent pricing to all modes is positive.

Env. impact:

– Correct pricing will involve internalization of externalities. However, at present this is done through other instruments which are easier to apply such as regulation on vehicles and fuels, energy taxation.

Basis for EU action:

– Internal market, avoiding distortions in international transport and trade, relatively non-controversial.

**20. Deepening policy option: Applying user charges to road freight, including external costs, to all EU roads**

Economic and mobility impact:

– Social Marginal Cost Pricing (SMCP) is the final target of all pricing systems as it leads to an efficient use of infrastructure. Applying infrastructure charges based on full SMCP to road freight transport would significantly increase road haulage operating costs unless it is compensated by a restructuring of existing (vehicle and fuel) taxes. As a result of increased freight rates, demand for road freight transport would grow more slowly and shift to alternative modes. However, as shown in the ASSESS study, the transfer of demand to rail and other modes would only be partial, as part of the road demand reduction would result from an adjustment in the geographic patterns of sourcing, i.e. overall freight transport would be reduced Applying charges to the whole network would limit distortions. Another negative effect of pricing is that it reduces overall mobility and accessibility for the periphery, quite substantially according to ASSESS . As such, it is an instrument to apply with caution, in particular because, taking account of the high tax burden already imposed on freight transport and the needs of global competitiveness, it can damage economic growth. Finally, the design of the scheme would be technically demanding due to the difficulty of valuation of internal and in particular external costs as the latter change continuously according to time and place, and are difficult to measure. Moreover, the technical feasibility of a scheme at European level is still low as different Member States apply different methodologies.

Social impact:

– A reduction in the use of road transport, which is a highly labour intensive transport mode, will reduce employment in the transport sector. However, by reducing congestion it will improve total productivity and allow for greater growth and more jobs in other sectors. The net effect on employment in the whole economy would also depend on the use of charging revenues. As regards distributive impacts, the measure would imply a transfer of the burden of infrastructure and maintenance financing from the taxpayer to the user (and ultimately to the consumers), depending also on the use of charging revenues.

Env. impact:

– The measure would yield environmental benefits through reduced impacts of air pollutant and greenhouse gas emissions as a result of lower traffic, more efficient use of infrastructure and vehicles and use of cleaner vehicles. It has to be taken into account, however, that private car traffic could increase as a result of less road freight transport .

Impact on NMS:

– Transport pricing policies reduce accessibility, notably for the peripheral regions. The more profound effect occurs if all modes and both travel and goods transport are subject to pricing[23]. These effects can be compensated, up to some point, by TEN infrastructure investments which improve accessibility.

[23] See IASON Final Report. 5th RTD Framework programme (e.g. SASI model table in page 70)

Basis for EU action:

– CTP, internal market, controversial due to technical complexity.

**21) Deepening policy option: applying user charges to car passenger transport, including external costs, to all EU roads and urban areas**

Objective and root problem to be tackled: urban congestion is partially due to the absence of pricing mechanisms that ration scarce capacity at peak-load moments and smooth or discourage traffic.

Economic and mobility impact:

– Passenger cars are heavily taxed on average, but excise and other taxes fail to distinguish between congested and densely populated areas and areas with sparse population and no pollution. Therefore a change could be envisaged with a greater differentiation of charges to improve the use of infrastructure. Private cars already pay tolls for the use of motorways in some countries. However, the indiscriminate use of charging would face public opposition, raise feasibility problems, and reduce mobility. This does not preclude the fact that pricing can be successfully introduced in the framework of local mobility packages (e.g. London congestion charging). At EU level, according to the ASSESS modelling the application of only 25% of the recommended levels of marginal cost charges would reduce car mobility by 7% and total passenger mobility by 5.5% as only 1.5% of the traffic lost would be captured by other modes of transport. Without accompanying measures e.g. to provide alternative modes of transport (depending from local-regional authorities) the economic effect would be negative.

Social impact:

– Putting a user price on commuters' travelling time amounts to a tax on labour as it increases the costs of working versus staying at home, although the same effect is produced by congestion. However, there are distributional issues involved as pricing falls more heavily on low income earners who prefer to spend time in traffic jams than to spend money in congestion charges to eliminate them. On the other hand, for non-commuter trips, distance travelled is positively correlated with income. Rural areas also have a greater need for transport, although they have no congestion and they would possibly benefit from a switch to differentiated pricing. In general, people will not like their freedom of movement being constrained, particularly for short trips.

Env. impact:

– The reduction of congestion and externalities will have a positive effect on the environment.

Impact on NMS:

– Transport pricing policies reduce accessibility, notably for the peripheral regions. The more profound effect occurs if all modes and both travel and goods transport are subject to pricing[24].

Basis for EU action:

– Setting charges on the private car cannot be based on the CTP and the internal market as private transport by car is not a commercial activity. Controversial for subsidiarity issues, on top of technical complexity. Integration of environment and climate change is a possible basis for some kind of soft action.

**22) Widening policy option: Smart charging should not increase the overall burden on citizens and companies; for this purpose, the analysis of charging needs to integrate transport related tax policies which do not stimulate sustainable mobility.**

Objective and root problem to tackle: A substantial obstacle to the introduction of better pricing schemes is the persistence of the older ones which are mostly revenue oriented (e.g. vehicle taxes which are in contradiction with the user pays principle). To improve the political acceptance of new distance based tolls foreseen in the directive on road charges and to redistribute the fiscal effort in a more efficient way, vehicle taxes could be reduced to compensate for the new charges. Currently, the minimum rates range from €0 to €929 depending on the type of vehicle.

Economic and mobility impact:

– Public sector revenues could remain the same but behaviour would be reoriented thanks to better differentiation according to the use actually made of infrastructure. Vehicle taxation could also be modulated to better reflect the polluter pays principle.

Social impact:

– Vehicle circulation taxes have little or no impact on the demand for new trucks. The measure could be revenue neutral, thus there need be no effects on jobs.

Env. impact:

– The modulation could be linked to other features such as $CO_2$ emissions (also internalized through excise taxes) or emission classes and create incentives to purchase more efficient and less polluting vehicles.

Impact on NMS:

– The political acceptability of user charges is particularly low in NMS, this measure would improve it. Several NMS had to recently introduce vehicle taxes to comply with the acquis.

Basis for EU action:

[24] See IASON Final Report

– EU action is possible under the unanimity rule. However, a consensus is possible on the basis of the principles of revenue neutrality, the polluting pays principle and the need to finance new infrastructure.

IV. INTELLIGENT MOBILITY

**23. Widening policy option: Develop a framework strategy for freight transport logistics in Europe, followed by broad consultation and leading to an action plan.**

Objective and root problems to be addressed: The manufacturing of any single good is increasingly carried out in different parts of the world – even within the same firm. Thus the transport of goods has to be effected in a reliable and economical way. To do so it is necessary to remove regulatory obstacles to co-modality, to make transhipments easier by promoting standardisation and interoperability across modes, to overcome lack of information stimulate learning and the exchange of best practice throughout the EU, and to solve the lack of infrastructure by supporting investment in transhipment hubs. Adapting dimensions of containers and vehicles to meet the needs of intelligent logistics will be part of these considerations.

Economic and mobility impact:

– Quality and innovation will benefit all operators in the intermodal chain as shown by the Marco Polo programme. Transport systems have to be adapted to different transhipment, consolidation and distribution moments often implying other added value operations. The transport system needs to meet these requirements and firms could gain by collaborating among themselves to cut transport costs. A reduction in transport costs and their related administrative costs will increase competitiveness. The Commission prepared in November 2005 proposals for a modernized Customs Code and e-Customs. The economic operators would need give the information only once ('single window') and the goods be controlled by authorities at the same time and at the same place ('one stop administrative shop'). These developments are expected to considerably facilitate SSS as well as all means of transport crossing the EU's external border[25]. Intermodal Loading Units (ILU) should be standardised, compatible with all transport modes (SSS, IWW, rail and road) and allowing for simplified transhipment in terminals. Thanks to the ILU, logistics costs will be reduced by 2%. This will be highly beneficial for European industry.

Social impact:

– Increased competitiveness will foster exports and create more and better jobs.

Env. impact:

– Less resources will be used, in part as intermodality will become more efficient and less polluting modes will be more and better used.

[25] The total costs in setting up these Customs proposals might involve an investment of up to €80 to €100 million per year until 2013 for the Commission and Member States together. The benefits, however, could be as high as €2500 million per year once the system is fully operational (at the earliest in 2009). The break even point would be reached in 2010. These figures involve all Customs operations and not only the shipping-related ones.

Impact on NMS:

– No particular impact.

Basis for EU action:

– As logistics concerns mainly relations between firms subsidiarity towards the market is a concern.

**24. Current policy option: Continue intelligent mobility programmes in aviation (SESAR), railways (ERTMS), waterborne transport (RIS and SafeSeaNet). Making the best use of Galileo navigation signals including through the identification of possible future applications. Start of the Galileo concession. Implementation on certain ERTMS corridors.**

Objective and root problem to tackle: Some high technology transport projects are so large and risky and require such high levels of coordination among the different Member States that they can only be satisfactorily developed under the EU leadership. SESAR air traffic management new technologies will reduce by 10% the incidence of air traffic on the environment. The ERTMS rail traffic management system will bring similar advantages to the rail sector, while some lines are already equipped, most of the high speed lines as well as the major international freight corridors will be equipped by 2015. The RIS is already being deployed on the main EU river corridors. The Galileo system will be operational from 2010 and provide navigation signals to be combined with ground or space based communication.

Economic and mobility impact:

– **GALILEO** is the first major industrial and space project in Europe. The global satellite radionavigation market doubled in value between 2002 and 2003, from €10 billion to €20 billion. It will approach € 300 billion by 2020, with about 3 billion receivers in operation. Equipment contracts resulting from its use are estimated at approximately €9 billion a year. The various studies undertaken show the economic profitability of the programme[26]: the profit/costs ratio is has been put at 4.6 over 20 years. **SESAR** benefits amount to approximately €20 bn net at present value within the aviation sector through increased capacity and productivity, improved flight efficiency and improved use of aircraft. Deployment of **ERTMS** will enable trains to carry a single European system on board, thus reducing costs through economies of scale and improving interoperability, safety, capacity of lines and reliability.

Social impact:

– **GALILEO** should create almost 150 000 jobs. Thanks to **SESAR**, 14 000 jobs will be created in the aviation sector and 150 000 in a wider context as a result of sustained air traffic growth and the increased competitiveness of the EU aeronautical sector. **ERTMS** deployment on lines and existing locomotives is labour intensive and requires high technical skills.

Env.impact:

[26] Study carried out in 2001 by the consultant PricewaterhouseCoopers.

– **Galileo** will ensure a reduction of congestion and of $CO_2$ emissions. **SESAR** could allow for kerosene savings of 6-12%. **ERTMS** will improve the efficiency of railways and attract traffic from other modes of transport.

Effects on NMS:

– The NMS will be able to benefit from high technology services that they could not afford otherwise.

Basis for EU action:

– Most Member States could not on their own afford this kind of programme at a national level. RTD promotion, subsidiarity favours EU action, not controversial.

**25. Widening policy option: Examine the feasibility of a major programme to roll out intelligent systems in road transport. Launch this major programme.**

Objective and problem to be tackled: Sound ITS deployment give exceptional benefit for relatively little cost compared to the cost of providing alternative infrastructures.

Economic and mobility impact:

– Thanks to ITS deployment, under congested conditions average speed increases and time loss can be reduced by around 20% and, at the same time capacity is increased by about 5%. The provision of reliable and timely travel and traffic information across the modes and the potential to manage and control road vehicles will be enhanced by making the road vehicles 'intelligent'. Today, vehicle intelligence is becoming part-and-parcel of vehicle design. However, provision of a comprehensive 'telematics or logistics platform', on-board the vehicle, needs innovation. To facilitate this a comprehensive development, demonstration and validation programme of a Universal On-Board Unit that monitors the vehicle's 'identification, position and time' could be considered. Such a system would facilitate the application of services such as electronic fee collection, pay-as-you-drive insurance, dynamic route guidance, e-call as well as driver's hours recording, which is currently done by the independent tachograph. The assessment has shown that for HGVs, all cost options considered yield a net benefit, over the time frame of 2008 to 2020. However, the high and medium cost option renders the U-OBU as not cost effective for light vehicles, including passenger cars. The demonstration and validation programme will need to focus on unit cost as this will drive deployment, particularly for light vehicles.

Social impact:

– Reduction of congestion increases welfare and productivity.

Env. impact:

– Very high impacts on traffic safety can be found, with reductions up to 50%. A positive impact can also be seen on fuel consumption and air quality, although no quantified impacts are available from these cases. Most effective is ITS deployment on the congested parts of the road network, where the potential gains for fighting

congestion, improving environmental conditions and improving traffic safety are highest.

Effects on NMS:

– At their current level of development NMS have more urgent needs (e.g. conventional infrastructure) although they can also benefit from joint EU efforts.

Basis for EU action:

– Ensuring interoperability of ITS systems across the EU; stimulating standardisation of the ITS networks, resulting in lower total transport costs; integrating the management of the various national road networks into one European network.

## V. ENERGY USED IN TRANSPORT

**26. Widening policy option: Promote EU actions, including voluntary agreements. Examine the feasibility of a major future-oriented programme for green propulsion and energy efficiency in transport. Launch a major programme for green propulsion.**

Economic and mobility impact:

– In a context of rising oil and energy prices many investments in more efficient transport equipment become profitable. Economies of scale lower the price of these investments as their use becomes widespread. Technology leadership may help to win third country markets. The public sector can give an example in its public procurement (e.g. the Commission's proposal for a Directive on the promotion of clean transport vehicles) or provide information and persuade the private sector of the need to increase transport energy efficiency. The 2005 proposal introducing a $CO_2$ element in passenger car taxes is also a step in this direction. Tougher energy efficiency standards can be set or voluntary agreements (e.g. ACEA's on cars) may be reached to avoid some firms distorting competition by applying lower standards.

Social impact:

– The fuel and vehicle sector increase their added value towards more complex production processes and their demand for labour increases, notably for highly qualified staff.

Env. impact:

– Energy savings and $CO_2$ and conventional pollution reduction.

Effects on NMS:

– As labour costs are lower, energy costs are a higher component of total costs in NMS and they have a higher interest in energy efficiency.

Basis for EU action:

– European transport policy has to incorporate environmental considerations and objectives. The EU is committed to the Kyoto Protocol.

**27. Current policy option: Support research, demonstration and market introduction of promising technologies such as intelligent vehicle management systems or alternative fuels such as advanced biofuels and hydrogen or fuel cells.**

Economic and mobility impact:

– RTD transport priorities include road safety, intermodal transport, ITS, urban transport air traffic management, the clean, energy efficient and safe vehicle, European systems for satellite navigation, efficient and interoperable railway transport and related activities such as the dissemination and standardisation of research results and their use in the analysis and formulation of policies. Existing assessments indicate that RTD transport projects generally deliver what they promise (e.g. Galileo, Single Sky, CIVITAS). There is a time lag between doing research, generating innovations and reaping the benefits. The Union suffers from a large RTD investment gap compared with its main competitors. The literature shows that the estimated crowding-in effect of 1 euro of public RTD funding allocated to business ranges from 0.7 euro to 0.93 euro. The private rates of return of private RTD can be as high as 43%, the social ones as high as 160%. The rates of return to publicly funded research could be as high as 67%[27]

Social impact:

– As an initial impact, the community of researchers (universities, industry etc) will grow in number and quality as a result of an increase in RTD expenditure, and the quality of life of all EU citizens will improve. The rate of growth of total factor productivity, as a result of improvements in efficiency of production or purely technological progress, will have a positive impact on the employment rate within one year.

Env. impact:

– RTD will identify win-win technologies from a growth-creating and sustainability point of view and will improve the management of natural resources.

Effects on NMS:

– Apart from participating in the programmes, they will benefit from the scientific achievements of the RTD programme.

Basis for EU action:

– Some research activities are of such a scale that no single Member State can provide the necessary resources and expertise. EU projects can allow research to achieve the required critical mass, while lowering commercial risk and producing a leverage effect on private investment.

**VI. THE GLOBAL DIMENSION**

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[27] Impact assessment and ex-ante evaluation of the proposal on the 7th Framework programme SEC (2005) 430

**28. Current policy option: Continue EU transport cooperation and policy and industrial dialogues with main trading partners and regional groupings, including agreements. Develop a strategic framework for extending the internal transport market and network's main axes to neighbouring countries that so wish. Review the EU's interaction with international cooperation mechanisms on a case-by-case basis, including EU membership in international organisations such as the IMO and ICAO.**

Objective and root problem to be dealt with: Transport cooperation and convergence of legislation, based inter alia on jointly agreed action plans, will help to establish the necessary interconnection of the major transport axes to enable growing economic and social interaction.

Economic and mobility impact:

– Establishment of a level playing field so that the EU tighter environmental, social and safety legislation is applied worldwide. Applying the same standards at the EU institutions and in international fora will strengthen them. The competitiveness of the modes most exposed to international competition will improve.

Social impact:

– The EU will be able to keep its higher social standards in a context of strong competition.

Env. impact:

– Higher environmental and safety standards will be applied throughout the world.

Effects on NMS:

– Not particularly different from the other MS.

Basis for EU action:

– Mandates and issues comprised in the "acquis".

**29) Current policy option: Continue the development of the external dimension of air transport by implementing the Road Map adopted by the Council in June 2005 consisting of three pillars: ensuring the legal certainty of existing bilateral agreements, developing a Common Aviation Area with neighbouring countries by 2010 and negotiating comprehensive air transport agreements with certain third countries.**

Objective and root problem to be dealt with: Air transport more than other modes, is particularly dependant on international context and that is vital for the competitiveness of European airlines to participate fully in the external market. The restricted international trade framework produces inefficiencies within and outside Europe as travel costs are higher than they should be in an open market and because it prevents the airline industry from operating like normal businesses (e.g. prevents mergers and takeovers).

Economic and mobility impact :

– With free access to traffic rights and equal conditions of competition, the resulting lower prices will lead to increasing demand for air transport.The EU/US open aviation area[28] could generate at least an extra 17 million passengers per year and more than 5 billion euro in consumer benefits. However, these estimates are limited to the airline industry and do not take into account the benefits to other parts of the economy of the increase in air travel (benefits to directly related sectors are estimated to be at least €3.6 million per year). The European Common Aviation Area agreement signed on June 2006 with eight partners in South-East Europe and the EU-Morocco agreement initialled in December 2005 will generate further opportunities for European industry and consumers.

Social impact:

– Job losses in the existing firms which most benefit from the current system will be compensated for by new entrants. An EU/USA agreement would create between 3000 and 9000 jobs in the airline sector. A study by Intervistas[29] predicts a creation of 24.1 million jobs through liberalising 320 selected country pairs.

Environment:

– Unless measures are taken to contain extra external costs from increased activity, the environment will suffer (noise, $CO_2$).

Basis for EU action:

– CTP, Internal market, mandate from Member States.

[28] "The Economic Impact of an EU-US Open Aviation Area"

[29] « The Economic Impact of Air Services Liberalisation » published on 7.6.2006

**ANNEX 3:**

# Results from the ASSESS study

## I. INTRODUCTION

The ASSESS study has assembled comprehensive information at the European level to carry out an assessment of the 2001 White Paper (WP 2001) concerning its achievements to date, the possible policy implementation scenarios to the year 2010, and the longer term prospects to the year 2020. The "ASSESS" study has evaluated the WP 2001 measures at different levels of intensity (or scenarios) which has allowed some lessons to be drawn.

These scenarios have been analysed with a set of models, the core one being the SCENES transport model. The SCENES output was then processed into TREMOVE (vehicle stock, emissions, fuel consumption and government revenues), CGE (regional welfare), SLAM (logistics), a noise model, the SWOV road safety model and a macro-economic model and the ASTRA model on macro-economic impacts.

## II. THE BASELINE OR MOST LIKELY SCENARIO

The ASSESS study has first of all created a baseline scenario with the most likely developments in the transport system. To do so, it has evaluated the effects of the implementation of the WP 2001 on the basis that a majority of measures will be approved by 2010 and put into practice by Member States. The main measures included in the **most likely implementation** of the WP 2001 scenario and in the other scenarios are shown in Box 1 (there is also a "Null" scenario not shown in that box which assumes that none of the measures has been implemented).

On the basis of the 2001 White Paper's measures so far approved and implemented – or which look likely to be implemented before 2010 –traffic growth and modal shift are likely to develop as follows:

- the overall growth in **freight** demand for inland modes (i.e. road, rail and inland waterway), measured in tonne-kilometres, is likely to increase 24% for the period 2000-2010, and about 50% for 2000-2020.

- for **passenger** transport the growth figures would be 17% (2010) and 35% (2020) higher.

- meanwhile, **GDP** should grow by 22% and by 52% for the same periods.

- these figures confirm the current trend - since the mid-nineties - that freight transport tends to grow more on average than passenger transport.

- they also show that passenger transport tends to grow less than GDP and freight transport at the same rate or slightly more than GDP.

The WP 2001 proposed as an objective to keep the modal split that existed in 1998, which would require all modes to grow at the same speed as road (in fact more than road to catch up

with the delay added up since 2001). Actually, the only mode that has been able to grow faster than road has been short sea shipping (see tables 1 to 6).

Table 1 **EU-25** Freight % modal share

| EU-25 Bn tkm | **Road** | **Rail** | **Inland Water-ways** | **Pipelines** | **Sea** | **Total** |
|---|---|---|---|---|---|---|
| **1998** | 43.1 | 11.5 | 3.9 | 3.6 | 37-.,9 | 100 |
| **2004** | 44-.,3 | 10.0 | 3.4 | 3.3 | 39.0 | 100 |
| **2010** | 44.6 | 9.4 | 3.4 | 3.3 | 39.3 | 100 |
| **2020** | 44.5 | 8.1 | 3.0 | 3.3 | 41.2 | 100 |

Table 2 Passengers

| EU-25 Bn pkm | **Passenger Cars** | **Public Transport** | **Railway** | **Air** | **Total** |
|---|---|---|---|---|---|
| **1998** | 77.2 | 9.9 | 6.0 | 6.8 | 100 |
| **2003** | 77.3 | 9.4 | 5.8 | 7.6 | 100 |
| **2010** | 76.7 | 8.5 | 5,5 | 9,3 | 100 |
| **2020** | 76.1 | 7.1 | 5.0 | 11.7 | 100 |

Table 3 **EU-15** Freight % modal share

| EU-15 Bn tkm | **Road** | **Rail** | **Inland Water-ways** | **Pipelines** | **Sea** | **Total** |
|---|---|---|---|---|---|---|
| **1998** | 43.4 | 8.5 | 4.3 | 3.0 | 40.7 | 100 |
| **2004** | 43.9 | 7.6 | 3.8 | 2.6 | 42.1 | 100 |
| **2010** | 44.0 | 7.2 | 3.6 | 2.5 | 42.7 | 100 |
| **2020** | 43.5 | 6.1 | 3.5 | 2.3 | 44.6 | 100 |

Table 4 Passengers

| Bn passenger-kilometres | Passenger Cars | Public Transport | Railway | Air | Total |
|---|---|---|---|---|---|
| **1998** | 78.1 | 9.0 | 5.8 | 7.1 | 100 |
| **2003** | 77.9 | 8.6 | 5.6 | 7.9 | 100 |
| **2010** | 77.1 | 8.0 | 5.5 | 9.8 | 100 |
| **2020** | 76.8 | 6.9 | 5.1 | 12.2 | 100 |

Table 5 **EU-10** Freight % modal share

| Bn tonne-kilometres | Road | Rail | Inland Water-ways | Pipelines | Sea | Total |
|---|---|---|---|---|---|---|
| **1998** | 40.3 | 32.9 | 1.2 | 8.1 | 17.5 | 100 |
| **2004** | 47.2 | 26.4 | 0.9 | 7.8 | 17.7 | 100 |
| **2010** | 51.9 | 22.1 | 1.9 | 8.0 | 16.1 | 100 |
| **2020** | 55.2 | 18.1 | 1.6 | 9.3 | 15.7 | 100 |

Table 6 Passengers

| Bn passenger-kilometres | Passenger Cars | Public Transport | Railway | Air | Total |
|---|---|---|---|---|---|
| **1998** | 67.8 | 19.8 | 8.9 | 3.6 | 100 |
| **2003** | 71.2 | 17.1 | 7.6 | 4.1 | 100 |
| **2010** | 75.9 | 13.3 | 6.1 | 5.1 | 100 |
| **2020** | 80.5 | 9.7 | 4.1 | 7.0 | 100 |

*Freight transport: growth and modal shift as a result of the 2001 White Paper*

- Instead of the 50% growth of road freight transport in 12 years (EU-15) foreseen in WP 2001, the ASSESS study forecasts only 55% in 20 years (EU-25). This is due, among other things, to low economic growth, high oil prices and the first effects of the WP's social and pricing measures on road transport. The road tonne-km growth is likely to be near 26% for 2000-2010.

- According to the ASSESS study, because of the package of measures of the White Paper, between 2000 and 2010 the Union's road freight transport activity will grow in total a little less (-2.2%) than it would have grown without those measures (i.e. 23% without WP in the "Null" scenario; 21% with WP).

- During this period 2000-2010, gains in rail traffic (+7.6%) and in inland waterways (+0.7%) thanks to the WP 2001, will cover two-thirds of the traffic lost by road transport following the WP's measures. As a result, there will be only a small decline of freight mobility (-0.5% less than without the WP, but freight continues to grow overall).

- The (relative) losses in road transport as a result of the WP 2001 in the new Member States are a little bigger (-3.8%) than in EU-15 (-1.9%) but are more than offset by (relative) gains in rail traffic (+11%). This is due, inter alia, to the fact that road social harmonisation and pricing measures are relatively more expensive to apply in a context of low labour costs.

- In total, rail tonne-km growth is expected to be between 8% and 12% up to 2010 and up to 2020, while in the scenario without the WP it would have had a negative growth (-5% and -6%).

- This suggests that the current partial implementation of the White Paper programme is likely to reverse the decline of rail freight which occurred during the 1990s, but will not be sufficient to achieve the original White Paper target of retaining the modal split pattern of 1998 for freight demand for EU-25 as a whole.

- Short Sea Shipping has been assessed independently of the other modes by ASSESS and it will grow some 5% more than without the White Paper. This growth will more than compensate for the small (relative) mobility losses in inland transport.

- In total, short sea shipping activity is likely to grow by 24% for 2010 and 59% for 2020.

| BOX: 1 Measures in the ASSESS scenarios | | |
|---|---|---|
| **1) Most likely scenario or baseline**<br>- lorry driver training, harmonisation of social legislation, digital tachograph<br>- rail freight liberalization<br>- start to passenger rail liberalization (completed by 2020)<br>- TENs completed according to the 2004 schedule plus delays identified in 2005 (ie with delays in respect of 2001 schedule)<br>- some passenger services contracts awarded through competition<br>- airport charges implemented<br>- aviation agreement with USA signed<br>- European management of airspace ready by 2010<br>- introduction of slots<br>- motorways of the sea ready by 2010<br>- double-hull tankers phased out<br>- there is some transport charging but with limited impacts<br>- clean urban transport is promoted by research and support to initiatives such as CIVITAS.<br>- port services are partially liberalized | **2) Full implementation of the White Paper scenario (measures in addition to scenario 1)**<br>- Driving times harmonized<br>- week-end bans harmonized<br>- clauses in commercial road transport contracts protecting against sudden fuel price rises<br>- full liberalisation of international rail passenger transport<br>- development of a network of dedicated rail freight lines<br>- TEN projects according to initial planning in 2001<br>- expansion of airport capacity<br>- kerosene taxation and en route charging for aviation<br>- harmonisation of IWW boatmaster certificates and improvement of IWW gauges, bridge heights and locks<br>- full liberalisation of port services<br>- efforts to harmonise legislation in road safety become effective<br>- widespread introduction of e-safety<br>- road charges for freight in TENs including external costs<br>- a majority of public transport services contracts awarded through competition. | **3) Extended White Paper scenario (measures in addition to scenario 2)**<br>- Road marginal cost pricing for freight and for passenger transport: 50% in 2010 and 100% in 2020 for trucks; 25% for private cars in 2020.<br>- Charging for all modes<br>- Kerosene taxation plus en-route charging<br>- Faster liberalisation of port services<br>- Faster liberalisation of rail passenger services<br>- Technology push: support to clean car technologies: speeding up of SESAR, River Information Services obligatory, faster advancement of Galileo applications<br>- Support for clean car technologies under RTD FP, support for introduction of clean cars in captive fleets, public procurement of clean vehicles.<br>- Speeding up of TEN priority projects in particular those which have coordinators. |

Charts 1 and 2 illustrate the extent of the predominance of road transport which is shared with short sea shipping in the case of freight and which is absolute in the case of passenger transport in respect of the private car. This will continue during the coming years and up to 2020, as both charts show, on the basis of the forecasts produced by the ASSESS study.

**Chart 1**

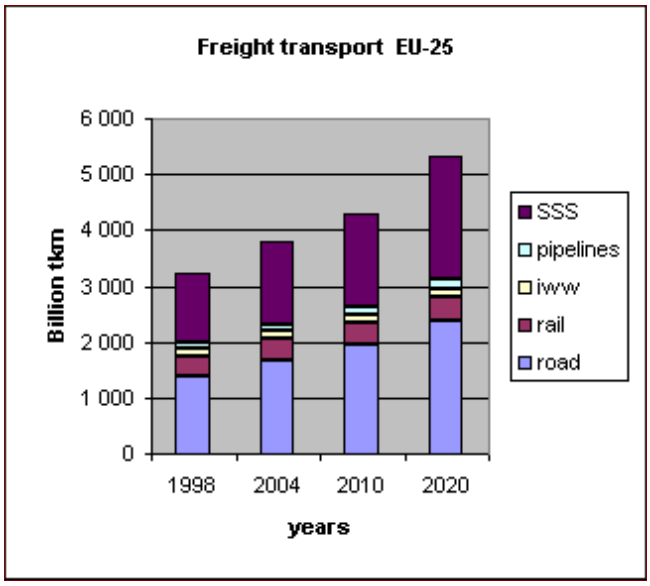
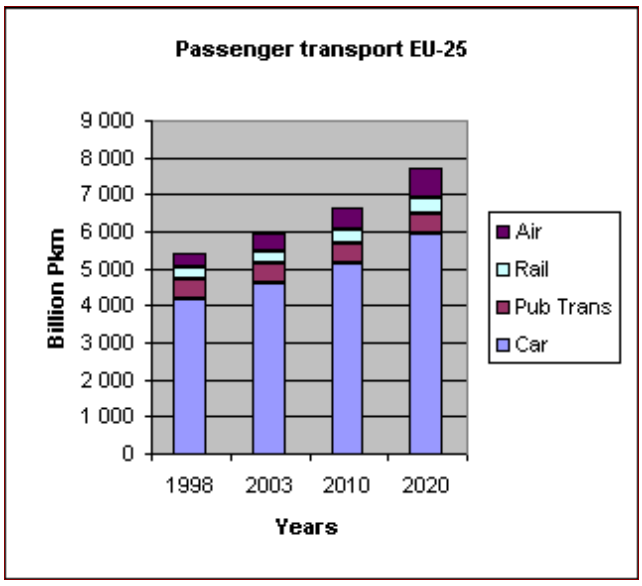



**Chart 2**




*Passenger transport: growth and modal shift attributable to the 2001 White Paper*

The effects of the White Paper on passenger transport are minimal because most of the measures in its programme concern freight transport:

- Thus, between 2000 and 2010 the effects of the White Paper's policies compared with a scenario without the White Paper have consisted of very small relative losses in private car transport (-0.03%) and in aviation (-0.1%) together with some growth in rail transport (+1,6%).

- Total growth for private car transport compared with the year 2000 is 17% by 2010 and 36% by 2020.

- Passenger rail gets better results than rail freight thanks to high speed trains (HSTs) and commuter traffic growth: 11% by 2010 and 19% by 2020.

- Passenger aviation is the fastest growing mode, increasing by half between 2000 and 2010 (51%) and doubling by 2020 (+108%).

Box 2 summarizes the growth trends foreseen by the ASSESS study which have just been described.

**Box 2**

| **Most likely 2000-2020 transport activity growth in EU-25** | |
|---|---|
| - Overall freight transport | 50% |
| - Overall passenger transport | 35% |
| - GDP | 52% |
| - Road freight transport | 55% |
| - Rail freight transport | 13% |
| - Short Sea Shipping | 59% |
| - Inland Waterways | 28% |
| - Private car | 36% |
| - Rail passenger transport | 19% |
| - Air transport | 108% |

III. RESULTS FOR A POLICY MIX

To determine what constitutes the right mix of different policy measures, the ASSESS study has analysed the 2001 WP measures and other possible initiatives as well as their combined effects.

ASSESS put together four scenarios of reference. 1) A "null" scenario without the White Paper (N), 2) the most likely White Paper implementation scenario (P), 3) a full implementation scenario (F) and 4) an extended or reinforced WP scenario (E).

– The comparison between the null and the most likely scenario shows that the White Paper is on the right track to achieve some of its objectives.

– The full scenario and the reinforced scenario achieve modal shift but hamper mobility, as too much pressure is put on road transport without providing the right modal alternatives.

– The study accepts modal shift but criticises it, proposing that more attention should be paid to technology and other developments in the main transport modes.

ASSESS also includes a second most likely scenario (partial B) which is the one considered in section II of this annex as "the baseline". The difference between Partial A (considered in the scenarios policy mix analysis) and Partial B (the baseline) concerns only freight transport and it is due to the fact that Partial B assumes a higher growth based on a smaller impact of road charging and road social measures and a higher built-in trend growth due to a longer observation period. The policy comparison is made by ASSESS only with Partial A as it is the only fully consistent with the other scenarios.

The following charts show that, although some degree of modal shift is actually taking place (Chart 3) as a result of the implementation of the White Paper policies, these measures also produce a reduction in mobility when the freight activity is taken as a whole (Chart 4). The corresponding charts for passenger transport are not shown as the impacts of the different White Paper policy packages are very small, both in terms of modal shift and of reduction of mobility.

**Chart 3**

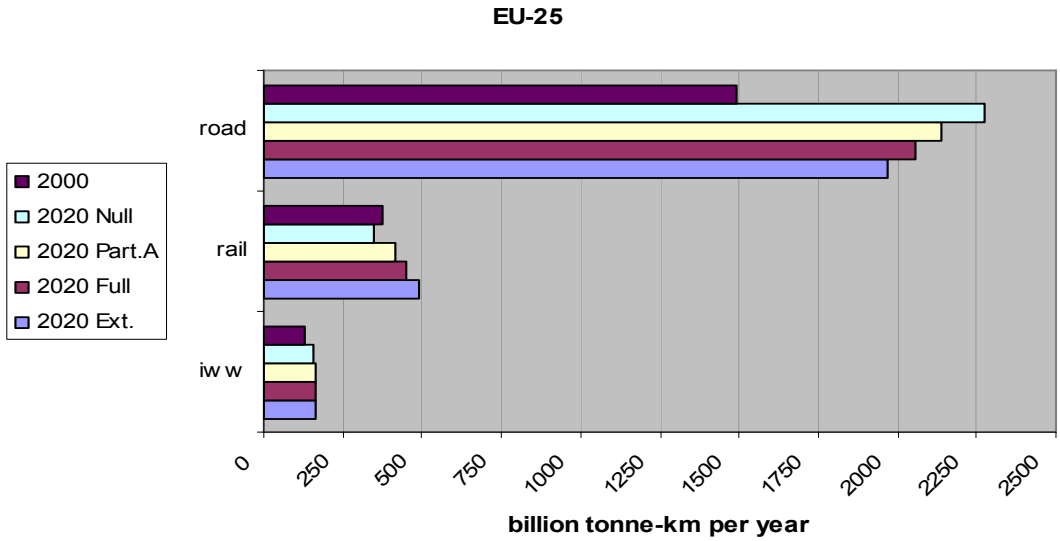
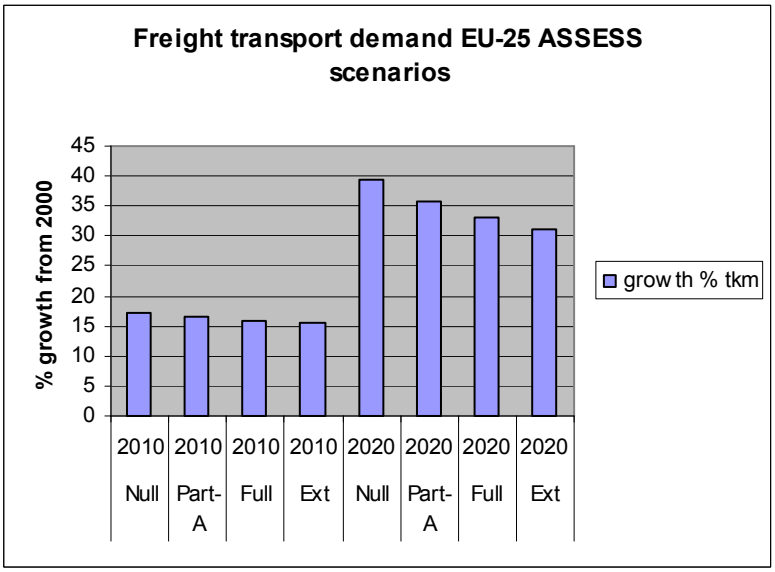


**Chart 4**




The modelling carried out shows that if **a reinforced WP package was implemented**, including the introduction of user charges for private cars from 2010, then the modal split of 2000, used by the model, could be reached by 2020. However, this package implies a major **reduction in mobility** (for passengers not shown in the charts), which could create obstacles to economic growth. While the assessment study identifies infrastructure pricing as the most powerful tool to steer the transport system, its use requires caution and a gradual introduction in view of the risks, notably to economic growth and the subsidiarity issues it involves.

As the "ASSESS" study explains**: "**Under the full scenario, the SMCP is applied for trucks in all Member States. The road and rail percentages indicate that only a limited proportion of the freight tonne-kms are transferred from road to rail under SMCP. The tests by the model suggest that a significant proportion of road freight demand reduction is through a shortening of the average length of road haulage. (Page 60)

While it is a fact that an increase any increase in transport costs tends to reduce mobility, the ASSESS study overestimates the impact of pricing because it does not reduce transport taxes to compensate for the increase in user charges. This relative duplication is in part made up by the fact that ASSESS user charges do not include congestion.

Therefore, the additional results that the full White Paper and the strengthened White Paper scenarios obtain over the current implementation of the White Paper are very uncertain, in relation to the benefits from what the Council and Parliament have already decided and to what the White Paper has implemented.

The ASSESS study produces a number of indicators to show in summary form the results achieved by the different scenarios (see Table 7).

**Table 7: Transport performance in EU25 for all 4 scenarios, relative to 2000(=100)**

| EU25 | | 1990 | 2000 | 2005 | 2010 | | | | 2020 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | N | P | F | E | N | P | F | E |
| Pkm | Pkm/year | 82 | 100 | 108 | 117 | 117 | 118 | 118 | 135 | 135 | 136 | 127 |
| Tkm | Tkm/year | 83 | 100 | 108 | 117 | 116 | 116 | 116 | 139 | 136 | 133 | 131 |
| Intensity pass. | Pkm/population | | 100 | 107 | 114 | 114 | 115 | 115 | 130 | 130 | 131 | 123 |
| Intensity freight | Tkm/tonne | | 100 | 102 | 103 | 100 | 100 | 100 | 113 | 107 | 107 | 103 |
| Accessibility (travel time) | Hours | | 100 | 99 | 99 | 98 | 96 | 95 | 98 | 97 | 95 | 94 |
| GDP (baseline) | Euro | | 100 | 113 | 127 | 127 | 127 | 127 | 162 | 162 | 162 | 162 |
| GDP+ (impact) | Euro | | 100 | 113 | 127 | 134 | 134 | 134 | 162 | 163 | 164 | 165 |
| employment (baseline) | Euro | | 100 | 104 | 108 | 108 | 108 | 108 | 116 | 116 | 116 | 116 |
| employment+ (impact) | Euro | | 100 | 104 | 108 | 108 | 108 | 108 | 116 | 117 | 117 | 117 |
| Safety | road fatalities | 134 | 100 | 86 | 77 | 68 | 45 | 28 | 56 | 49 | 24 | 13 |
| Energy | Toe | | 100 | 103 | 102 | 102 | 102 | 102 | 107 | 107 | 106 | 99 |
| $CO_2$ | Tonne | | 100 | 103 | 102 | 103 | 103 | 103 | 107 | 108 | 107 | 101 |
| PM | Tonne | | 100 | 87 | 76 | 77 | 77 | 77 | 67 | 69 | 68 | 65 |
| Nox | Tonne | | 100 | 80 | 63 | 65 | 64 | 64 | 49 | 52 | 51 | 48 |
| $SO_2$ | Tonne | | 100 | 96 | 92 | 89 | 89 | 89 | 94 | 90 | 89 | 84 |
| Noise | % hindered persons | | 100 | 104 | 107 | 107 | 108 | 108 | 115 | 116 | 116 | 113 |
| Land take | Km² road | | 100 | 100 | 102 | 107 | 120 | 118 | 107 | 113 | 123 | 121 |
| Fragmentation | Km² road | | 100 | 100 | 102 | 110 | 130 | 130 | 111 | 120 | 135 | 134 |

– According to the ASSESS modelling, the White Paper will manage to reduce tonnes-km by 2010 and a bit more by 2020 although its full application can slightly increase passenger transport as there are fewer trucks on the roads and less congestion due to them.

– The White Paper will also increase GDP, as an effect of TEN investments and pricing measures. Effects on the economy are crucially dependant on a recycling of pricing revenues towards TEN financing or towards cutting down direct taxes (e.g. on labour).

– Congestion is measured in ASSESS using average trip times as an indicator (accessibility indicator). On this basis and according to ASSESS calculations, in the scenario without the WP congestion experienced by road freight would increase by almost 10% in 2010 and by 20% in 2020. The full implementation of the WP would reduce the increase in delays by 4% in 2010 and by 5% in 2020.

– The White Paper also has strong effects on safety: in the case of full implementation of its programme, it is estimated that the EU as a whole will reach the 50% objective by 2010; however, in this scenario a rather rigorous implementation of (among other things) e-safety is assumed in the full implementation scenario.

– Finally, the White Paper has little effect on sustainability ($CO_2$, air pollutants) unless much stronger measures are taken which in turn cut down mobility. Energy demand and $CO_2$ emissions remain relatively stable between 2000 and 2020. There is little difference between the scenarios of most likely implementation of the White Paper and others in which the White Paper is fully implemented or is even reinforced (e.g. full charging for infrastructure use), as the effects in energy efficiency improvements of the very large transport modes (road and private car transport) dilute the positive effects of modal shift. Moreover, it should be recalled that the most effective environmental actions of the EU, notably effectiveness in reducing CO2 and pollutant emissions from road vehicles, are outside explicit White Paper measures

(e.g. measures affecting vehicle technology as the Euro-standards and the ACEA agreement) and constitute the common background for all the scenarios.

As ASSESS recalls "the potential environmental benefits of modal shift from road transport to rail transport should not be overestimated. The modal share of rail transport is only 6% in passenger transport and 13% in freight transport. Even in a very optimistic scenario in which these rail shares would be doubled this would only lead to a reduction of road transport emissions which is smaller than 10%. The potential effects of technological improvements in the road transport sector are much larger". (Page 84)

"Shifting as much as possible can be helpful, but is no substitute for action on the main and further growing modes, road freight transport, passenger car travel and aviation". (Page 107)

insisting on:

"The analysis shows that the target of decoupling transport growth from economic growth does not influence the sustainability effects of transport. It should be revised towards a decoupling of the negative consequences of traffic, not traffic itself. (Page 15)

Therefore, on sustainability grounds, according to ASSESS, the reasons for asking for a strengthening of the current White Paper measures are not clear-cut. On economic grounds, the introduction of pricing measures and the continuation of the TEN programme offer many benefits, but the schedule foreseen for the TEN programme will be difficult to keep while the political acceptability of further pricing measures is often low. On these grounds it is possibly better to tackle environmental challenges through other additional means not foreseen in the White Paper and adopting a more open approach to policy making and implementation:

As ASSESS advises, it may be worthwhile to focus on the implementation in the Member States, trying to overcome local political or financial barriers by building in incentives. A closer participation of local stakeholders, both public and private, can accelerate policy implementation. (Page 15).