



Council of the
European Union

Brussels, 11 July 2016
(OR. en)

11041/16

TRANS 285

COVER NOTE

From:	Secretary-General of the European Commission, signed by Mr Jordi AYET PUIGARNAU, Director
date of receipt:	4 July 2016
To:	Mr Jeppe TRANHOLM-MIKKELSEN, Secretary-General of the Council of the European Union
No. Cion doc.:	SWD(2016) 226 final
Subject:	COMMISSION STAFF WORKING DOCUMENT The implementation of the 2011 White Paper on Transport "Roadmap to a Single European Transport Area – towards a competitive and resource-efficient transport system" five years after its publication: achievements and challenges

Delegations will find attached document SWD(2016) 226 final.

Encl.: SWD(2016) 226 final



Brussels, 1.7.2016
SWD(2016) 226 final

COMMISSION STAFF WORKING DOCUMENT

The implementation of the 2011 White Paper on Transport "Roadmap to a Single European Transport Area – towards a competitive and resource-efficient transport system" five years after its publication: achievements and challenges

Contents

Executive summary	3
1. Introduction	4
2. The views of stakeholders and other EU institutions and bodies	4
3. Taking stock of the main achievements	7
3.1. Progress in the implementation of the 2011 programme.....	7
3.2. Implementation at Member States level	16
3.3. Progress towards the targets and goals	17
4. A new environment for the implementation of EU transport policies	27
4.1. The priorities of the Commission 2014 - 2019.....	27
4.2. Recent trends and developments in the transport sector.....	28
5. Conclusions	34
Annex I: Trends and developments of relevance for transport	35
Annex II: Schematic table on the state of play of the 2011 White Paper programme	42

Executive summary

This report looks at progress in the implementation of the initiatives under the ten-year programme of the 2011 Transport White Paper by taking stock of the activities undertaken so far.¹ It also presents changes in the context against which the policy objectives and approach had been formulated in 2011, highlighting main trends and developments of relevance for transport. Through the publication of this report, the services of the Commission are in particular responding to stakeholders as well as European institutions and bodies, who have requested to take stock and follow-up on the implementation of the 2011 White Paper on transport.

Overall, the stock taking exercise has shown that there is still little progress achieved towards the goals set 2011. Despite a relative good pace on the side of the Commission in proposing new measures, it has become evident that the follow-up adoption of the proposals by the legislators as well as the implementation have been lagging behind. Moreover, it has turned out that not all initiatives could take the form initially planned and alternative approaches to tackle various problems are sometimes needed.

Despite the continuation of the main trends, it should also be acknowledged that the current situation has evolved since 2011. The rapid technological developments (notably due to automation and digitalisation) have been reshaping mobility concepts and opening new potentials. At the same time, the results of the consultation and feedback received from various stakeholders indicate that negative externalities of transport are increasingly contentious, while unresolved social issues are considered as a major stumbling block for the Single European Transport Area. In addition, 'smart transport' is often seen as part of the solution to the mobility problems, but it also requires the right framework conditions, in particular with respect to standardisation, interoperability and data exchange.

¹ The fact that only limited data are available and that the impacts of most of the initiatives cannot yet be observed do not allow the proper assessment of the effectiveness of the measures adopted so far and their contribution to reaching the goals. Moreover, at this stage it would be difficult to assess the impacts of the long-term transport strategy, given that even where initiatives have led to the adoption of corresponding legislation, the latter has often not yet been fully implemented on the ground and it would be premature to expect any significant impacts. Consequently, the report does not provide an evaluation of the proposed policies and does not propose any revision of the goals or policy recommendations put forward in the White Paper, but rather takes a more qualitative approach to analyse the past achievements and to place them in the current economic, technological and political context.

1. Introduction

The purpose of this report is to take stock of the implementation of the 2011 White Paper on transport "Roadmap to a Single European Transport Area – towards a competitive and resource-efficient transport system"² and to provide an overview of the respective achievements and challenges. It is intended to provide a solid factual ground for upcoming policy debates and actions, identifying the bottlenecks of the present approach and challenges to address.

The 2011 White Paper defines a long-term vision until 2050 for a transport sector that continues to serve the needs of the economy and of the citizens while meeting future constraints: oil scarcity, growing congestion and the need to cut CO₂ and pollutant emissions in order to improve air quality particularly in cities. According to this vision, transport will have to cut emissions by 60% by 2050 to contribute to the overall target of 80% to 95% reduction for the entire economy. The strategy set in the White Paper is to a substantial degree based on low CO₂ emission fuels, energy efficiency, better multimodality of transport and new technologies that should lead to optimised journeys.

The Commission has further developed its transport policy in the context of various priority strategies i.e. on (1) jobs, growth and investment, (2) a deeper and fairer internal market, (3) energy union and climate, (4) digital single market and (5) the EU as a stronger global actor. In addition, the upcoming decarbonisation communication will report in depth on the follow-up of the White Paper actions related to sustainable transport.

The White Paper strategy is characterised by four broad areas of intervention: internal market, innovation, infrastructure, international aspects. For each of these areas, a ten year programme was defined with 40 specific action points, containing within each point a handful of specific initiatives of different nature, different time horizon and different economic/political relevance.

2. The views of stakeholders and other EU institutions and bodies

Stakeholders' consultation

The current report is informed by the views of various stakeholders who were invited to provide their feedback on the 2011 White Paper, progress in its implementation and main challenges for the future.

In order to get a good overview of the views of the main users/operators and general public the Commission ran an open consultation from 10 March till 2 June 2015. In total 271 replies were submitted via the 'Your Voice in Europe' website, with over 100 replies accompanied by

² COM (2011) 144 final

supplementary position papers. The detailed results of the consultation have been presented in a dedicated consultation report.³

Given the diversity of replies, a stakeholder event was held on 12 November to further discuss the way forward.⁴ The event gathered some 150 participants representing different group of stakeholders. The discussions were focused on three areas of transport policy: single transport market, decarbonisation of transport and smart transport. The main findings of these discussions have been presented in a report of the event.⁵

The outcome of both consultation exercises showed that the challenges that had informed the 2011 White Paper were still present, even though the approach and goals set in that document were not considered optimal by everyone. It was recommended that the focus should be more on legal stability and implementation. Moreover, some streamlining of the initiatives and making the objectives more operational together with better communication were suggested in order to push the agenda forward.

Own initiative report of the European Parliament (EP)⁶

The EP in its report broadly supported both the objectives of the White Paper and underlined the importance of transport to the EU economy and citizens. The report promoted co-modality, fair competition and emphasised the importance of sustainable and urban transport. It called for modern infrastructure and smart funding and stressed that digitalisation was vital to improving the efficiency and productivity of the transport sector. On the global dimension, the EP emphasised the key role of international acceptance of the Single European Transport Area and the importance for the EU to play an increasingly formative role in the relevant international bodies. It also underlined that the EU should maintain a leading role in the global efforts to reduce transport emissions.

In addition, the EP report contained a series of mode specific recommendations and asked for an integration of all transport modes with a view to achieving a more efficient, sustainable, competitive, accessible, user- and citizen-friendly transport system. It requested to put people in the centre of transport policy and called for more action on passenger rights, safety and improvement of working conditions. The Commission was finally asked to update the emission reduction targets for 2030 and to propose a comprehensive strategy for the decarbonisation of transport.

Transport Council policy debate⁷

The debate served to gather views on the overarching goals of the White Paper, the adequacy of means proposed to achieve them and on the priority areas to be tackled in the future.

³ See: <http://ec.europa.eu/transport/media/consultations/doc/2015-white-paper-2011-midterm-review/analysis.pdf>

⁴ The presentations and programme of the event are available at: http://ec.europa.eu/transport/themes/strategies/events/2015-11-12-white-paper_en.htm

⁵ See: <http://ec.europa.eu/transport/themes/strategies/events/doc/2015-11-12-white-paper-presentations/report.pdf>

⁶ EP (2015), *Report on the implementation of the 2011 White Paper on Transport: taking stock and the way forward towards sustainable mobility*, 2015/2005(INI)

⁷ <http://www.eu2015lu.eu/en/actualites/articles-actualite/2015/10/08-conseil-tte-transport/index.html>

Alternative means of transport like walking and cycling were also singled out as a matter for discussion.

Member States confirmed the importance of a common European approach to transport policy; some would like to see a more balanced approach and consideration of specificities of certain national realities. All Member States recognised the need to strengthen the efforts in the field of decarbonisation of the transport sector, including a better internalisation of external costs which should promote a fair application of 'user-pays' and 'polluter-pays' principles, but at the same time respect the specific situation of peripheral regions.

Furthermore, there was an agreement that alternative modes of transport, notably active mobility should be promoted more, while investments needed for the fulfilment of the White Paper objectives were reminded to be a priority. Social aspects, digitalisation and automation were other important aspects that required more recognition in the transport policy agenda. Additional efforts were also called for to improve road safety and to safeguard the competitiveness of European transport operators vis-à-vis international competitors.

All in all, Member States endorsed the full relevance of the 2011 White Paper and emphasised the need to focus the efforts on the implementation of the existing legislation before developing new legislative proposals.

Opinion of the Economic and Social Committee (EESC)⁸

The EESC in its opinion expressed its support for the aims set out in the 2011 White Paper and the efforts to create the Single European Transport Area, but also indicated that much still remained to be done.

The opinion emphasised that adequate infrastructure and transport services were also needed in remote regions. It also stressed that modal shift required flexibility and adaptation to local conditions, questioning the 300 kilometre limit sought on road transport, which would not work in remote and sparsely populated regions with a limited rail network. Moreover, the opinion encourages a focus on social dumping and welcomes the intention to clarify market access rules in road transport. It was also mentioned that the 'user pays' and 'polluter pays' principles were not always complementary. Clearer infrastructure charging concepts were requested, which would guarantee cohesion, avoid social exclusion and ensure coherence with taxes and other charges. The opinion also suggested that the White Paper should cover specific actions aiming at doubling public transport use in urban areas by 2030 and asked for a reassessment of the 2011 White Paper action plan in terms of its political feasibility. Any upcoming revision of the White Paper was asked to be done following a participatory dialogue.

Opinion of the Committee of the Regions (CoR)⁹

The document suggested that the European Commission should consider updating the White Paper goals to new challenges and setting intermediate goals for the period beyond 2020. Furthermore, the CoR called local and regional authorities to be more actively involved in the decision-making process, being important players at local and regional level. It also underlined the importance of adequate and properly funded transport networks and means for

⁸ EESC (2015), [Roadmap to a single European transport area – Progress and challenges](#), TEN/566

⁹ CoR (2015), [Implementation of the 2011 White Paper on Transport](#), CDR 1426/2015

geographically and demographically disadvantaged areas, as a basic factor in bringing about territorial cohesion. The opinion also pointed out that the needs of such regions were not sufficiently recognised in the EU's policies and programmes affecting transport.

There was also some disappointment expressed about little progress made so far on modal shift and intermodal ticketing, especially for multimodal transport across regional or national borders. In this context, the CoR called for coordinated action with a view to strengthening multimodal transport, above all by creating the necessary links to nodal points (such as airports, ports and intermodal transport centres), and highlighted the need for coordination at Member States' borders. It also would like to see more attention being paid to urban public transport and places where traffic flows begin.

3. Taking stock of the main achievements

3.1. Progress in the implementation of the 2011 programme

The section below presents an overview of the progress in the implementation of the ten year programme set in 2011 White Paper. It looks at the advancement of work on the initiatives set in the programme, especially on the Commission side. It is worth underlining that the adoption of proposals by the Commission is in many cases just a first step, which may need to be followed by corresponding legislation and implementation at Member States level.

The Commission has made a significant progress in the five years since the adoption of the White Paper programme, having issued proposals in most of the 40 action points of the programme. Looking at the total of 132 initiatives announced in the White Paper, 68 initiatives can be considered as completed by the Commission (e.g. by making a legislative proposal). In addition, in some cases new initiatives have followed or accompanied those defined in 2011 and these new initiatives form part of the overall picture. 16 initiatives are close to finalisation and 41 are on-going. 7 initiatives have been withdrawn, usually due to the lack of political will on the legislator's part (e.g. the proposed amendment to the Energy Taxation Directive¹⁰).¹¹ Other initiatives have not yet been launched (e.g. review of the car labelling directive¹²). A detailed analysis of the progress of all initiatives has been presented in Annex II.

Despite a number of initiatives already launched by the Commission, the majority of the stakeholders that provided their feedback to the Commission were not satisfied with the progress achieved so far. This negative assessment did not so much pertain to Commission initiatives as such, but rather to the follow-up they received. It was opined in particular that acts adopted by the legislator presented less ambition than the underlying Commission proposals and that non-legislative initiatives such as guidelines, roadmaps or best practices were followed up rather slowly. A more detailed overview of the progress in the main intervention areas of the White Paper is presented below.

Internal Market

¹⁰ Directive 2003/96/EC

¹¹ State of play as of 31 May 2016.

¹² Directive 1999/94/EC

The Commission has made major proposals for all transport modes. For rail services, a 4th railway package was proposed in January 2013¹³ addressing governance, market access to domestic passenger services and technical aspects (interoperability and safety). The 'technical pillar' of the package was adopted in May 2016¹⁴ and, in view of the provisional agreement on the 'market pillar' in April 2016¹⁵, the legislative acts under this pillar may be adopted soon. In November 2015 all nine EU Rail Freight Corridors (RFCs) have become operational, marking the completion of the European Rail Network for Competitive Freight.

Concerning air services, an important legislative package – the Single European Sky 2+ – was proposed by the Commission in June 2013¹⁶ and is pending adoption in the Council. Similarly, the 2011 proposal of the Commission aiming at optimising the use of airports¹⁷ (slot allocation) is pending adoption in the Council. The proposal aiming at improving the ground handling services, on the other hand, has been withdrawn and alternatives are currently explored. Only the proposal on noise management at EU airports led to the adoption of corresponding legislation in April 2014¹⁸.

In the area of maritime transport the Commission continued its efforts to create an EU maritime transport space without barriers. In this context a ports strategy package was proposed in May 2013¹⁹. Also progress in establishing the framework for inland navigation has been made with the proposal for the NAIADES II package in September 2013²⁰, while new rules on professional qualifications were proposed by the Commission in February 2016²¹.

Concerning road transport, an important achievement was the adoption of the Directive on Weights and Dimension in April 2015²². Also the adoption of the Roadworthiness package in March 2014²³ is an important step towards increasing safety of the European road transport system. Other major road initiatives are under preparation as announced in the Commission Work Programme for 2016²⁴.

The Commission has also made progress in the area of passenger rights. It proposed a revision of the Regulation on air passenger rights in March 2013²⁵ with a view to confirming and clarifying rights and ensuring a better application and enforcement of the regulation. Interpretative Guidelines on Regulation (EC) No 1371/2007 on rail passengers' rights and

¹³ http://ec.europa.eu/transport/modes/rail/packages/2013_en.htm

¹⁴ OJ L 138 of 26 May 2016.

¹⁵ See: http://europa.eu/rapid/press-release_MEMO-16-1383_en.htm

¹⁶ http://ec.europa.eu/transport/modes/air/single_european_sky/ses2plus_en.htm

¹⁷ COM(2011) 827 final

¹⁸ Regulation (EU) No 598/2014

¹⁹ http://ec.europa.eu/transport/modes/maritime/ports/ports_en.htm

²⁰ http://ec.europa.eu/transport/modes/inland/promotion/naiades2_en.htm

²¹ COM(2016) 82 final

²² Directive (EU) 2015/719

²³ http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/trans/141818.pdf

²⁴ Regulation (EC) No 261/2004 and COM(2015) 610 final

²⁵ COM(2013) 130 final

obligations have been adopted in July 2015²⁶. This is to be followed up by a Commission proposal to revise the regulation on rail passenger rights which may be issued by the end of 2016. In parallel, the Commission tabled a proposal²⁷ to revise Regulation (EC) N°2006/2004 on the cooperation between national authorities responsible for the enforcement of consumer protection laws so as to make cross-border enforcement more agile and efficient, including enforcement of transport-specific consumer protection provisions.

Also work on safety is advancing with a REFIT (Regulatory Fitness and Performance Programme) evaluation of the passenger ship safety (which will serve as a basis for the upcoming simplification of the legislation) published in October 2015²⁸ and the implementation of the SafeSeaNet almost finalised. For aviation, a major step was the proposed revision of the EASA (European Aviation Safety Agency) Basic Regulation²⁹ (as a part of the new aviation strategy) in December 2015³⁰ that aims at improving the efficiency of the EU aviation safety system and a more risk-based approach as well as extending EU aviation safety rules to drones.

With respect to transport security, the Commission has revised the legal framework related to aviation security, particularly in relation to non-metallic threats and air cargo security³¹. The creation of the Expert Group on Land Transport Security, commonly known as LANDSEC, in 2012 has provided an appropriate forum for discussing security issues. Work has also been done to bring forward an initiative on developing a common methodology across the EU for recording transport crimes affecting lorries. The proposed revision of the EASA Basic Regulation should allow the agency to develop its work in, among other topics, cybersecurity and safety requirements/supervision, while the new rules on aircraft tracking³² should address the gaps in security requirements that became apparent with the disappearance of MH370. In March 2016 the Commission developed guidance materials for airport soft target protection³³ and launched detection trials to see how such future attacks can be deterred. In addition, confronted with growing threats of terrorist attacks the Commission is investigating if it should propose specific security measures for rail transport.

Concerning social issues, the picture is more mixed, but some progress has also been achieved since 2011. In the maritime sector, progress can be witnessed with the entry into force of the directive incorporating the 2006 ILO Maritime Convention in EU law³⁴ and the improvements in the enforcement of this convention through port state control and flag state responsibilities³⁵, as well as the inclusion of seafarers in the scope of five EU labour

²⁶ OJ C220, 4.7.2015

²⁷ COM(2016) 283 final; see: http://ec.europa.eu/consumers/enforcement/cross-border_enforcement_cooperation/index_en.htm

²⁸ COM(2015) 508 final

²⁹ Regulation (EC) No 216/2008

³⁰ COM(2015) 613 final

³¹ Commission Implementing Regulation (EU) No 859/2011

³² http://europa.eu/rapid/press-release_IP-15-6319_en.htm

³³ AIRPOL Handbook on Airport Soft Target Protection

³⁴ Directive 2009/13/EC

³⁵ Directive 2013/38/EU and Directive 2013/54/EU

directives³⁶. Also in other sectors actions have been taken at the EU level, such as the legislation on working time for the inland waterway sector³⁷ and the flight time limitations³⁸ for the civil aviation sector. However, some issues still remain to be resolved.

In road transport, the road haulage services have been subject of increasing concerns regarding in particular the unequal working conditions, bogus self-employment and letterbox companies.³⁹ Some of these issues have been addressed with the new rules on the enforcement of the Posting of Workers Directive⁴⁰ and the establishment of the Platform to tackle undeclared work, which both also cover workers in the transport sector.⁴¹ Besides, taxi corporations in various countries (e.g. in France⁴² or Belgium⁴³) claim that transportation network companies (TNC)⁴⁴ across Europe circumvent employment and social protection rules. All these issues have triggered opposition to further market opening and led to various national measures trying to restrict foreign operators from the national markets or imposing additional requirements⁴⁵. These problems may require action at the EU level and the preliminary results of the Commission evaluation concerning working, driving and rest time in road transport show that the first path to explore should be to assure uniform interpretation and improve the implementation of the existing legislation.⁴⁶

In aviation, the situation of highly mobile workers has not been properly addressed and deserves specific attention.⁴⁷ Whereas the 'home base' concept has been introduced into the Regulation on the coordination of social security systems in 2012⁴⁸, more may need to be done to clarify the rules on applicable labour law for highly mobile workers and on the competent court in charge of disputes. The Practice Guide on jurisdiction and applicable law in international disputes between the employee and the employer from May 2016⁴⁹ is a positive development in this respect and some more work in this area is envisaged, supported

³⁶ Directive 2015/1794/EU

³⁷ Directive 2014/112/EU

³⁸ Commission Regulation (EU) No 83/2014

³⁹ See more: EP (2013), *Social and Working Conditions of Road Transport Hauliers*, PE 495.855; EP (2015), *Employment Conditions in the International Road Haulage Sector*, PE 542.205; EESC (2015), *The internal market of international road freight: social dumping and cabotage*, TEN/575.

⁴⁰ Directive 2014/67/EU

⁴¹ As regards the Posting of Workers Directive, only merchant navy undertakings fall under an outright exception from its scope.

⁴² See: <http://www.lemonde.fr/les-taxis-contre-uber/>

⁴³ See: <http://www.lesoir.be/989951/article/actualite/regions/bruxelles/2015-09-15/manifestation-contre-uber-un-chauffeur-taxi-blesse-lors-d-une-altercation>

⁴⁴ See: Brishen Rogers (2015), *The Social Costs of Uber*, University of Chicago Law Review Dialogue 82:85

⁴⁵ See: https://en.wikipedia.org/wiki/Legal_status_of_Uber%27s_service

⁴⁶ Ricardo (2016), *Ex-post evaluation of social legislation in road transport and its enforcement* (the final report has not published before the finalisation of this report)

⁴⁷ SWD(2015) 261 final

⁴⁸ Regulation (EU) No 465/2012

⁴⁹ DG JUST (2016), *Practice Guide. Jurisdiction and applicable law in international disputes between the employee and the employer*.

by the recently adopted Aviation Strategy⁵⁰ and the study on employment and working conditions in air transport and airports⁵¹.

Innovation

The main achievements in establishing a proper framework for research and innovation include: the adoption of Smart, Green and Integrated Transport⁵² as a distinct Societal Challenge in the Horizon 2020 Framework Programme for Research and Innovation (with a budget of over €6.3 billion for the period 2014-2020), the establishment of the Shift2Rail joint undertaking⁵³ (with a budget of €20 million for the period 2014-2020), SESAR Joint Undertaking⁵⁴ (a public-private-partnership for air traffic management modernisation with a budget for deployment of €3 billion and €85 million for SESAR 2020) and the Clean Sky 2 Joint Technology Initiative⁵⁵ (a public-private-partnership for demonstration of greener aviation technologies and competitiveness for which almost €1.8 billion were allocated), the European Green Vehicles Initiative (EGVI) (a contractual public-private partnership on efficient use of clean energies in road transport, particularly on electromobility for which €700 million were allocated), as well as the Fuel Cells & Hydrogen Joint Undertaking (total budget of €665 million out of which €250 million for transport). The implementation of ERTMS (European Railway Traffic Management System) has been supported by the Breakthrough Program from May 2015⁵⁶ and the launch of calls for tenders under the Connecting Europe Facility, while the discussions on a committed and realistic European Deployment Plan are on-going.

The Commission is also working on the Strategic Transport Research and Innovation Agenda (STRIA) as part of the upcoming communication on Energy Union Integrated Strategy on Research, Innovation and Competitiveness (EURICS) in order to streamline the research and innovation efforts and focus them on the most pressing challenges and the most beneficial actions for transport. The integrated Strategic Energy Technology Plan (the SET Plan) communication adopted in September 2015⁵⁷ complements STRIA and, in the transport domain, covers R&I on automotive batteries and renewable fuels. Furthermore, the European Innovation Partnership (EIP) on Smart Cities and Communities⁵⁸ was launched in 2012 and will also fund and develop better transport solutions. In the framework of this partnership two Action Cluster Initiatives were launched in 2016: on smart city electro-mobility and on smart city mobility services⁵⁹.

In the area of road transport safety technologies, type-approval requirements for the deployment of the eCall in-vehicle system in cars and vans were introduced in April 2015 and

⁵⁰ COM(2015) 598 final

⁵¹ Steer Davies Gleave (2015), *Study on employment and working conditions in air transport and airports*.

⁵² See: <https://ec.europa.eu/programmes/horizon2020/en/h2020-section/smart-green-and-integrated-transport>

⁵³ See: <http://shift2rail.org/>

⁵⁴ See: <http://www.sesarju.eu/>

⁵⁵ See: <http://www.cleansky.eu/>

⁵⁶ EC (2015), *ERTMS. Work Plan of the European Coordinator Karel Vinck*.

⁵⁷ [C\(2015\) 6317 final](#)

⁵⁸ See: <http://ec.europa.eu/eip/smartcities/>

⁵⁹ See: <https://eu-smartcities.eu/content/sustainable-urban-mobility-0>

will start to apply from 2018 onwards.⁶⁰ Lane Departure Warning and Advanced Emergency Braking technologies for trucks have been introduced in the framework of the General Safety Regulation⁶¹ and, starting from 2016, antilock braking systems (ABS) has become mandatory for motorcycles in the EU⁶². In aviation, the Commission proposal to extend the EU safety rules to all drones⁶³ should help opening the EU drone services and manufacturing market (EASA is working on detailed implementing rules).

Concerning decarbonisation of transport, which is also covered by this intervention area, a very important step in technology and innovation policies was the adoption, in October 2014, of the Directive on the deployment of alternative fuel infrastructure⁶⁴, which provides *inter alia* for common standards and consumer information. Setting new targets for CO₂ emission from cars⁶⁵ and light commercial vehicles (vans)⁶⁶ in 2014 was also a major achievement⁶⁷ and the post-2020 CO₂ emission standards for cars and vans are currently under development. The second package of rules to introduce real driving emission (RDE) tests was adopted by the European Parliament and the Council in February 2016⁶⁸. The new tests are intended to measure more accurately pollutant emissions from cars and other light vehicles. In addition, the Commission proposed a major overhaul of the EU type approval and market surveillance framework for motor vehicles and tabled a legislative proposal to this effect in January 2016.⁶⁹ The review of the vehicle labelling scheme for CO₂ emissions and fuel efficiency is currently under evaluation, while the development of harmonised methodologies for carbon footprinting will be supported in 2016-2017 through Horizon 2020⁷⁰. Eco-driving requirements are so far only included in the driving licence directive for busses and trucks⁷¹.

As regards emission reductions in aviation and maritime transport, the Commission is working with the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO) with a view to developing market-based measures at global level and adopting an international CO₂ standard for aircraft. The publication of the European Aviation Environmental Report in January 2016 will help provide a regular overview of the

⁶⁰ Regulation (EU) 2015/758

⁶¹ Regulation (EU) No 661/2009

⁶² See: http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/intm/134159.pdf

⁶³ COM(2015) 613 final

⁶⁴ Directive 2014/94/EU

⁶⁵ Regulation (EU) No 333/2014

⁶⁶ Regulation (EU) No 253/2014

⁶⁷ These targets, being technology neutral, play an important role in stimulating innovation towards sustainable solutions. Progressively stringent longer-term targets give manufacturers planning security, create market for new technologies and economies of scale for vehicle and component manufacturing, hence fostering future competitiveness and global opportunities for the EU automotive industry. The standards also stimulate the introduction of alternative fuels (including electrification).

⁶⁸ See: Regulation (EU) No 168/2013, OJ L 60, 2.3.2013, p. 52.

⁶⁹ COM(2016) 31 final

⁷⁰ European Commission Decision C(2016)1349, *Horizon 2020, Work Programme 2016 – 2017, 11. Smart, green and integrated transport*, MG-5.3-2016: [Promoting the deployment of green transport, towards Eco-labels for logistics](#);

⁷¹ Directive 2012/36/EU

environmental performance of the sector in order to plan future policy measures⁷². In maritime transport, following the adoption of the Energy Efficiency Design Index in 2011 which applies to new ships⁷³, new ideas on technical and operational measures to reduce emissions have been proposed⁷⁴, starting with a global system for data collection for monitoring, reporting and verification (MRV)⁷⁵. Concerning the shift to more sustainable modes, the adoption of the pending legislative proposals e.g. 4th railway package and further administrative simplification of short sea shipping would ensure further progress.

Finally, the reduction of noise produced by cars was addressed by Regulation 2014/540 setting the vehicle standards for noise emission levels.

Infrastructure

The adoption of the TEN-T Guidelines Regulation⁷⁶ in December 2013 marked a significant step forward in strengthening Europe's transport infrastructure policy as a vital contribution to the Union's objectives to invest for more growth and competitiveness. Implementing the new TEN-T (Trans-European Transport Networks), and in particular completing its strategically most important part i.e. the multi-modal core network until 2030, will enhance the infrastructural basis needed to enable the achievement of key White Paper objectives: significantly reducing carbon emissions while not curbing mobility. The network is defined in a way as to facilitate seamless, safe and sustainable transport services for passengers and freight across modes and to provide the basis for innovative and clean vehicle services. It includes all transport modes and the connections between them, traffic management systems for all modes as well as innovative infrastructure equipment. It is also linked up with the other parts of the world, thereby supporting international trade.

The TEN-T guidelines contain several tools to facilitate the implementation of the core network. In particular, European Coordinators have been designated by the Commission to facilitate the coordinated development and the functioning of the Core Network Corridors, as well as for two horizontal priorities (ERTMS and Motorways of the Sea). In December 2014, they submitted work plans analysing the development of the corridors with a view to identifying suitable projects for the completion of each corridor and horizontal priorities⁷⁷.

A new funding framework for transport infrastructure was set with the Connecting Europe Facility (CEF) regulation⁷⁸ adopted in December 2013. The CEF is closely linked to the TEN-T, allocating €4.05 billion to it for the period 2014-2020, with a prime focus on the nine TEN-T Core Network Corridors. It will also support sustainable transport projects and the deployment of traffic management systems. All in all, during 2014-2020, the CEF is expected to contribute to the financing of about €100 billion of investments on the TEN-T, through grants and innovative financial instruments. What is more, the CEF regulation proposed a

⁷² <http://ec.europa.eu/transport/modes/air/aviation-strategy/documents/european-aviation-environmental-report-2016-72dpi.pdf>

⁷³ See: http://www.theicct.org/sites/default/files/publications/ICCTpolicyupdate15_EEDI_final.pdf

⁷⁴ COM(2013) 479 final

⁷⁵ Regulation (EU) 2015/757

⁷⁶ Regulation (EU) No 1315/2013

⁷⁷ See: http://ec.europa.eu/transport/themes/infrastructure/news/2015-05-28-coordinator-work-plans_en.htm

⁷⁸ Regulation (EU) No 1316/2013

new generation of financial instruments to boost the support of private finance and capital markets for investment in long-term transport infrastructure projects.

Transport has also received a prominent role in the cohesion policy – through the European Structural and Investment (ESI) funds – which still remains the most important source of EU funding for transport infrastructure projects. For the 2014-2020, approximately €70 billion in ESI funding is dedicated to supporting a multi-modal Single European Transport Area by investing in the TEN-T, enhancing regional and local mobility, and developing more environment-friendly and low-carbon transport systems⁷⁹. Also the ESI funds allocated to sustainable urban mobility raised significantly, from €8 billion in the last financial perspective to €13 billion for 2014-2020.

Furthermore, in July 2015, the Regulation on the European Fund for Strategic Investments⁸⁰ (EFSI) was adopted to support strategic investments in infrastructure as well as risk finance for small businesses. The EFSI is built on €16 billion in guarantees from the EU budget and €5 billion from the European Investment Bank, but by taking on part of the risk through a first-loss liability, it is expected to achieve an overall multiplier effect of 1:15 in real investment. The fund aims to overcome current market failures by addressing market gaps and mobilising private investment. TEN-T projects are a priority for transport under EFSI, together with smart and sustainable urban transport and connections to the TEN-T⁸¹.

Transport relevant taxation, which has an incidence on prices and possible distortions of competition, has seen little progress so far. Little prospects for reaching a meaningful consensus in the Council led the Commission to withdraw its proposal⁸² for the amendment of the Energy Taxation Directive⁸³.

In 2011, the European Union adopted an amendment to the Eurovignette Directive⁸⁴, enabling the internalisation of external costs in road transports. Since then Member States have slowly but steadily moved towards fully internalising the external costs of road transport. Various Member States have started or plan introducing a network-wide distance-based tolling system for heavy goods vehicles and applying the 'user pays' and 'polluter pays' principles.

In 2012, the Commission developed guidance on the application of national vignette systems for cars (light private vehicles)⁸⁵, evaluated the existing road charging policy and commissioned an update of the "Handbook on external costs of transport"⁸⁶ that could serve as a basis for future calculations of infrastructure charges. More recently, it has been evaluating the existing Union legislation relative to road charging, namely the Eurovignette Directive⁸⁷, the EETS Directive⁸⁸ and EETS Decision⁸⁹. The evaluation of the Eurovignette

⁷⁹ See: http://ec.europa.eu/regional_policy/en/policy/themes/transport-energy/

⁸⁰ Regulation (EU) 2015/1017

⁸¹ More details: <http://www.eib.org/efsi/>

⁸² COM(2011) 169 final

⁸³ Directive 2003/96/EC

⁸⁴ Directive 2011/76/EU

⁸⁵ COM(2012) 199 final

⁸⁶ See: Ricardo-AEA et al. (2014), [Update of the Handbook on External Costs of Transport](#)

⁸⁷ Directive 1999/62/EC as amended

Directive⁹⁰ points to certain shortcomings which contributed to the slower-than-hoped progress towards the goals of the White Paper in terms of internalisation of external costs. It indicates that the directive does not allow tolls to incentivise the use of less-CO₂ emitting trucks and that its provisions aimed at tackling congestion have hardly been applied in any of the Member States, supposedly because of their low effectiveness. Recent studies on the EETS Directive⁹¹ show that the typical costs of deployment and operation of electronic tolls have not significantly fallen in the past decade⁹². The number of electronic tolling schemes for trucks increased, but only recently has a large-scale co-operation on their interoperability started in the framework of the REETS project⁹³. The concrete results of this co-operation in terms of interoperability agreements are however, mostly still to come.

In the aviation area, an evaluation of the Airport Charges Directive⁹⁴ is foreseen within the Aviation Strategy adopted in December 2015. In the context of this evaluation, it will be possible to assess whether the current legal framework needs to be improved. As equally announced in the Aviation Strategy, the Commission will also publish an inventory of taxes and levies applied by Member States on aviation.

International dimension

As regards the EU's external aviation policy, reference is made to the 2012 communication of the Commission⁹⁵ and to the Council conclusions⁹⁶ from December that year. A comprehensive EU-Brazil air transport agreement is under negotiation and could be signed in 2016. A number of agreements have been signed with neighbouring countries, namely with Moldova⁹⁷ and Israel⁹⁸, whereas the signature of an agreement with Ukraine is pending. Aviation dialogues were pursued with a number of key partners including ASEAN, Member States of the Gulf Cooperation Council (GCC) and China⁹⁹.

In December 2015, the Commission adopted a new Aviation Strategy for Europe¹⁰⁰. Its aim is to help the EU aviation sector remain competitive, maintain its leadership position and continue to grow. The communication regarding this strategy is accompanied by a number of

⁸⁸ Directive 2004/52/EC

⁸⁹ Commission Decision 2009/750/EC

⁹⁰ SWD(2013) 1 final

⁹¹ 4icom, Steer Davies Gleave (2015), [Expert Review of the EETS Legislative Acts](#); Steer Davies Gleave (2014), [Technology options for the European Electronic Toll Service](#).

⁹² Deployment costs oscillate around 700 million euros, and operation costs can take between 5 and 20% of the toll revenues (this figure largely depends on the level of tolls in place).

⁹³ See: <http://www.reets.eu/>

⁹⁴ Directive 2009/12/EC

⁹⁵ COM (2012) 556 final

⁹⁶ Council of the European Union, [Council conclusions on The EU's External Aviation Policy – Addressing Future Challenges](#), 3213th TTE Council meeting, Brussels, 20 December 2012,

⁹⁷ Decision of the Council and of the Representatives of the Governments of the Member States (2012/639/EU)

⁹⁸ Decision of the Council and of the Representatives of the Governments of the Member States (2013/398/EU)

⁹⁹ See http://ec.europa.eu/transport/modes/air/international_aviation/country_index/index_en.htm

¹⁰⁰ COM (2015) 598 final

recommendations to the Council to authorise the opening of negotiations on comprehensive aviation agreements with key partner countries and regions (ASEAN, Member States of the GCC, China, Turkey, Mexico and Armenia). Other recommendations of the same date concern bilateral aviation safety agreements with China and Japan and the pursuance of new aviation dialogues (India). In June 2016, the Council adopted authorisations addressed to the Commission to open negotiations on comprehensive air transport agreements with ASEAN, Qatar, the United Arab Emirates and Turkey.¹⁰¹ The issue of unfair practices in aviation were also specifically mentioned in the 2012 communication¹⁰² and the Council conclusions from December that year¹⁰³. A dedicated initiative in this area is under preparation by the Commission. In addition, the signature of a Letter of Intention¹⁰⁴ in June 2015 between DG MOVE and the US Federal Aviation Administration should further stimulate deployment of SESAR and ensure its global interoperability.

Market access for all modes of transport (except air traffic rights) is addressed in all on-going free trade agreement negotiations. Some projects fostering cooperation with the neighbouring countries of the Mediterranean have been advanced and co-operation within the Union for the Mediterranean (UfM) has been boosted since the UfM Ministerial Conference on Blue economy was held on 17 November 2015. In addition, the extension of the EU transport policy to neighbouring states has been part of the Association Agreements, concluded with various states.

3.2. Implementation at Member States level

The Commission has been active in systematic monitoring the transposition of the directives adopted in the context of the 2011 White Paper whose deadline for transposition has already elapsed. Most of the more significant texts already adopted have, however, ongoing deadlines for transposition into national law. This is the case for instance of Directive 2014/94/EU (alternative fuels) – to be transposed by 18 November 2016 – and of Directive 2015/719/EU (weights and dimensions) – to be transposed by 7 May 2017. The Commission's view on Member States' implementation in these areas is therefore very limited at this stage.

On social issues, the non-transposition of Directive 2013/38/EU of 12 August 2013 amending Directive 2009/16/EC on port State control¹⁰⁵ intended to improve the enforcement of the 2006 ILO Maritime Labour Convention led to the opening of six infringement procedures in 2015. Directive 2013/54/EU of 20 November 2013 concerning certain flag State responsibilities for compliance with and enforcement of the Maritime Labour Convention, 2006¹⁰⁶ gave rise to nine infringement procedures for non-transposition in the same year (one case still pending). On road safety, reference is made to Directive 2015/413/EU of 11 March 2015 facilitating cross-border exchange of information on road-safety-related traffic

¹⁰¹ See: [Press release 9736/16](#)

¹⁰² COM (2012) 556 final

¹⁰³ Council of the European Union, *Council conclusions on The EU's External Aviation Policy... op. cit.*

¹⁰⁴ <https://www.faa.gov/news/updates/?newsId=83225>

¹⁰⁵ OJ L 218, 14.8.2013, p. 1–7.

¹⁰⁶ OJ L 329, 10.12.2013, p. 1–4.

offences¹⁰⁷. Lack of transposition thereof led to the launching of nine infringement procedures, two of which are still pending.

The Commission has also launched a range of monitoring initiatives in areas relevant for the purposes of the White Paper, in particular in relation to the completion of the internal market.

The achievement of the truly seamless Single European Sky led to infringement procedures being launched in 2013-2014 against 21 Member States participating in seven of the nine Functional Airspace Blocks, for lack of optimal provision of navigation services and the use of airspace. All these cases remain open, though some Member States have made gradual improvements.

Whilst pursuing its legislative effort on the liberalisation of the railway market through the proposals under the 4th railway package, the Commission ensured that the Member States¹⁰⁸ condemned by the Court on issues ranging from the allocation of infrastructure capacity and the levying of charges to the independence of the essential functions of the infrastructure manager duly implemented the Court's decisions. This was a long process which culminated with the closure of the latest case in April 2016. On a related issue, the Commission monitored closely compliance with the provisions of the EU acquis on the separation of accounts kept by infrastructure managers and railway undertakings. Several Member States received letters of formal notice, because there were doubts over the separation and availability to the public of the accounts relating to passenger transport, freight transport and infrastructure management activities and/or the assurance that no financial transfers took place between those activities. Most of these cases were satisfactorily solved by the end of 2015. Two cases are pending before the Court of Justice (Austria, Germany).

For the sake of completeness, it is useful to report the Commission's action in the area of fundamental freedoms, intended to ensure the proper operation of the internal market. In this area, the Commission acted against restrictions linked to the provision of port services and the granting of port-land concessions¹⁰⁹. Some of these cases are still pending. These proceedings are based on the violation of the freedom of establishment enshrined in Article 49 of the Treaty and aim at improving market access in ports.

3.3. Progress towards the targets and goals

The 2011 White Paper set an ambitious target to reduce GHG emissions by 60%¹¹⁰ by 2050 compared to 1990 and by around 20% by 2030 compared to emissions in 2008.¹¹¹ This target

¹⁰⁷ OJ L 68, 13.3.2015, p. 9–25.

¹⁰⁸ Spain, Hungary, France, Poland, the Czech Republic, Slovenia, Italy, Greece and Portugal.

¹⁰⁹ See case 2007/4595 – Lithuania, case 2014/2088 – Belgium and case 2009/4052 – Spain where a Court decision (in case C-2013/576) was issued on 11 December 2014.

¹¹⁰ This corresponds to some 70% reduction below 2008 levels.

¹¹¹ 1990 is the reference year for the Roadmap for moving to a competitive low carbon economy in 2050 COM(2010) 112, while 2008 was the latest year for which statistics were available at the time the White Paper was drafted and was used as a reference to show the level of effort to be made by 2030.

was set in relation to the Commission's general commitment¹¹² to a reduction of EU domestic greenhouse gas emissions by 80% by 2050¹¹³ via different emission cuts in the various sectors. Transport would contribute with a lower reduction of emissions, as a reflection of the fact that substituting oil is more costly in transport than in other sectors.¹¹⁴

Overall emissions of GHGs from the transport sector in 2013 were higher by almost 20% compared to 1990, but according to the European Environment Agency (EEA) the trend is presently on track compared with the target path to meet the 2050 goal set in the White Paper. The 2050 target implies a decrease of two-thirds compared with current levels. While emissions are linked to economic activity and transport demand (meaning that part of the recent emissions reduction in transport is a consequence of the recent economic crisis), other factors have also contributed to the decrease in GHG emissions seen in recent years, including efficiency improvements as a result of legislation and changes in consumer behaviour and preferences.¹¹⁵

Concerning other specific objectives mentioned in the White Paper i.e. decrease in the oil dependency ratio and limiting growth of congestion there has been so far not a substantial change in the situation.

As a measurement of the progress towards the overarching objective of 60% GHG emission reduction in the transport sector, the White Paper set also ten operational goals. In general, it is too early to measure the progress of most of these long-term goals, as in many cases the relevant indicators still need to be developed or the data are not available. It needs to be emphasised that these goals should be treated as benchmarks and not as objectives *per se*. There are various stakeholders calling for the revision of these goals or supplementing them with additional goals to make them more complete. The Commission is aware of the limitations of the proposed benchmarks and is working on better indicators to measure their implementation.

(1) Halve the use of 'conventionally-fuelled' cars in urban transport by 2030; phase them out in cities by 2050; achieve essentially CO2-free city logistics in major urban centres by 2030.

The goal is about an integrated effort to (a) reduce oil use in motorised transport in cities through technological change and (b) shift towards active and more sustainable modes, such as walking, cycling and public transport.

Distances travelled within cities are generally short. Therefore, electric cars are already at this stage a viable alternative for urban travels. That said, factors such as in particular battery costs, the availability of recharging infrastructure and market uptake of new technologies continue to be obstacles for further development. Consequently, actions aimed at introducing

¹¹² This was part of a longer time perspective set in 2011, when the Commission adopted the “three roadmaps to 2050” (Roadmap for moving to a competitive low carbon economy in 2050, Energy Roadmap 2050 and the White Paper on transport)

¹¹³ The EU objective, in the context of necessary reductions according to the IPCC by developed countries as a group, is to reduce emissions by 80-95% by 2050 compared to 1990.

¹¹⁴ The target for transport includes aviation, but excludes international maritime transport.

¹¹⁵ EEA (2015), [Evaluating 15 years of transport and environmental policy integration. TERM 2015: Transport indicators tracking progress towards environmental targets in Europe](#). EEA Report, No 7/2015.

alternative, non-conventional fuels and drive-trains as well as relevant infrastructure need to be part of an integrated and comprehensive approach to reach this goal.

A shift to active mobility (walking and cycling), including for cargo delivery, and increased use of public transport have also a great potential to cut CO₂ emissions with additional significant co-benefits of reducing air pollutant emissions, congestion, noise and accidents in urban areas. The public transport and public service transport (e.g. post deliveries) could also be the pioneers of technological change and electrification. Consequently, achieving CO₂-free cities will not only mean phasing out conventional cars but also changing the way cars are used e.g. by increasing the occupancy rate through car-/ride-sharing and offering viable alternatives to the use of private cars.¹¹⁶ Integrated land use and transportation planning will be essential elements to bring about this transition (the sustainable urban mobility planning as advocated and supported by the Commission¹¹⁷).

This goal has been based on the modelling scenarios carried out to support the impact assessment of the White Paper.¹¹⁸ For the time being, it is not possible to monitor the progress toward this goal due to the lack of relevant official statistics. Eurostat is working to obtain such information through the work on harmonisation of travel surveys conducted in Member States, but given the current unsatisfactory availability of passenger mobility statistics at national level, this work might still take some time. Nonetheless, it is clear that we are far from the target, as conventionally-fuelled cars continue to be the dominant means of transport in cities.

Looking at the share of alternative fuel vehicles (AFV), their registration rate has been increasing substantially in recent years. In 2000 the number of new AFV registrations in the EU was very low, but in the following years it increased to around half a million a year. After a significant drop between 2010 and 2011 (when registrations fell by 62%), the registration of AFVs increased considerably between 2011 and 2014, by 58% (97% if plug-in hybrid vehicles are included in the statistics). In the early 2000s, AFVs were dominated by dual-fuel vehicles, i.e. vehicles mostly able to operate on petrol and ethanol blends. This trend has gradually changed due to the introduction of liquefied petroleum gas (LPG) vehicles and natural gas (NG) vehicles, which have outnumbered the ethanol cars.¹¹⁹ The expansion of AFV has also contributed to the declining emission levels, as a result of their lower average CO₂ emissions (gCO₂/km) and increasing market share. The share of AFV in the new passenger cars went up from 0.3% in 2005 to 2.7% in 2014. In addition, in 2005, the average tank-to-wheel CO₂ emissions from a new AFV was 149.4 gCO₂/km, compared to 156.5 gCO₂/km for diesel cars and 168.1 gCO₂/km for petrol cars. By 2014, the same average was 90.8 gCO₂/km for AFV relative to 123.2 gCO₂/km for diesel and 125.6 gCO₂/km for petrol cars.

¹¹⁶ Although car sharing schemes are reported to reduce the demand for cars, they also make car ownership more affordable and increase car use, so the positive impact on reduction of CO₂ emissions from cars might be limited if the technological change does not take place.

¹¹⁷ COM(2013) 913 final

¹¹⁸ SEC(2011) 358 final

¹¹⁹ EEA (2014), [Monitoring CO₂ emissions from passenger cars and vans in 2014](#), Technical report No 16/2015.

The implementation of the Directive on the deployment of alternative fuels infrastructure¹²⁰ will additionally support the achievement of this goal. In addition, as announced in the Energy Union communication¹²¹, the Commission will take further action to promote procurement of clean vehicles, such as clean, alternatively fuelled buses, which should also support cities in achieving this goal.

(2) Low-carbon sustainable fuels in aviation to reach 40% by 2050; also by 2050 reduce EU CO₂ emissions from maritime bunker fuels by 40% (if feasible 50%).

These long-term targets are welcomed by most stakeholders, who nonetheless also call for more coherent policy in this respect.

For aviation, advanced biofuels are currently the only low-CO₂ option for substituting kerosene, pending further progress with the electrification of aircraft. The development of biofuels in aviation is, however, still facing technical hurdles and requires high capacities and a level playing field with kerosene to be economically viable. In principle, the take-up of advanced biofuels in aviation is supported through the EU Emission Trading Scheme (ETS) but a much higher ETS price would be required to have a meaningful impact. The European Advanced Biofuels Flightpath, launched in 2011 by the European Commission, aims to achieve 2 million tons of sustainable biofuels in aviation by 2020.¹²² However, due to the current price gap with conventional jet fuel demand for sustainable alternative fuels in aviation has so far been limited and there has been no regular production of aviation alternative fuels in Europe.¹²³ Indicators are available for monitoring this goal. However, the latest data from Eurostat shows that low-carbon fuels in aviation were still negligible in 2014.

For maritime, EU CO₂ emissions from maritime bunker fuels have decreased by 14.1% by 2013 relative to 2005. However, the emissions would still need to fall by 30.2% by 2050 in order to meet the reduction target.^{124,125} Some further progress can be expected through the adoption by the International Maritime Organization (IMO) of mandatory technical and operational measures¹²⁶ (Energy Efficiency Design Index and Ship Energy Efficiency Management Plan) to reduce emissions of greenhouse gases from international shipping, which have become applicable as of 1 January 2013. With respect to alternative fuels, there

¹²⁰ Directive 2014/94/EU

¹²¹ COM (2015) 80 final

¹²² Source: https://ec.europa.eu/energy/sites/ener/files/20130911_a_performing_biofuels_supply_chain.pdf

¹²³ EEA, EASA and Eurocontrol (2016), [European Aviation Environmental Report 2016](#).

¹²⁴ EEA (2015), [TERM 2015: transport indicators tracking progress towards environmental targets in Europe: Evaluating 15 years of transport and environmental policy integration](#), EEA Report No 7/2015

¹²⁵ The 2011 White Paper goal has been defined in terms of CO₂ emissions from maritime bunker fuels, defined in terms of fuel sales. However, estimates for EU-related CO₂ emissions from maritime transport suggest a slight decrease from 195 Mt in 2005 to 190 Mt in 2012, equivalent to -3%, mainly triggered by the economic developments in Europe. Sources: Ricardo AEA (2013), [Support for the impact assessment of a proposal to address maritime transport greenhouse gas emissions](#); TNO (2015), [GHG emission reduction potential of EU-related maritime transport and on its impacts](#).

¹²⁶ The amendments to MARPOL Annex VI – Regulations for the prevention of air pollution from ships, add a new chapter 4 to Annex VI on Regulations on energy efficiency for ships to make mandatory the Energy Efficiency Design Index (EEDI) for new ships, and the Ship Energy Efficiency Management Plan (SEEMP) for all ships.

are ongoing developments and testing projects to use methanol in maritime transport. In addition, in June 2013 the Commission set out a phased strategy¹²⁷ to progressively integrate maritime emissions into the EU's policy for reducing GHG emissions. As a first step of this strategy, the MRV Regulation¹²⁸ set the rules for the monitoring, reporting and verification (MRV) of CO₂ emissions from ships arriving at, within or departing from Union ports. It is expected that the IMO will adopt in 2016 a mandatory international data collection system enabling to assess the fuel consumption and GHG emissions from ships which could be used to design the most appropriate GHG emission reduction measures for the shipping sector. In addition, the organisation will discuss still in 2016 a work plan for establishing a GHG reduction contribution target of international shipping towards 'the well below 2°C' objective agreed in the Paris Climate Agreement¹²⁹.

(3) 30% of road freight over 300 km should shift to other modes such as rail or waterborne transport by 2030, and more than 50% by 2050, facilitated by efficient and green freight corridors. To meet this goal will also require appropriate infrastructure to be developed.

The goal of shifting freight over 300 km was intended to provide a measurable benchmark to assess progress at EU level towards the vision put forward in the White Paper. This vision covered the development of cross-border freight corridors which should enhance the competitiveness of rail freight particularly over the long distances. This benchmark should not be interpreted as a prejudgment that greater use of rail, inland waterways and short sea shipping in freight transport is only sought for transport above 300 km, but rather that the modal shift in the long distance segment is expected to be larger. It will also provide to some extent a measure of effectiveness of the EU infrastructure policy.

This goal has been based on the modelling scenarios carried out to support the impact assessment of the White Paper¹³⁰. All scenarios assumed that the long distance road freight transport will continue to grow. To achieve the 60% CO₂ reduction target by 2050 relative to 1990, part of the road freight growth (corresponding to 30% volumes over long distances by 2030) would need to be 'shifted' to other modes. For monitoring purposes at EU level this goal can be expressed as percentage points decrease in the modal share of road freight over 300 km in the total freight transport over 300 km. More specifically, this implies a 4 percentage points decrease by 2030 and 9 percentage points decrease by 2050 relative to the 2005 shares based on the on the modelling scenarios carried out to support the impact assessment of the White Paper.

According to the available data by Eurostat, 28% of freight transport activity is performed on distances below 300 km and 72% of activity on distances above 300km. Short distance freight activity is mostly performed by road transport, which corresponds to 78% of the total short distance activity. Above 300 km, the situation is reversed as maritime shipping is the main mode used for long distance transport. It should be noted, however, that a part of the maritime activity refers to cargo types in which sea shipping is specialized (e.g. liquid bulk transport) and another part corresponds to container transport, which would play a bigger role in modal

¹²⁷ COM(2013) 479 final

¹²⁸ Regulation (EU) 2015/757

¹²⁹ See: http://ec.europa.eu/clima/policies/international/negotiations/paris/index_en.htm

¹³⁰ SEC(2011) 358 final

shift from road to waterborne transport. Rail transport provides 10% of short distance freight transport and 13% of long distance freight transport. Inland waterways transport represents instead 8% of short distance freight transport and 3% of long distance freight transport.¹³¹

Considering that the type of cargo plays an important role in the way it is transported, an indicator currently under development by Eurostat for 'modal shift potential' could be more useful to measure this goal. This indicator will measure the number of containers transported by road in journeys longer than 300 km which could be shifted to other modes. Aviation is not highlighted in this indicator, as it is a mode of transport which focuses mostly on high-value goods of limited weight.¹³²

It is also worth indicating that a first step towards this goal has been made in the previous years by increasing the support to relevant infrastructure¹³³ (TEN-T projects focus on multimodality) as well as the development of cross-border freight corridors. From 2014 onwards, the new Connecting Europe Facility (CEF) framework continues to support multimodal transport, specifically supporting innovative and sustainable freight transport services and the performance of multimodal logistic chains. The initial allocation foreseen for freight transport services amounts to €150-200 million for the 7-year period (2014-2020). The first CEF call received (end of February 2015) 64 proposals in this priority for a total funding of €189 million (some other projects under other priorities may also have aspects of multimodality, but are not taken into account in the above number).

(4) By 2050, complete a European high-speed rail network. Triple the length of the existing high-speed rail network by 2030 and maintain a dense railway network in all Member States. By 2050 the majority of medium-distance passenger transport should go by rail.

This goal should be considered as a tool for monitoring the impacts of the infrastructure policy aiming at the development of high-speed rail and rail connections in general.

In 2013 the total length of railway lines was around 215,000 km; on about 7,300 km high-speed trains can travel faster than 250 km/h¹³⁴. Compared to 2008, 1,500 km additional high speed lines have been built. Considering also the traffic performed with high speed rolling stock¹³⁵, around 26% of the total rail passenger transport activity is performed with high speed trains. Nonetheless, overall progress with the extension of high-speed rail network has not been substantial since the adoption of the White Paper.

Concerning the modal shift in passenger travel on medium distances, the relevant indicator is yet to be developed. As rail transport is expected to be the most efficient mass transport mode in the medium distance, this is where the modal shift should primarily take place as a result of

¹³¹ Calculations based on the Eurostat data

¹³² According to Eurostat 2013 trade statistics, aviation sector covers about 23% of EU external trade by value, but only 0.8% of EU external trade by weight.

¹³³ For the period 2007-2013 there was an increase in allocations on transport of 65% compared to the previous programming period 2000-2006. For the period 2014-2020 this amount is to be even higher.

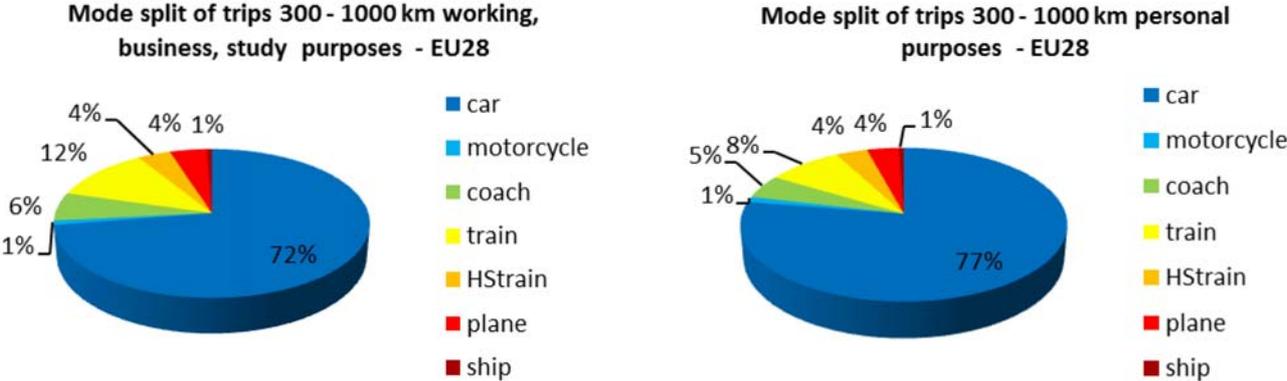
¹³⁴ Source: DG MOVE (2015), [EU transport in figures – Statistical Pocketbook 2015](#), based on data from Union Internationale des Chemins de Fer (UIC), national sources and estimates.

¹³⁵ High speed passenger activity includes also tilting trains, able to reach a speed of 200 km/h without necessarily requiring a high speed infrastructure.

support and development of rail transport. This of course does not deny the economic viability and advantages of rail transport in longer or shorter distances, in particular for suburban travels.

Eurostat is working on the proper definition of the indicator and on ways to collect mobility data, considering as "medium distance" passenger transport activity between 300 and 1,000 km expressed in passenger-kilometres. According to a 2015 JRC survey on mobility¹³⁶, cars are the most common mode of transport for trips falling under this category, followed by rail transport.

Figure 1. Modal split of trips between 300 and 1,000 km by purpose of the trip – EU28



Source: JRC Science and Policy Report – EU Survey on issues related to transport and mobility, 2015

(5) A fully functional and EU-wide multimodal TEN-T ‘core network’ by 2030, with a high quality and capacity network by 2050 and a corresponding set of information services.

This goal reflects the infrastructure pillar of the White Paper strategy. With the adoption of TEN-T and CEF regulations, the framework for transport infrastructure development has been set. Currently, the relevant investment projects are being prepared. It is obviously too early to assess the progress towards this goal, which would be most likely closely monitored in the evaluations of the CEF programme.

The multimodal nature of the TEN-T and its equipment for intelligent and innovative services has been defined with a view to creating the infrastructural basis for a sustainable transport system that enables increasing mobility while significantly reducing carbon emissions. Such an integrated approach stimulates a more efficient use of infrastructure and broadens the basis for clean fleets. Corresponding projects are identified in the framework of the core network corridor work and, more broadly, are stimulated through corresponding funding priorities under the CEF.

(6) By 2050, connect all core network airports to the rail network, preferably high-speed; ensure that all core seaports are sufficiently connected to the rail freight and, where possible, inland waterway system.

¹³⁶ Davide Fiorello, Loredana Zani (2015), [EU Survey on issues related to transport and mobility](#), JRC Science and Policy Report, EUR 27334

This goal also monitors the progress in the deployment of the TEN-T. The main transport nodes are often serious bottlenecks for transport in the EU. The intermodal connections are a must if a truly multimodal transport is to operate efficiently in the EU. Urban nodes and multi-modal terminals are key components of TEN-T development and, therefore, received due attention in the core network corridor work. They have been amongst the funding priorities of the first CEF call – with a number of path-breaking projects having been supported. Funding will continue under the forthcoming calls. Similarly to the previous goal it is too early to assess the progress of this goal.

(7) Deployment of the modernised air traffic management infrastructure (SESAR) in Europe by 2020 and completion of the European Common Aviation Area. Deployment of equivalent land and waterborne transport management systems (ERTMS, ITS, SSN and LRIT¹³⁷, RIS). Deployment of the European Global Navigation Satellite System (Galileo).

Intelligent transport systems, i.e. digital traffic management and information systems, are an intrinsic part of the future transport. With various initiatives to support these systems, the goal to deploy them on the ground is an obvious one. The progress in achieving this goal can only be assessed qualitatively at the moment.

Significant progress has been made towards modernising and harmonising Europe's air traffic management (ATM) infrastructure through the SESAR project¹³⁸. A number of 'SESAR solutions' developed and validated through the R&D phase of the project are now being deployed in the operational environment thanks to the SESAR deployment framework set up by the Commission in 2013¹³⁹. The first set of SESAR solutions have been included in the Pilot Common Project¹⁴⁰ and are being deployed in synchronisation throughout the Union. Moreover, the Pilot Common Project prescribes the deployment of the initial infrastructure for the System Wide Information Management (SWIM) – the ATM internet that enables seamless information interchange between providers and users of ATM information.

The on-going efforts to create a Digital Inland Waterway Area (DINA) and Digital Multimodal Nodes (DMN) and the existing Union Maritime Information and Exchange system (the operation of Vessel Traffic Management Information System (VTMIS) and maritime national single windows) helps unlocking the potential of and interconnecting information systems on infrastructure, people, vessels, management and cargo components of maritime transport and will do so for inland waterway infrastructure. DINA/DMN are still in early stages of development. A concept document will be presented as part of the waterborne year initiatives in 2017, followed by a revision of the RIS Directive.

The European ERTMS Coordinator, Mr. Karel Vinck, is now engaged in high-level discussions with the Member States in order to finalise a new, revised version of the ERTMS European Deployment Plan in 2016. The objective is to have a realistic and committed programme for the deployment of ERTMS. Moreover, the implementation of the

¹³⁷ SSN and LRIT are now covered under VTMIS

¹³⁸ See: http://ec.europa.eu/transport/modes/air/sesar/index_en.htm

¹³⁹ Commission Implementing Regulation (EU) No 409/2013

¹⁴⁰ Commission Implementing Regulation (EU) No 716/2014

specifications related to railway passengers' (Telematics Applications for Passengers – TAP) and freight (Telematics Applications for Freight – TAF) information systems is ongoing.

Road ITS are at a deployment stage. Key performance indicators are being developed in cooperation with Member States in order to measure the level of deployment and the benefits of them. Moreover, the necessary preparatory actions for the deployment of cooperative ITS are currently undertaken and a master plan will be delivered in 2016.

As regards multimodal transport, a Digital Transport and Logistics Forum has been established with the aim to further support the development of digital tools in freight transport in a multimodal perspective. Moreover, from the passengers' perspective, specifications to be adopted in 2016 are expected to be implemented by 2019, providing the necessary data layer for the provision of EU-wide travel information services and journey planners covering all mobility services on a door-to-door basis.

The deployment of European Global Navigation Satellite Systems (GNSS) have progressed steadfastly since 2011, with European Geostationary Navigation Overlay Service (EGNOS)¹⁴¹ achieving certification for use in aviation in March of that year and with twelve Galileo¹⁴² satellites launched so far and the majority of the ground infrastructure in place. EGNOS is already being used across several modes of transports for its efficiency-enhancing features (i.e. reduction of flights' delays-diversions-cancellations at airports less equipped with Instrumental Landing Systems, improved accuracy for road transport, etc.).

The ultimate and challenging goal would be to link all these traffic management and information systems together.

(8) By 2020, establish the framework for a European multimodal transport information, management and payment system.

Achieving this goal is a prerequisite for a truly pan-European ticketing and travel information system. The state confined systems are a serious obstacle for cross-border and multimodal travel that could be much easier with already available IT solutions. Nonetheless, reaching this goal might be difficult and the progress so far has been rather limited. There is a resistance from some transport operators to share their travel schedule and information.

In order to foster EU wide ticketing solutions the Commission is developing relevant specifications on EU-wide multimodal travel information services which should help creating a European market for such services. Through the implementation of priority action (a) of the ITS Directive¹⁴³, a set of the technical specifications will prescribe the essential requirements to support the provision of EU-wide multimodal travel information services. With the access and exchange of interoperable travel and traffic data via national access points and harmonized standards, a necessary data layer will be created, fostering development of concepts like the Full Service Model (FSM) and Mobility as a Service (MaaS) and supporting passenger travel information and ticketing systems in the EU.

¹⁴¹ See: <http://www.gsa.europa.eu/egnos/what-egnos>

¹⁴² See: <http://www.gsa.europa.eu/galileo/why-galileo>

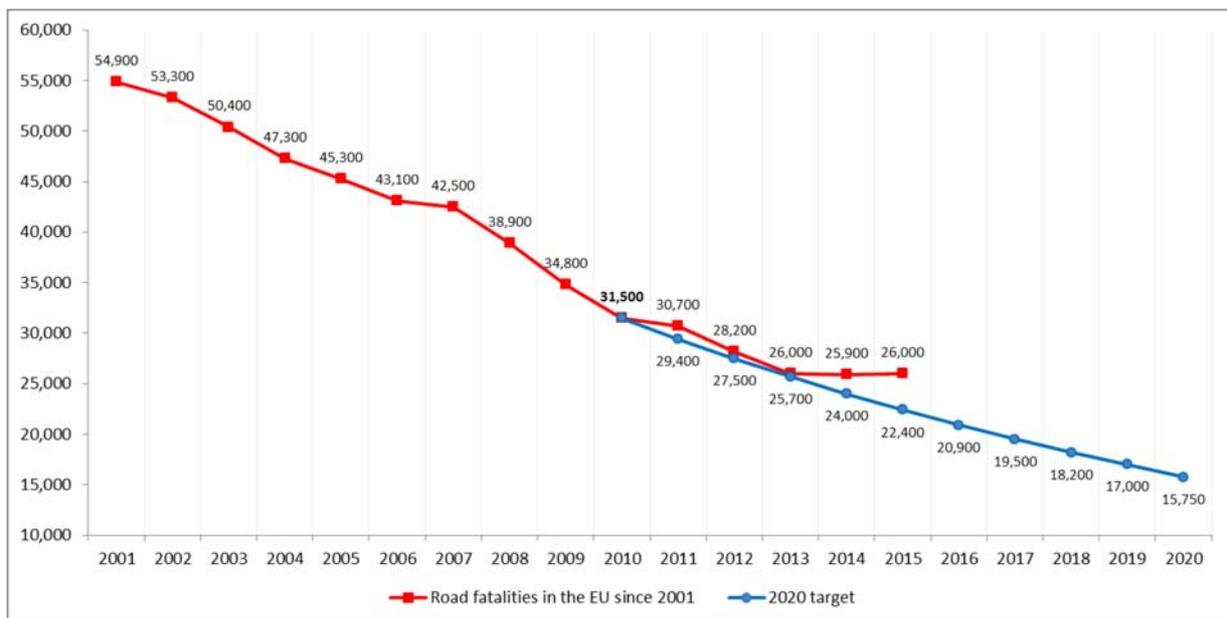
¹⁴³ Directive 2010/40/EU

The recent European Parliament own initiative report¹⁴⁴ called for more efforts in this respect not only at the EU, but in particular local level. There is no quantitative indicator for this goal and it would need to be assessed in a more qualitative way at a later stage.

(9) By 2050, move close to zero fatalities in road transport. In line with this goal, the EU aims at halving road casualties by 2020. Make sure that the EU is a world leader in safety and security of transport in all modes of transport.

This goal is regularly monitored with well-established indicators. The number of road casualties in Europe has decreased substantially since 2001, but there are big differences among Member States. Until recently the overall trend was close to the reference path necessary for halving the number of casualties in 2020 compared to 2010 (see Figure 2), but the latest data indicate that the pace of improvement has stalled with the annual number of fatalities in the EU staying around 26,000 for the last three years¹⁴⁵. Furthermore, 'the low hanging fruits' have been already picked and further efforts would be needed to continue the positive developments.

Figure 2. Road fatalities in the EU since 2001



Source: DG MOVE, CARE database (provisional data for 2015)

The goal to reduce fatalities, however, may not give the full picture of the safety level on European roads. There are calls to supplement it with an additional goal to reduce the number of serious injuries from road accidents. Data on serious road injuries is already collected and the Member States' performance is to be benchmarked and reported on.

(10) Move towards full application of 'user pays' and 'polluter pays' principles and private sector engagement to eliminate distortions, including harmful subsidies, generate revenues and ensure financing for future transport investments.

¹⁴⁴ EP (2015), [Report on delivering multimodal integrated ticketing in Europe](#), (2014/2244(INI))

¹⁴⁵ 2015 provisional data: http://europa.eu/rapid/press-release_IP-16-863_en.htm

Given the limited progress in this area this goal is far from being achieved. There is also no specific indicator to monitor the progress, so only a qualitative evaluation is possible. In any case, the move towards the 'user pays' and 'polluter pays' principles is expected to be a more gradual and long-term process than initially intended.

Action point 39 of the White Paper identified a number of initiatives deemed necessary to move towards first partial then full internalisation of external costs by 2020. Looking at their level of implementation can be a measure of progress towards the goal. It has become evident that the implementation of the planned initiatives would imply significant reforms and restructuring of transport charges and relevant taxes, the sensitivity of which appears to have been underestimated. As indicated above in section 3.1, the attempt to revise motor fuel taxation through amendments to the Energy Taxation Directive¹⁴⁶ failed.

The lack of progress at the EU level has as its flipside the coexistence of different national solutions, with potential negative consequences in a number of areas: market distortions and inefficiencies, poor responses to negative externalities of transport, lack of appropriate incentives for users, consumers and business, ensuing (possibly inappropriate) mobility choices and unequal treatment of transport modes. The Commission may address some of these issues in the upcoming road initiatives.

4. A new environment for the implementation of EU transport policies

4.1. The priorities of the Commission 2014 - 2019

In the context of the appointment of the new Commission in 2014, specific strategic objectives for the years to come were established. At the beginning of his term President Juncker set ten priorities for his mandate¹⁴⁷, five of which are particularly relevant for transport – (1) a new boost for jobs, growth, investment, (2) a deeper and fairer internal market with a strengthened industrial base, (3) a resilient energy union with a forward looking climate change policy¹⁴⁸, (4) a connected digital agenda and (5) the EU as stronger global actor. Following the setting of the priorities corresponding strategies have been or will be adopted. These strategies encompass various policy areas and reflect a more cooperative and horizontal approach of the Commission to addressing main challenges.

All five priorities serve as a new impetus for various transport policy initiatives. Instead of considering transport separately, the new approach combines several policy areas around major topics in order to address major complex challenges and reach ambitious objectives. The aim is to improve the coordination of policies and to support the implementation of the proposals through better governance mechanisms. Moreover, in the past it was often indicated by stakeholders that transport did not receive sufficient attention in general policies of the Commission. With the new approach it is expected that transport initiatives and their contributions to tackling general societal challenges will become more visible by being part of the EU's overarching strategies.

¹⁴⁶ COM(2011) 169 final

¹⁴⁷ http://ec.europa.eu/priorities/docs/pg_en.pdf

¹⁴⁸ This includes the 2030 energy and climate change framework as agreed by the European Council of October 2014.

4.2. Recent trends and developments in the transport sector

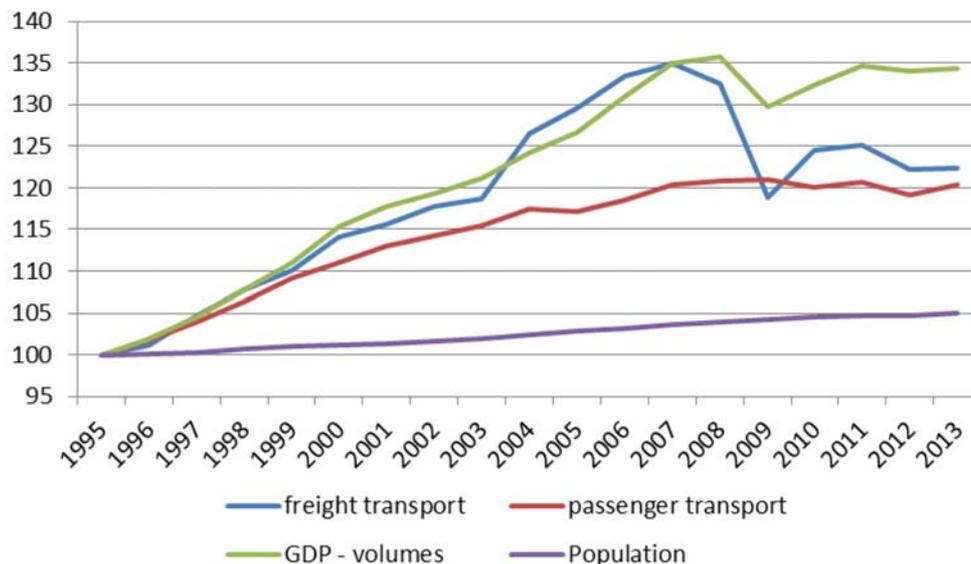
This section presents recent trends in the transport area based on updated figures (mostly based on statistical data of 2013) and compares them to those used for the preparation of the 2011 White Paper (usually 2008 or 2009). This is important for providing an updated context for the assessment of relevance of the White Paper.

There are no indications that the main trends in transport identified in 2011 White Paper have substantially changed in recent years. Transport activity continues to raise concerns about its negative externalities, notably GHG emissions, air pollution, noise, congestion, safety. Road remains a predominant mode of transport¹⁴⁹ and source of emissions, while aging and urbanisation remain major demographic trends for transport. Still some new societal developments and technological advancements have gained on pace and are likely to shape the functioning of transport services already in the near future (see Annex I).

Importance for the economy

The transport sector is still a growing sector, but the 2009 economic crisis has also significantly impacted transport activity: freight transport activity decreased by 7.7% between 2008 and 2013 due to a significant drop in 2009 of about 10% which was only partially recovered with a rebound in 2010 of 3.3% (see Figure 3).

Figure 3. Evolution of GDP, population, freight and passenger transport since 1995 (EU-28; 1995 = 100)



Source: Eurostat

Similarly to 2008, transport remains an essential component of the European economy. It is estimated that the transport industry at large accounted in 2013 for 6.95% of GDP and for

¹⁴⁹ See: Davide Fiorello, Loredana Zani (2015), [EU Survey on issues related to transport and mobility](#), JRC Science and Policy Report, EUR 27334

7.03% of total employment in the EU¹⁵⁰, corresponding to more than 14 million people in absolute terms. Compared with 2008, the share of transport value added increased from 6.77% to 6.95% in 2013, mostly due to transport manufacturers' performance. Within the same period, the share of persons employed in transport has decreased from 7.19% to 7.03%, suggesting that the transport sector has still not recovered to the pre-crisis level, in terms of labour force.

Transport is also a prominent investment priority in the EU 2014-2020 financial framework. Under the cohesion policy €70 billion is to be dedicated for sustainable transport investments for 2014-2020 (plus €1 billion contribution to the CEF for projects of common interest in the cohesion countries). Additional €24 billion for 2014-2020 are provisioned under the CEF (including €1 billion from the Cohesion Funds), plus more investments could be supported by the EFSI. The total expected investment in transport mark an increase compared to the substantial contribution in the 2007-2013 financial framework, which envisaged €82 billion (23.7% of the total allocation) to be spent on transport.¹⁵¹

Transport remains the second biggest budget item after house-related expenditures (i.e. housing, electricity, gas and other fuels, 24.7%). In 2013 households in the EU spent about 12.8% of their income on transport-related goods and services. Its share has declined slightly since 2008 when it accounted for 13.4% of the EU household expenditures¹⁵². Also the public spending on transport has decreased. In 2013, the public expenditure on inland infrastructure corresponded to 0.74% of the EU GDP, below the 2008 level of 0.94%. By including also the amount spent on transport infrastructure maintenance, in 2013 the European public expenditure reached the level of 1.03% of European GDP, which was well below the 2008 levels of 1.29%¹⁵³.

Modal split

The modal split has not significantly changed since 2008. In the freight sector, road represented the most important mode of transport in 2013, accounting for almost half (49.4%) of the overall freight transport activity¹⁵⁴ (compared to 50.1% in 2008), followed by intra-EU maritime transport (31.3%, 0.4% higher than 2008) and rail (11.7% as in 2008) (see Figure 4). Inland navigation represented 4.4% of the total (0.5% higher than 2008). In the passenger sector, private cars are the most used mode of transport for personal mobility, covering 72.3% of the total distance travelled by Europeans in 2013 (72.4% in 2008). Intra-EU aviation is the second most used mode of travel (9% compared to 8.7% in 2008), used especially for long distances. Buses and coaches cover 8.1% of European mobility (8.5% in 2008), followed by rail, tram and metro that cover respectively 6.6% and 1.5% of passenger activity (in 2008,

¹⁵⁰ Of which 4.97% corresponding to transport services (including postal and courier activities) and the rest to transport equipment manufacturing, while 10.9 million jobs correspond to transport services and 3.9 million to transport equipment. Gross value added statistics are estimates based on Eurostat National Accounts, calculated under the new ESA2010 methodology. Labour force values are based on Eurostat Labour Force Survey.

¹⁵¹ http://ec.europa.eu/regional_policy/sources/activity/statistics/2007_transport.pdf

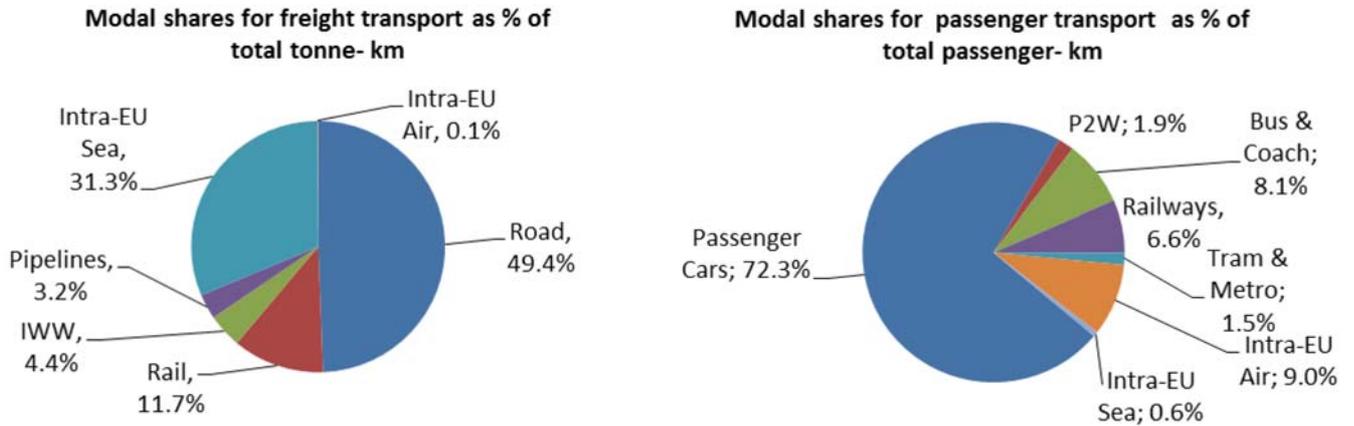
¹⁵² Calculations based on Eurostat ESA2010 National Accounts, HR data not available.

¹⁵³ DG MOVE calculations and estimates based on data on infrastructure expenditure collected by ITF/OECD. Data for Cyprus and Ireland is missing for infrastructure investment. The coverage for maintenance expenditure is limited; therefore the shares should be interpreted as estimates.

¹⁵⁴ The modal share of road transport in inland transport was 71.9% in 2013.

6.3% and 1.4%). The role of sea passenger transport and powered two-wheelers (motorcycles, mopeds, scooters etc.) is less prominent (0.6% and 1.9% respectively of European mobility, similarly as in 2008).

Figure 4. Modal shares for freight and passenger transport in 2013

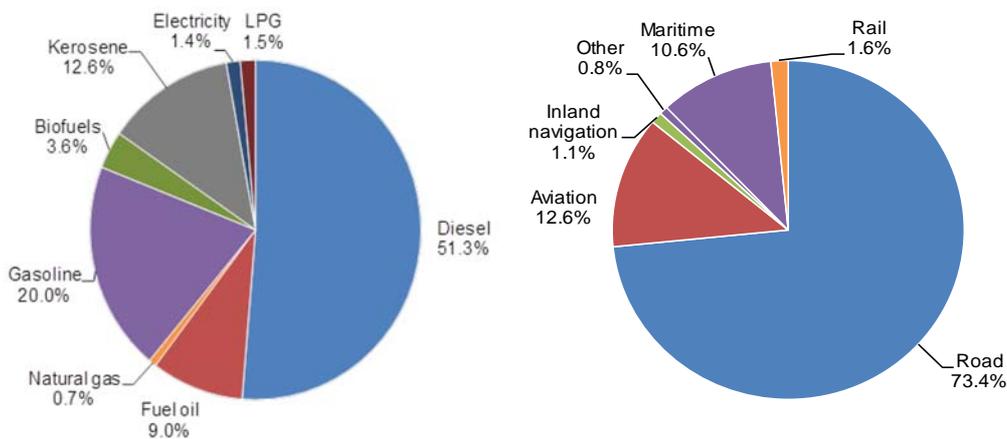


Source: DG MOVE, *EU Transport in Figures 2015* (tkm – tonne kilometre, pkm – passenger kilometre). P2W stands for powered two-wheelers (such as motorcycles and mopeds).

Environmental performance

Transport activity continues to raise concerns about its environmental sustainability. EU transport was responsible for 33% of final energy consumption (353 Mtoe) in 2014. Adding maritime bunker fuels, energy used in transport totalled 394 Mtoe. Road transport is by far the largest energy consumer, accounting for 73.4% of the total. Aviation is the second largest energy consumer with a share of 12.6%, followed by maritime transport (10.6%), rail transport (1.6%, 66% of which is used for electric traction), and finally inland navigation (1.1%)¹⁵⁵.

Figure 5: Share of transport energy demand by source and mode in 2014 (%)

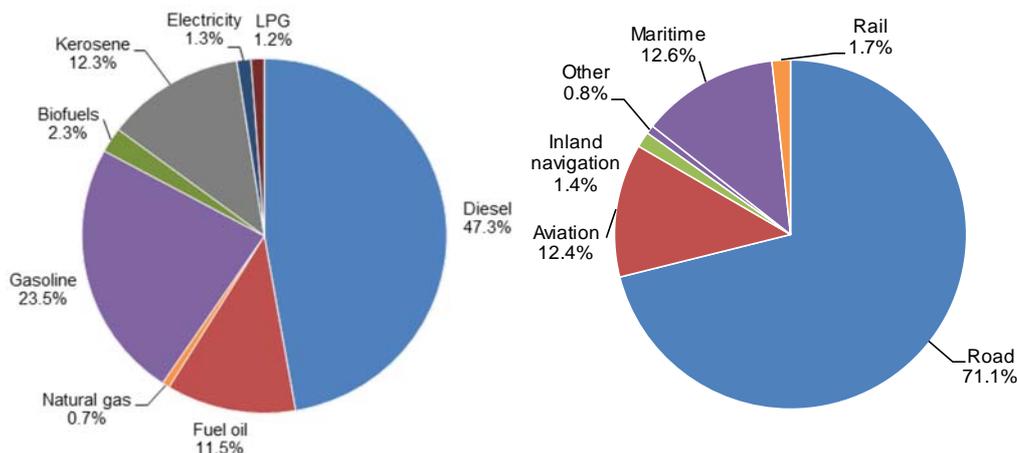


¹⁵⁵ Source: Eurostat

Source: Eurostat

The share of transport in final energy demand did not change significantly compared to 2008, when it represented 32% of the total energy demand, despite a 7% decrease in its levels. Road was still the mode contributing the largest share of energy consumption in transport in 2008 (71.1%), followed by maritime (12.6%) and aviation (12.4%).

Figure 6: Share of transport energy demand by source and mode in 2008 (%)



Source: Eurostat

The use of oil remains one of the main sources of GHG emissions. In the EU, transport currently depends on oil and oil products for about 94% of its energy needs. The EU imports 87.4% of its petroleum and petroleum products from abroad, which makes transport, and the wider economy, very reliant on the world markets. At the same time, oil is expected to be increasingly sourced from uncertain supplies in future decades. Road transport depends on oil products for 95% of its energy use and rail transport for about 33%. Almost all energy consumed in waterborne transport and aviation is petroleum-based.

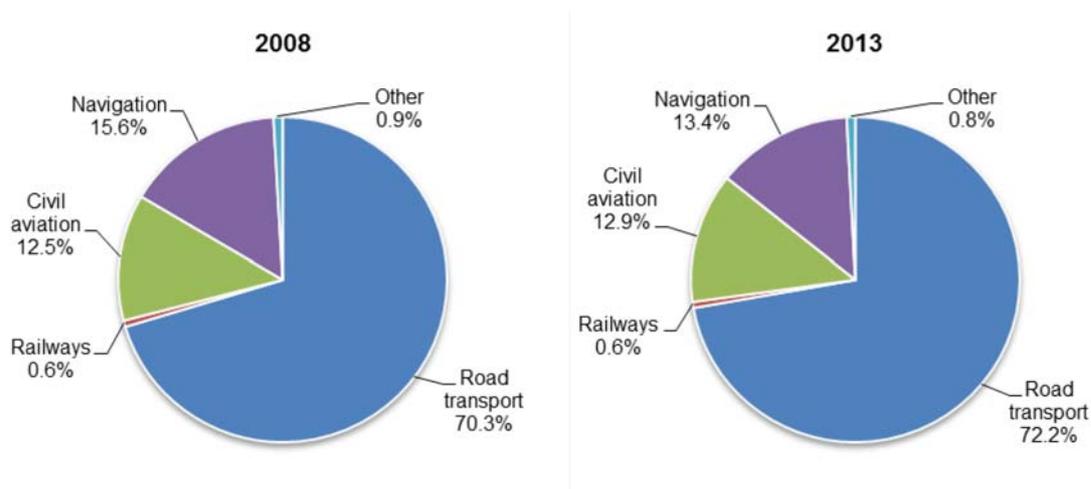
Since 2008 emissions in transport have decreased by about 10%.¹⁵⁶ In 2013, GHG emissions from transport represented about 24% of the total emissions, similarly to the share observed in 2008.¹⁵⁷ Road transport is by far the largest emitter and in 2013 it accounted for 72.2% of all GHG emissions from transport. Road transport emissions decreased by about 8% during 2008-2013 but their share slightly increased (+1.9 percentage points relative to 2008) due to the relatively higher reductions observed in shipping and rail transport. Maritime and air transport follow with shares of 13.4% and 12.9% respectively. Emissions from maritime bunkers decreased by 23% during 2008-2013, leading to a 2.2 percentage points cut in their share in total transport emissions. Rail transport contributed only 0.6% of GHG emissions, similarly to 2008.¹⁵⁸

¹⁵⁶ Including international aviation and shipping

¹⁵⁷ This share includes the international maritime. Excluding international maritime, transport provides about 21% of the total greenhouse gas emissions. International maritime is outside the scope of the targets established in the climate and energy packages for 2020 and 2030.

¹⁵⁸ Emissions from rail transport do not include emissions from producing the electricity used in rail.

Figure 7: Greenhouse gas emissions from transport by mode in 2008 and 2013¹⁵⁹



Source: EEA greenhouse gas - data viewer¹⁶⁰

In the area of air pollution a lot of progress has been made thanks to the Euro standards: nitrogen oxides (NOx) emissions from road transport decreased by 56% during 1990-2013 and particulate matter (PM2.5) emissions by 50%. Compared to 2008 NOx emissions from road transport went down by 24% and PM2.5 emissions by 27%. Nevertheless, road transport still represented the largest source of NOx emissions in 2013, accounting for 39% of total EU emissions, and was an important source of PM2.5 emissions (13%).¹⁶¹ These shares were 41% and 17% in 2008, respectively. Costs to society for local pollution are still very high – at about 0.4% of GDP, according to a study by CE Delft¹⁶², and new evidence from OECD provides even higher estimates (up to 6 times higher). Consequently, air quality in cities remains a fundamental challenge for public health.

Other externalities

Altogether, external costs of transport amount to about 4% of GDP (lower estimates; the most important components being accidents, congestion, air pollution, climate change and noise)¹⁶³. Various modes of transport are to a different extent responsible for externalities. Most of the negative externalities come from road transport (GHG emissions, local air and noise pollution, accidents and congestion). Aviation and maritime contribute mainly to externalities related to climate change and pollution, while rail noise (and also noise from aviation) is a problem in certain parts of Europe.

Congestion has a negative impact on the environment since it leads to increased air and noise pollution, and generates higher fuel consumption. The time wasted in traffic jams also prevents the benefits of agglomeration effects to fully materialise. As a result, the congestion

¹⁵⁹ The shares of civil aviation and navigation include international bunkers.

¹⁶⁰ <http://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer>

¹⁶¹ EEA (2015), *European Union emission inventory report 1990–2013 under the UNECE Convention on Long-range Transboundary Air Pollution (LRTAP)*, EEA Technical report No 8/2015.

¹⁶² CE Delft et al. (2011), *External Costs of Transport in Europe - Update Study for 2008*.

¹⁶³ CE Delft et al. (2011), *External Costs of Transport in Europe... op. cit.*

has a negative impact on productivity, competitiveness of the economy and quality of life¹⁶⁴. Overall congestion costs are estimated at 1% of GDP.¹⁶⁵

Road transport, which still causes the vast majority of all deaths due to transport and traffic, has recorded a decrease in the number of road accidents involving personal injury by 11% between 2009 and 2014, continuing the overall positive trend (about 25% reduction between 1991 and 2014)¹⁶⁶. More importantly, the number of road fatalities also went down, by some 26% between 2009 and 2014. However, no progress was achieved between 2013 and 2015 (preliminary data), which might indicate a deceleration of the trend.¹⁶⁷

Other developments to be considered

There are several socio-economic and technological developments that have emerged or become more prominent since the 2011 White Paper. Firstly, the collaborative economy paradigm increasingly affects the way transport services are organised with various bike and car sharing schemes being deployed across the EU¹⁶⁸. It generates new employment opportunities and enables people to work according to flexible arrangements. At the same time, these flexible work arrangements may not be as regular or stable as traditional employment relations. Also the increasing automation and digitalisation of transport¹⁶⁹ offers new opportunities for transport services (e.g. by reducing the number of accidents, energy consumption and pollution, as well as by cutting costs associated with congestion), but also raises new challenges¹⁷⁰, especially in terms of cyber security¹⁷¹ and user acceptance. Moreover, further changes in the way world economy and industry operates e.g. increasingly complex business structures and supply chains, growing importance of software, 3D printing or shift to circular economy will require further optimisation of transport services and changes in design of transport vehicles and infrastructure. The aforementioned elements have also an impact on the employment in the transport sector, in terms of opportunities, required skills and working conditions. Furthermore the increasing role of active modes (walking and cycling) in the urban transport mix¹⁷² has to be better considered in transport policies and receive the necessary support to take advantage of its potential benefits¹⁷³. Last but not least,

¹⁶⁴ SEC(2011) 358 final

¹⁶⁵ Panayotis Christidis, Juan Nicolás Ibáñez Rivas, (2012), [Measuring road congestion](#), JRC Technical Notes, European Commission JRC-IPTS

¹⁶⁶ DG MOVE (2015) [EU transport in figures – Statistical Pocketbook 2015](#), based on CARE database data, national statistics and international sources, as well as estimates.

¹⁶⁷ CARE (EU road accidents database) or national publications.

¹⁶⁸ See: Roland Berger (2014), [Shared Mobility. How new businesses are rewriting the rules of the private transportation game](#)

¹⁶⁹ See: ETRACK (2015), [Automated Driving Roadmap](#)

¹⁷⁰ See: <http://www.mckinsey.com/industries/automotive-and-assembly/our-insights/ten-ways-autonomous-driving-could-redefine-the-automotive-world>

¹⁷¹ See: IET (2015), [Automotive Cyber Security: An IET/KTN Thought Leadership Review of risk perspectives for connected vehicles](#)

¹⁷² See: <https://ecf.com/what-we-do/cycling-all-policies/national-cycling-policies>

¹⁷³ Informal meeting of EU ministers for Transport, [Declaration on Cycling as a climate friendly Transport Mode](#), Luxembourg, October 7th, 2015

the recent migration challenges, which already pose risks to the functioning of the Schengen area, can also have strong impact on transport activity in Europe.

A more detailed analysis of the main trends and challenges is presented in Annex I.

5. Conclusions

The socio-economic context and challenges have not evolved substantially compared to 2011, but it has also become evident that the technological changes have been taking up pace, also affecting consumer behaviour.

Significant progress has been made on the Commission side in the ten years programme, with major legislative proposals and extensive analytical work done in support of possible political actions in the future. Moreover, several action points of the programme have been further developed under various Commission strategies supporting the ten priority areas of the current Commission, notably the Energy Union and the Digital Single Market. With respect to the White Paper goals the time passed since the adoption of that document is in most of cases still too short to properly assess progress achieved. The monitoring is ongoing and efforts are made to further develop or improve the relevant indicators.

Finally, there is a strong expectation from various stakeholders that the challenges are addressed more via focus on implementation, increased, but also well-justified investments in transport infrastructure, and better consideration of the needs of transport users and workers in any policy initiatives related to transport. Stakeholders also consider a stronger Single European Transport Area and technological developments as part of the solution.

Annex I: Trends and developments of relevance for transport

Since the 2011 White Paper strategy some genuinely new trends in the sense of societal developments and quicker than anticipated technological advances have materialised. They will without doubt shape the views on transport policies in the years to come, even if many of them cannot yet be measured or accurately predicted by means of statistics. The present section will nevertheless endeavour to present and analyse relevant key developments of social innovation and behavioural changes as well technological progress in transport. It should be noted that there are other factors to be considered in order to have a more comprehensive picture of the future developments in transport.¹⁷⁴ Thus, this section by no means is complete and rather provides a snapshot of the most important developments that could be identified at the moment.

Demographic and urbanisation trends

Concerning the main demographic developments important for transport, the main trends i.e. ageing and urbanisation are projected to continue. The proportion of young people (aged 0-14) is projected to remain fairly constant by 2060 in the EU28 and the euro area (around 15%), while those aged 15-64 will become a substantially smaller share, declining from 66% to 57%. Those aged 65 and over will become a much larger share (rising from 18% to 28% of the population), and those aged 80 and over (rising from 5% to 12%) will almost become as numerous as the young population in 2060. As a result of these different trends among age-groups, the demographic old age dependency ratio (people aged 65 or above relative to those aged 15-64) is projected to increase from 27.8% to 50.1% in the EU as a whole over the projection period.¹⁷⁵ The growth in urbanisation rate in Europe is expected to continue, with the proportion of the population residing in urban areas projected to grow from 73% in 2014 to 82% in 2050.¹⁷⁶

The ageing society will require more emphasis on the provision of safe, secure and reliable transport services featuring appropriate solutions for users with reduced mobility. For instance, one can expect higher demand for door-to-door mobility and drivers assistance solutions. For public expenditure policy a higher ratio of older people will imply that more public resources will have to be devoted to pension payments, health care and nursing, which may lead to pressure on the amount of funding available to public transport and maintenance of transport infrastructure. In view of established long term trends the aged people of tomorrow will in all likelihood travel more than their parents did.

The progressing urbanisation will further contribute to the problems affecting many agglomerations, such as congestion, air pollution, noise and saturation of transportation hubs. Up to a third of Europeans living in cities are exposed to air pollutant levels exceeding EU air

¹⁷⁴ For instance future trends in employment in transport have been analysed in a dedicated study: JRC (2014), [Future employment in transport. Analysis of labour supply and demand](#), JRC Technical Report

¹⁷⁵ DG ECFIN (2014), [The 2015 Ageing Report, Underlying Assumptions and Projection Methodologies](#), European Economy 8|2014

¹⁷⁶ UN (2014), [World Urbanization Prospects. 2014 Revision](#).

quality standards. In 2013 approximately 87% of city dwellers were exposed to fine particulate matter (PM_{2.5}) concentrations above WHO guidelines and up to 98% were exposed to ozone (O₃) levels above WHO guidelines. Health impact estimates associated with long-term exposure to PM_{2.5} show that this pollutant was responsible for 432,000 premature deaths in Europe in 2012, a level similar to that estimated in previous years. The estimated impacts of nitrogen dioxide (NO₂) (widely exceeded across Europe with 93% of all exceedances occurring close to roads) and O₃ exposure were around 75,000 and 17,000 premature deaths respectively.¹⁷⁷ The average contribution of urban and local traffic to PM₁₀ concentration is 35% while it is up to 64% in the case of NO₂ concentrations¹⁷⁸.

Collaborative economy

Carsharing is a recent but rapidly expanding trend that has been changing the mobility patterns in the last couple of years, in particular in urban areas. It is part of a wider concept of collaborative economy where offering and borrowing private goods or exchanging services has been replacing the idea of owning and buying. The idea of sharing things is not new, but the scale of it has – thanks to new IT technologies – pushed the concept of sharing to an entirely new dimension, leading to new disruptive business models. In particular, mobility has been a fast developing segment of the collaborative economy, which raises questions concerning the appropriate regulatory approach, including the level and focus of regulation.¹⁷⁹

Box 1: Different forms of carsharing and ridesharing

Despite the short history of the concept, there are already various models of carsharing/ ridesharing systems. Round-trip carsharing is the most common 'classical' scheme. The shared cars are distributed across a network of locations within a metropolitan area. Users generally reserve a car ahead of when they wish to use one, in general via smartphone apps or a dedicated website, and are supposed to return the car to the same place that it was accessed. In this scheme the fleet of carsharing cars is centrally owned (or leased) by a professional carsharing operating entity. Zipcar is the biggest company offering such services. In the peer-to-peer carsharing scheme the principles are broadly the same but the fleet is de-centralised and owned by private individuals, while the main role of the peer-to-peer carsharing operator is to provide an online marketplace to connect vehicle-owners with prospective vehicle-renters. Another variant includes a point-to-point free-floating carsharing (or flexible carsharing), which enables one-way journeys within a specified geographic zone and can be reserved spontaneously. The car fleet is centrally-owned by the system operator. Car2go is an example of a company offering such services. One can also distinguish a station-based point-to-point carsharing services, meaning that the user picks up a car from one parking station and returns it to another. Autolib' is the largest point-to-point station-based carsharing.¹⁸⁰ The borders of this market segmentation are not very strict and other business models are also emerging. For instance BlaBlaCar could be described as a ridesharing company, offering state of the art web and mobile platforms to connect drivers of cars with empty seats to passengers looking for a ride.

An important market segment, which sometimes is not considered as a carsharing per se, includes transportation network companies (TNCs) which offer real-time and app-based on-demand ride services for single or a small number of passengers. They use Internet and mobile platforms (smartphone apps) to match on-demand drivers and passengers in real-time just before the trip is to take place. Such companies include Uber, Lyft, and Sidecar. The services also include a rating system for drivers and passengers and app-based payment. In contrast, taxis are vehicles for hire that are typically regulated with respect to license entry, fares, and service quality as well as

¹⁷⁷ EEA (2013), [Air quality in Europe — 2015 report](#), EEA Report No 5/2015

¹⁷⁸ EEA (2012), [The contribution of transport to air quality – TERM 2012](#), EEA Report no. 10/2012

¹⁷⁹ Roland Berger (2014), [Shared Mobility. How new businesses are rewriting the rules of the private transportation game](#)

¹⁸⁰ Scott Le Vine, Alireza Zolfaghari, John Polak (2014), [Carsharing: Evolution, Challenges and Opportunities](#), Centre for Transport Studies, Imperial College London, ACEA.

subject to labour law. Traditional taxi services operate through passenger hailing, where they typically enjoy a legal monopoly, or pre-arrangement of a ride (traditionally by calling a dedicated phone number), where they compete with TNCs. Most taxi services do not offer apps for real-time vehicle location or payment, but it can be expected that this service might be soon added to taxi services (e.g. in France a taxi availability register it is already in the pipeline).¹⁸¹

Within a short period of time carsharing has become a major global industry. In 2014, car share programs were available in over 30 countries, and in hundreds of cities. The success of one-way carsharing services is encouraging new companies to consider offering this service model (original equipment manufacturers (OEMs), rental or leasing companies, mobility solution providers). In particular, several automakers have entered this market with good results, building substantial membership levels in only a few years. Some estimates predict that global carsharing services revenue will grow from \$1.1 billion in 2015 to \$6.5 billion in 2024.¹⁸²

Carsharing provides various benefits for its users and the society. It enables personal mobility with a car without the costs of owning a private vehicle. As some studies show, with carsharing increasingly becoming a viable alternative, more people could forego a purchase of a vehicle. Consequently, the increasing number of carsharing services also offers a potential congestion-relief.¹⁸³ It is less certain, though, if TNCs services would have the same impact as they make car ownership potentially more profitable to some people and encourage others to use cars instead of public transport. Another possible positive development could materialise through the adoption of plug-in electric vehicles (PEVs) in carsharing services, which is expected to increase as car manufacturers promote this technology for carsharing.

Notwithstanding the potential benefits, new business models in the field of passenger transport have also led to discussions on a number of issues, notably of a legal nature. One of the main questions is whether to treat TNCs companies as IT and/or transport operators (this issues is currently being looked at by the CJEU¹⁸⁴). In the absence of any sector specific EU legislation in relation to taxi and TNCs, these services are regulated by national and local authorities. When regulating these services and when applying the respective national rules, EU Member States are bound by the general principles of Union law, such as proportionality, non-discrimination on the basis of nationality and freedom of establishment. Furthermore, potential issues might emerge with the growing ridesharing market segment where a passenger benefits from a trip that would not be undertaken if not for passenger(s).

Automation and connected vehicles

New technologies have allowed for driver assistance and autonomous operations of vehicles and in the future could lead to the emergence of fully automated cars. This technological change is taking place very rapidly and vehicle technology is practically ready for deployment, while there is still a lack of harmonised framework conditions (legal, co-

¹⁸¹ Susan Shaheen, Michael Galczynski (2014), [Autonomous carsharing/ taxi pathways](#), Transportation Sustainability Research Center, UC Berkeley

¹⁸² <https://www.navigantresearch.com/research/carsharing-programs>

¹⁸³ Peter Viechnicki, Abhijit Khuperkar, Tiffany Dovey Fishman, & William D. Eggers (2015), [Smart mobility. Reducing congestion and fostering faster, greener, and cheaper transportation options](#), Deloitte Consulting

¹⁸⁴ Reference for preliminary ruling by Juzgado Mercantil n° 3 de Barcelona (Spain) of 7 August 2015 in case C-434/15.

existence with conventional means of transport, social implications, required interoperable infrastructure and interfaces). The shift to automation concerns all modes of transport, with highest public attention currently being paid to aviation (drones or unmanned aerial vehicles) and road transport.

Concerning drones, the technology is already there, fully functional and offering a multitude of applications. The world market is forecast to more than double to €4 billion per year by 2022 and Europe is expected to represent about 25% of it.¹⁸⁵ In terms of jobs, for Europe, employment is estimated to increase to about 150,000 jobs by 2050 in manufacturing with additional jobs created in drone operator services.¹⁸⁶

With respect to automated cars, similar developments can be observed. Relevant vehicle technology is largely available or close to market readiness. Progress in achieving required framework conditions is expected to be more gradual: road infrastructure, legal and ethical issues, co-existence with conventional cars and appropriate use of interoperable communication and information technologies are needed. With the expansion of the automated driving the whole industrial sector will need to evolve and adapt in a fast pace to stay ahead in global competitiveness while including all stakeholders and addressing societal needs¹⁸⁷. The introduction of cooperative ITS is partially a parallel trend, already close to deployment, which will also largely foster the transition to automation. Full automation in certain areas (i.e. highways, ports and bus lanes) could already be operational in the near future. Various companies and countries are running pilot projects for both passenger cars and trucks in anticipation of this substantial change.

In comparison with the development of these technologies, the legislative framework appears to be lagging behind. Issues that are not fully resolved at the moment include security, liability, privacy protection (especially in case of drones), employment (truck and bus drivers, pilots etc.) and safety. Moreover, the impact on jobs might turn out to be substantial, but it is difficult to predict when and to what extent these new technologies could replace drivers and pilots. Also the approach and management of risk may need to be substantially reconsidered before autonomous vehicles may fully enter the transport market.

Digitalisation and mobility as a service

Smartphones, apps, big data and internet give access to and enable processing huge amounts of data to offer better services to customers. Data can be collected through various means: ticketing systems, sensors attached to vehicles, traffic signals, surveys, social media and smartphones apps. Mobile broadband can make this data accessible at any place and time and also brings major opportunities for better passenger services in trains, predictive maintenance, etc. However, it can also bring some challenges, such as spectrum interferences.

Continuous digitalisation has made it possible to treat mobility as a service – a mobility distribution model in which a customer's major transportation needs are met by services integrating transportation infrastructures, transportation services, information and payment services, and others more. This approach is possible thanks to the increased use of ICT in

¹⁸⁵ SWD(2015) 262 final, after TEAL group 2013 *Market Profile and Forecast*

¹⁸⁶ Estimate provided by ASD, the AeroSpace and Defence Industries Association of Europe.

¹⁸⁷ [ERTRAC \(2015\), Automated Driving Roadmap 2015](#)

transport, the removal of barriers between different transport modes and their users, as well as the emergence of new collaborative economy solutions. The focus in this approach is not on a transport mode, but on mobility, which is seen as a traveller service with physical transportation products, rather than a transportation product with additional services. There are several factors necessary to support the growth of mobility as a service: a good public transport, a mobile broadband roaming policy and strong broadband connections. This concept has already been developed in Helsinki¹⁸⁸ and is considered by other cities.

Further changes in supply chains: globalisation, ICT and 3D printing

Global competitive pressure, availability of effective ICT changing consumer behaviour and an increasing customisation of products have driven the changes of supply chains in the last 15 years and these trends are expected to continue¹⁸⁹. Three main aspects will have an influence on transport policy, all resulting in changes in freight transport operations (tkm).

Firstly, the need for industry to be competitive on global markets will foster further expansion of global supply chains, which in turn will result in high share of transportation of intermediary products as well as in increased number of global supply channels to final consumers. The reduction in trade barriers and improving connections with third countries will further fuel this trend.

Secondly, the availability and improvement of ICT will make it easier for companies to organise global and multimodal transport chains, and for the users/consumers to 'shop' globally. Industry is currently developing a wide range of different solutions mostly based on better cooperation and better use of available data (use of physical internet and big data, shift to synchro-modality¹⁹⁰, horizontal collaboration etc.), where ICT has an important role to play. However, while enabling an increase of efficiency of supplies and transport chains, this evolution may also lead to increase need for transportation, as consumer behaviour adapts to a changed market environment.

Thirdly, the development of 3D printing might simplify and reduce the complexity of supply chains and lead to a decreasing need for transportation. Instead of traditionally manufactured items that often have dozens or even hundreds of parts that must be produced separately, delivered to a factory, and then assembled, products could be made on a 3D printer with far fewer parts. With 3D printing becoming more common, many products, their parts, or input raw materials can be made locally, reducing or eliminating the need to ship them to market. The same applies to repair or substitution of products which in many cases already today is done via a software update, i.e. without any physical transport activity.

In response, freight transport companies will need to follow product market developments and adjust the range of their activities and services to adapt to the new paradigm.¹⁹¹ This will have a clear impact on transport demand and infrastructure needs.

¹⁸⁸ See: <http://maas.fi/>

¹⁸⁹ Ecorys et al (2015), [Fact-finding studies in support of the development of an EU strategy for freight transport logistics Lot 1: Analysis of the EU logistics sector](#).

¹⁹⁰ See: Lorant A. Tavasszy, Behzad Behdani and Rob Konings (2015), [Intermodality and Synchromodality](#)

¹⁹¹ <http://www.strategyand.pwc.com/perspectives/2015-commercial-transportation-trends>

Circular economy

In light of the resource scarcity, price volatility of raw materials and increasing problem of waste, the circular economy offers an opportunity to reinvent the existing economy, making it more sustainable and competitive. It gives the potential to decouple economic growth from resource constraints and bring benefits to European businesses, industries, and citizens alike.

Transport vehicle manufacturing is a sector where the circular economy model has already been applied e.g. Renault has been remanufacturing some of its automotive engines for which it uses 80 percent less energy and almost 90 percent less water¹⁹². Infrastructure and transport waste can also be valuable resources, if properly collected and recycled.

Moreover, circular economy will affect transport and logistics services. Recycling and restoration of old products/components, while reducing the demand for transport of new goods or production inputs will require transportation of goods back from users to producers (reverse logistics¹⁹³) and expand aftermarket supply chains, which means that demand for transport might increase. At the same time reverse logistics could contribute to a greater efficiency of transport operation by increasing load factors (less empty runs).

It is worth noting that the collaborative economy might facilitate development of circular economy, as transfer of ownership would be limited and manufacturers could own or influence development of their product (via intermediaries that could rent and maintain certain products) throughout its life cycle, thus it would be easier to maintain, upgrade and recycle products when needed.

Increasing role of active modes in the urban transport mix

Walking and cycling are certainly not new phenomena, but their importance in urban mobility has been gaining prominence in recent years and many observers see high potential for their further expansion in new fields, e.g. for freight transport via cargo-bikes. The importance of walking as an inexpensive, emission-free, accessible for all form of mobility has been gaining recognition and pedestrian zones are being created or extended in various cities across Europe.

Cycling is more and more considered as a specific mode of transport with a high potential to address many urban mobility challenges¹⁹⁴, also due to recent technological and societal developments. The incorporation of IT technologies has allowed for improvement and increased popularity of bike sharing schemes. Such programmes are already available in 800 cities across the world and have become a part of the landscape in many European cities. Electric power assisted bicycles (or pedelecs) make cycling more attractive to people who live in hilly areas or who could find it difficult or tiring to ride a bicycle. Further technological developments increase the range of bicycle as a viable mode of transport and also make it an attractive mean for last-mile freight transportation. In addition, cycling is more positively perceived in the society than in the past, and the growing number of cyclists on roads has a snow-ball effect and encourages more people to use bicycles.

¹⁹² http://www.mckinsey.com/insights/manufacturing/remaking_the_industrial_economy

¹⁹³ <http://www.reverselogisticstrends.com/reverse-logistics.php>

¹⁹⁴ <http://www.eu2015lu.eu/en/actualites/communiqués/2015/10/07-info-transports-declaration-velo/07-Info-Transport-Declaration-of-Luxembourg-on-Cycling-as-a-climate-friendly-Transport-Mode---2015-10-06.pdf>

Moreover, there is a growing evidence base on the benefits of walking and cycling in terms of lower congestion and pollution, as well as health benefits for the users¹⁹⁵. Facilitation of walking is also an indispensable integral part of the efforts to promote public transport¹⁹⁶.

Finally, the bicycle sector has a potential to boost jobs and growth and support EU industry through new technology and services. It is estimated that cycling related manufacturing and services currently employ around 650,000 people and considering that EU based manufacturers are leaders in electric bike technologies there is a big potential for growth in this sector.¹⁹⁷ All these factors are convincing many local and national authorities to promote more active modes through infrastructure adjustments and various systems of incentives (e.g. kilometric reimbursement for bike use).

Increasing security threats

Recent military conflicts and tensions in different parts of the world have increased the threats of terrorist attacks in the EU. Means of transport are one of the common targets of these attacks and will require special prevention and surveillance measures. In this context, the vulnerabilities of different transport modes will pose further challenges. In addition, of specific concern in 2015 was the rise in the problem of stowaways in vehicles – either by persons acting on their own initiative, or placed there by people-smugglers. The disruptions and uncertainty that this creates is negatively affecting both road and rail freight operations in the EU.

Moreover, the progressing digitalisation, automation and increasing role of software in transport will amplify cybersecurity threats. Cyber-attacks may lead to delays of services, damage to physical systems, data theft or even passenger injury/loss. There are also concerns that remotely controlled aircrafts and self-drive cars may be subject to hacking or hi-jacking from the distance. Similar concerns arise in the maritime area, because of growing digitalisation of sea navigation.

There are various initiatives on-going to tackle cyber security issues and the EU established a dedicated agency – the European Union Agency for Network and Information Security – for this purpose. So far, however, a common and coordinated defence against cyber threats (together with the competent EU bodies, national aviation administrations, national cyber security agencies, industry, operators, cooperate internationally) is lacking.

¹⁹⁵ <http://www.ecf.com/press-corner/cycling-facts-and-figures/>

¹⁹⁶ ITF (2012), *Pedestrian Safety, Urban Space and Health*

¹⁹⁷ ECF (2014), *Cycling works. Jobs and Job Creation in the Cycling Economy*

Annex II: Schematic table on the state of play of the 2011 White Paper programme

Name of the initiative and its state of play	Completed	Advanced	On-going	Cancelled	Main deliverable of the Commission	State of play in the legislative process
1. An efficient and integrated mobility system						
1.1. A Single European Transport Area						
(1) – A true internal market for rail services:						
• <u>Opening of passenger domestic market, including tendering of PSO and governance aspects:</u> addressed in 4th railway package (SMA II initiative) presented by the Commission on 30 January 2013.					4th railway package - Governance and PSO adopted 30/01/2013	Provisional inter-institutional agreement on the "market" pillar on 19 April 2016.
• <u>Single vehicle authorisation, single railway undertaking safety certification, reinforcement of the role of ERA:</u> addressed in 4th railway package (SMA II initiative) presented by the Commission on 30 January 2013.					4th railway package - adopted 30/01/2013	"Technical" pillar (Regulation 2016/796, Directive 2016/797 and Directive 2016/798) adopted on 11 May 2016.
• <u>Integrated approach to freight corridor management, including track access charges:</u> As a follow -up implementation of Regulation 913/2010 six RFCs became operational by November 2013 and the remaining three in November 2015. RFC 8 was extended on the basis of the provisions of Regulation 913/2013 and implemented. Discussions are ongoing for the establishment of two further RFCs. The evaluation of Regulation 913/2010 is ongoing.						
• <u>Non discriminatory access to rail infrastructure, including rail related services, in particular through structural separation:</u> addressed in 4th railway package (SMA II initiative) presented by the Commission on 30 January 2013. New implementing rules on procedure and criteria to be followed for the conclusion of framework agreements related to the allocation of framework capacity.					4th railway package - adopted 30/01/2013 Commission Implementing Regulation (EU) 2016/545 adopted on 7 April 2016	"Technical" (Regulation 2016/796, Directive 2016/797 and Directive 2016/798) adopted on 11 May 2016.
(2) – Completion of the Single European Sky:						
• <u>Achieve a truly seamless Single European Sky and deploy the future air traffic management system (SESAR) in the agreed timeframe:</u> FABs implementation is late. Letter of formal notice has been sent to seven FABs out of nine FABs. A Commission legislative proposal (SMA II initiative) to accelerate the implementation of SES known as SES2+ presented in June 2013. With regard to SESAR: <ul style="list-style-type: none"> ○ A comprehensive deployment framework comprising implementing, governance and incentive mechanisms was adopted in May 2013; ○ The first Common Project was adopted in 2014; ○ The Deployment Manager has been appointed in December 2014; ○ A first set of implementation projects, funded under the CEF, have been launched in December 2015; ○ The SESAR Joint Undertaking was extended up to 2024 and refinanced under the H2020 programme, assuring continuity of the SESAR project cycle; ○ A new edition of the European ATM Master Plan was adopted in December 2015. ○ Approval of the 2015 SESAR Deployment Programme. 				Proposal for a regulation COM(2013) 410 on 11/06/2013 Regulation on SESAR Deployment framework (Reg.(EU) No 409/2013);	SES II +/EP 1st Reading completed on 10 March 2014. Council general approach adopted in December 2014, then blocked. Other acts adopted	
• <u>Appropriate legal and financial framework to support SES...</u> Implementation of the performance and charging schemes in the second reference period (2015-2019) after adoption of the performance targets in early 2014. The Network Manager is fully operational since mid-2011 (completed). <u>(...) and consolidate the EU/Eurocontrol relationship:</u> Following the signature of the Agreement EU/Eurocontrol in December 2012, the adoption of annexes to the agreement is at a standstill.					Regulatory framework for the Second performance scheme in place.	Final adoption of some performance plans still pending given their non-compliance with EU wide performance targets.
(3) – Capacity and quality of airports:						
• <u>Revision of slot regulation:</u> part of the airport package. General approach in Council in October 2012. EP 1st reading in December 2012.					Airports Package - adopted 01.12.2011	Regulation on allocation of slots, Council GA October 2012, first reading concluded in the EP in December 2012, on-hold.

•	<u>Better quality services</u> : Ground-handling proposal, part of the airport package adopted on 01/12/2011. General approach in Council in March 2013. EP first reading in April 2013. Proposal withdrawn by the Commission in January 2015					Proposal withdrawn	
•	<u>Develop an approach on airport capacity, including better integration with the railway network</u> : communication on airport capacity, part of the airport package, presented in December 2011. Integration between airports on the core TEN-T network and the railway network included in the TEN-T covered by the guidelines adopted in December 2013. Multimodality (including rail/air integration) discussed by the European Observatory on Airport Capacity and Quality, with recommendations adopted in 2013. In 2015, more reports and recommendations adopted by the same Observatory on the following: airport capacity in the EU from a strategic perspective, delays to air transport in Europe; economic impact of unaccommodated demand and environmental variables influencing airport capacity.					Airports Package - adopted 01/12/2011	
(4)	– A maritime "blue belt" and market access to ports:						
•	<u>Interoperability of ICT system and Blue Belt</u> : Communication on Blue Belt in July 2013 (Staff Working Document on Blue Belt adopted in May 2012), referring to two legal measures, one for simplifying the procedure for Regular Shipping Services (RSS); the other one for facilitating the transport of EU goods between EU ports (Customs Goods Manifest). The new RSS scheme applies as of March 2014. The Customs Goods Manifest was introduced in the customs legislation and can be used as of 1 May 2016.					SWD adopted on 24/05/2012 Communication adopted on 08/07/2013 Commission Implementing Regulation (EU) No 1099/2013 adopted 05/11/2013 Commission Implementing Regulation (EU) 2015/2447 – adopted 24/11/2015	
•	<u>Pilot exemption certificates</u> : Study published in September 2012. Initiative cancelled.						
•	<u>Review restrictions of port services</u> : included in the ports policy review in May 2013. Restrictions to cargo handling dealt with on an individual country basis through direct treaty application and infringement procedures.					Ports strategy package - adopted on 23/05/2013	Regulation on market access to port services & financial transparency. European Parliament and Council 1st Reading ongoing
•	<u>Transparency of ports' financing</u> : included in the ports policy review in May 2013, which includes a section on financial transparency in ports. Work on-going on possible modernisation of state aid rules applicable to ports. Since 2011, the Commission has contributed to increasing transparency on ports' financing through the adoption and publication of 26 Commission decisions that analysed and approved the provision of investment aid to ports.					Ports strategy package - adopted on 23/05/2013	Regulation on market access to port services & financial transparency. European Parliament and Council 1st Reading ongoing
(5)	– A suitable framework for inland navigation:						
•	NAIADES communication adopted in 2013 as a part of the NAIANES II package. It was accompanied by a proposal for a Directive laying down technical requirements for inland waterway vessels and a Regulation to allow for a broader range of actions of the Reserve Funds available to support inland navigation adopted on 15/05/2014. Proposal for a Directive on the recognition of professional qualifications in inland navigation initiative adopted on 18 February 2016. Implementation of NAIANES II is progressing for all key action areas of NAIANES: infrastructure, innovation, environment, jobs & skills, integration into the logistic chain and streamlining of governance. The Council Directive implementing the European Agreement concerning certain aspects of the organisation of working time in inland waterway transport was adopted in December 2014.					NAIANES II package - adopted 10/09/2013 COM(2014) 452 final adopted on 07/07/2014	Directive on technical requirements for inland waterways (NAIANES II) still to be adopted. EP 1st Reading completed in April 2014. The Council agreed on it in March 2016. Regulation on reserve Fund adopted on 15/05/2014 Council Directive 2014/112/EU adopted on 19/12/2014
(6)	– Road freight:						
•	<u>Review market situation with a view to eliminate restrictions to cabotage</u> : A Report on the State of the Union Road Transport Market was adopted on 14/04/2014 (COM(2014)222). An ex-post evaluation of the existing rules on access to the occupation of road transport operator (Reg. 1071/2009) and on access to the international road haulage market (Reg. 1072/2009) has been launched as part of the 2015 REFIT exercise. A legislative proposal simplifying and clarifying the rules is planned for adoption in 2017.					Report adopted on 14/04/2014	
•	<u>Review rules on tachograph, harmonise sanctions</u> : The study on harmonisation of sanctions was completed in 2013. Tachograph regulation was adopted in February 2014. The implementing act providing technical specifications for the smart tachograph and the common classification of certain serious infringements of the EU road transport rules were adopted in March 2016 and will enter into force on 1 January 2017.					Tachograph adopted 19/07/2011	Tachograph Directive adopted on 04/02/2014
•	<u>Adapt legislation on weights and dimensions</u> : Weights and dimensions proposal in April 2013.					Proposal for a Directive on weights and dimensions on 15/04/2013	Directive (EU) 2015/719 adopted on 29/04/2015
(7)	– Multimodal transport of goods: e-Freight:						

•	<u>Framework for information exchange and transport management along the multimodal freight transport logistics chain, including single window, electronic waybill</u> : Online public consultation and stakeholder workshop took place early 2013. Study to assess benefits and costs finalised May 2013. Relevant FP7 projects finalised in 2014. Relevant International co-operation on-going. E-transport included in the Digital Single Market strategy. In order to implement it the Digital Transport and Logistics Forum was launched on 1-2 July 2015. Work of the Forum might result in recommendations for legislative action or soft measures.						
•	<u>Multimodal liability regimes</u> : suspended subject to progress of the Rotterdam Rules (international agreement).						
1.2 Promoting quality jobs and working conditions							
(8) – Social code for mobile road transport workers:							
•	<u>Encourage and support social dialogue with a view to an agreement on social code</u> : The communication on the social code in road transport has been cancelled and no date for future adoption has been set. Invitation to social dialogue on working conditions was launched at the Conference on Social Dimension in June 2015. However, recent meetings with social partners have shown difficulties in identifying subjects which could be the subject of a social partners' agreement. Prospects of an agreement are therefore very low.						
(9) – A social agenda for maritime transport:							
•	<u>Implement maritime social agenda</u> : . On-going follow-up on the recommendations of the report of the Task Force on maritime employment and competitiveness. Conference on maritime employment and competitiveness held on 27 July 2012. Final conference of the Vasco Da Gama Project - Training for Greener and Safer Maritime Transport held on 1 March 2016. Initiatives to promote maritime professions through existing EU funding programmes (European Alliance for Apprenticeship and Erasmus +). Project KNOW ME and GO MARITIME : EU-portal for career management and development. A seminar on Just Culture in Maritime Transport and occurrence reporting held in February 2015. Pan-European Cruise Dialogue between cruise operators, ports and coastal tourism stakeholders" is one of the actions announced in the Communication "A European Strategy for more Growth and Jobs in Coastal and Maritime Tourism"					Communication "A European Strategy for more Growth and Jobs in Coastal and Maritime Tourism" (COM(2014) 86)	
•	<u>Enhance enforcement of Maritime Labour Convention</u> : Maritime Labour Convention: two proposals on amendment of the port state control Directive 2009/16/EC and establishment of flag state responsibilities were adopted in August and November 2013, respectively. An MLC 2006 implementation workshop was organised in Berlin in June 2015 to look closer to recruitment and placement services practices.					Proposals adopted on 23/03/2012	Port State control amending Directive (2013/38/EU) adopted on 12/08/2013 and Flag State responsibilities (2013/54/EU) adopted on 20/11/2013
•	<u>Include seagoing workers within EU labour directives</u> : Directive 2015/1794/EU adopted. It amended the scope of five EU labour law Directives by including seafarers, thus improving their work rights.					Proposals for legislative changes on 18/11/2013	Directive EU/2015/1794 amending five Directives adopted on 18/09/2015
•	<u>Update training directive</u> : STCW convention transposed into EU law.						Directive 2012/35/EU adopted 11/2012
(10) – A socially responsible aviation sector:							
•	<u>Establish a mechanism to analyse the impact of regulatory developments on working conditions in the air sector</u> : Evaluation of the impact of the Single aviation market on the level of employment and on employment conditions was part of the 2013 "fitness check" on the internal aviation market. An updated study on "Employment and working conditions in air transport and airports" was published in December 2015.						
•	<u>Establish EU-wide minimum service and quality standards for workers in the whole aviation chain (including ATM and ground-handling). Encourage the European social partners to address prevention of conflicts and disturbance of minimum service in the whole aviation value chain</u> : the issue is discussed in a social dialogue. Declaration on minimum level of service in ATM to be prepared and agreed by stakeholders by the end of 2016						No specific legislative instrument
(11) – An evaluation of the EU approach to jobs and working conditions across transport modes:							
•	<u>Appraisal of social dialogue</u> : Aspects of social dialogue included in the study on jobs and working conditions (see below). The study was completed in Spring 2015. Strengthening social dialogue is a priority for the years to come.					Study	
•	<u>European Works Councils</u> : A study to evaluate the effectiveness of European Works Councils (EWC) in the transport sector is to be published in 2016. In addition, a workshop with social partners was organised in September 2015.					Study	

•	<u>Training, certification, working conditions and career development:</u> A study on jobs and working conditions across all modes of transport was completed in Spring 2015. The work included a modelling-based quantitative analysis of employment and skills issues backed by a qualitative analysis of potential shortages. A study on employment and working conditions in air transport and airports was also finalised in October 2015. Concerning the maritime sector, a study has been launched assessing the feasibility, added value and available options for setting in motion a network/ networks and/or reinforcing existing ones between institutions and organizations from EU and non-EU providing education and training for the needs of marine and maritime professions (including seafarers, port logistics, ship-building, etc).					Study	
1.3. Secure transport							
(12) – Cargo security:							
•	<u>Implement action plan on air cargo security:</u> New implementing rules on inbound cargo adopted in August 2011, laying down detailed measures for the implementation of the common basic standards on aviation security in respect of air cargo and mail.						Commission Implementing Regulation (EU) No 859/2011 adopted on 25/08/2011
•	<u>Complete and EU-wide one-stop security system for air cargo:</u> the mutual cargo recognition with US signed in 2012 permits EU-wide one-stop security also for US bound cargo.						Exchange of letters between US/TSA (17/05/2012) and EU/EC (13/06/2012)
(13) – High level of passenger security with minimum hassle:							
•	<u>Promote the development of more effective and privacy-friendly technologies:</u> On-going activity. 1) Working group with industry established and study on the "checkpoint of the future" finalised. 2) The work under 1) and an EU Risk Assessment on the Passenger checkpoint (issued in 2014) led to two implementing acts expected to increase the explosive detection capability of the security checkpoint as regards A) clarification, harmonisation and simplification of the use of explosive trace detection and B) as regards the screening of cabin baggage (application).					1) An IATA initiative, "Checkpoint of the Future" has been finalised	A) Commission Implementing Regulation (EU) No 278/2014 of 19/03/2014 B) Commission Implementing Regulation (EU) 2015/187 of 06/02/2015
•	<u>Define common detection performance standards and certification procedures:</u> 1) European Reference Network Critical Infrastructure Protection for Aviation Security (ERNICIP AVSEC) with subgroups on common testing methodologies and detection requirements was established. ERNCIP work ongoing but phasing out of aviation security work stream. 2) The Impact assessment on certification of airport screening equipment was approved on 1 July 2015; the Commission should propose EU-wide rules by the second half of 2016. 3) Increasing effectiveness of aviation security equipment performance standards. On-going activity. 4) Harmonisation of performance standards with international partners. On-going activity.						3) Commission Implementing Regulation (EU) 2015/1998 of 5 November 2015 and Commission Implementing Decision C(2015) 8005 final of 16 November 2015
(14) – Land transport security:							
•	<u>Security of land transport:</u> Expert group LANDSEC established in May 2012 Last meeting - LANDSEC 12 held on 11/04/2016					Commission Decision 2012/286/TEU (31/05/2012)	
(15) – "End-to-end" security:							
•	<u>Increasing the level of security along the supply chain ("end-to-end" security certificates):</u> 1) Topics considered by the expert group of land transport security (LANDSEC). Action voided in DG MOVE for the time being. 2) The EU strategy and action plan to improve customs risk management and security of the supply chains presented in in the Communication in August 2014.					COM(2014) 527 adopted 21/08/2014	
•	<u>Joint security assessment:</u> These are topics to be considered by the expert group of land transport security (LANDSEC), but no progress so far. Their views will influence possible actions.						
•	<u>Integrating the potential effects of terrorist and criminal attacks in mobility continuity plans:</u> linked to Action (23)						
•	<u>International cooperation in the fight against terrorism:</u> The Council adopted a Maritime Security Strategy (11205/14) for the global maritime domain. The objective of this strategy is to provide a common framework for relevant authorities at national and European levels to ensure coherent development of their specific policies and a European response to maritime threats and risks. Further efforts are needed to develop co-operation between MSs and EU Agencies in order to obtain a more effective surveillance system. Work also ongoing at IMO with the aim of having an international solution to issues relating to piracy. No substantial progress so far.						The Council adopted Maritime Security Strategy (24/06/2014) followed by Action Plan (16/12/2014)
1.4. Acting on transport safety: saving thousands of lives							
(16) – Towards a "zero vision" on road safety:							
•	<u>Deployment of road safety technology and improved roadworthiness tests:</u> Roadworthiness package adopted in April 2014. A staff working document on the deployment of ITS in-vehicle technologies to increase road safety adopted in 2015. Regulations facilitating ecall deployment adopted (also see (24)). C-ITS platform report adopted in January 2016.					Roadworthiness package proposed on 13/07/2012 SWD(2014) 297 final adopted on 03/10/2014 Commission Delegated	Directive 2014/45/EU; Directive 2014/46/EU; Directive 2014/47/EU adopted on 03/04/2014 Decision 585/2014/EU

					Regulation (EU) No 305/2013 adopted on 26/11/2012	adopted on 15/05/2014 Regulation (EU) 2015/758 adopted on 29/04/2015
•	<u>Comprehensive strategy of action on road injuries</u> : the EU strategy on injuries was adopted in March 2013.				SWD(2013) 94 adopted on 19/03/2013	
•	<u>Focus on training and education</u> : Review of Directive 2003/59 on training of professional drivers on-going. Legislative proposal planned for Q42016. Adoption of the Directive 2015/413/EU facilitating the cross-border exchange of information on road safety related traffic offences in March 2015.					
•	<u>Attention paid to vulnerable users</u> : The above mentioned roadworthiness package also covers mopeds and motorcycles. Accident causation study for accident involving powered two-wheelers and cyclists to prepare a report in 2019. Review of the infrastructure safety management directive launched to better adapt road infrastructure to vulnerable road users. The cooperative C-ITS platform, established in November 2014, includes representatives of the motorcyclists industry in order to make sure that the C-ITS deployment strategy is shaped taking in mind vulnerable road users. The VRUITS project assessing the specific needs of VRUs in relation to ITS applications has developed specifications for ITS applications and recommended best practices to address HMI (Human-Machine Interface) development for VRUs. Field trials for a selected number of applications have taken place.					
(17)	– A European strategy for civil aviation safety:					
•	<u>Occurrence reporting</u> : Occurrence reporting proposed in December 2012 and adopted in April 2014				Proposal for a regulation on 18/12/2012	Regulation (EU) No 376/2014 adopted on 03/04/2014
•	<u>Adapt regulatory safety framework for the development of new technologies (SESAR)</u> : Ongoing activity in EASA. EASA will become involved in the common projects in order to ensure parallel development of certification tasks.					
•	<u>Implementation of the EU aviation safety strategy</u> : The Commission proposed revised rules on EU aircrew fatigue. The proposed revision of the EASA basic regulation aims at improving the efficiency of the EU aviation safety system and more risk-based approach as well as extending EU aviation safety rules to drones				Commission Regulation (EU) No 83/2014 published on 29/01/2014 Proposal for a revision of Regulation 216/2008 - COM(2015) 613 - 07/12/2015	FTL regulation approved on 09/10/2013
•	<u>Exchange of safety information with ICAO and other international partners</u> : In the context of the Air Safety List, regular exchanges of relevant safety information take place with ICAO and with FAA, as well as with Boeing and Airbus. Agreement reached with IATA to also make use of safety information contained in the safety assessments it conducts on its member airlines.					
•	<u>Developing a safety management system at EU level with performance targets</u> : Safety management systems are already applied by many aviation operators, and are mandatory in many areas such as ATM/ANS, aerodrome, manufacturing/maintenance, flight operations, under the EASA Basic Regulation 216/2008. Its application was further clarified and improved in the proposal for a revision of the EASA Basic Regulation in December 2015.				Proposal for a revision of Regulation 216/2008 as a part of the "new aviation strategy" COM(2015) 613 - 07/12/2015	
(18)	– Safer shipping:					
•	<u>Modernising passenger ship safety legislation</u> : REFIT fitness check on EU passenger ship safety legislation concluded in October 2015. Joint EU proposal to IMO on increasing damage stability standards adopted in November 2015. Legislative proposals simplifying Directive 2009/45/EC, 98/41/EC and 1999/35/EC foreseen for June 2016. Further actions include the development of Small Craft Code and the review of Directive 2003/25/EC, planned for 2017.					
•	<u>SafeSeaNet</u> : Revision/recast done in steps. 1st step done in 2014. 2nd step linked to the implementation of the national single windows (by 1 June 2015) in the framework of the joint 2016 REFIT evaluation of the VTMS and the Reporting Formalities Directives. Operational Guidelines on Places of Refuge for the accommodation of ships in need of assistance were published in November 2015				Implementation report of the VTMS Directive published on 28/4/2011 (COM (2011)232 Final); Revision of Annex III on 28/10/2014 (Commission Directive 2014/100/EU); Operational Guidelines on places of refuge 13/11/2015	
•	<u>Feasibility in creation of an EU register and EU flag for maritime and inland waterway transport</u> : Assessment of Member States registers is ongoing.				An implementation report on Dir 2009/21 on compliance with Flag State requirements was published 18/12/2013 (COM 92013) 916 Final).	
•	<u>Feasibility of improving coordination or cooperation in shared functions for coastguards in the EU</u> : The Commission's study on shared coastguard functions was finalised in June 2014. As part of the European Border and Coast Guard (EBCG) package, the Commission proposed in December 2015 a cooperation on coastguard functions based on EU agencies				Proposal for a revision of Regulation (EC) No 1406/2002 COM(2015) 667 on 15/12/2015 (revising EMSA mandate to expand	Ambition of the NL Presidency to adopt the proposal before the Summer as part of the EBCG package.

	(including EMSA) operational activities and services to national authorities. .					its activities with supporting coastguard functions)	
(19)	– Rail safety:						
	• <u>Sector-wide approach to safety certification</u> : A major step towards a common approach in certification with a reinforced role of ERA is proposed in 4th railway package, see 1 above.					4th railway package - adopted 30/01/2013	"Technical" pillar (Regulation 2016/796, Directive 2016/797 and Directive 2016/798) adopted on 11 May 2016. Provisional agreement on the "market" pillar on 19 April 2016.
	• <u>Enhancing the role of ERA</u> : Proposal on ERA included in 4th railway package, see 1 above.					4th railway package - adopted 30/01/2013	"Technical" pillar (Regulation 2016/796, Directive 2016/797 and Directive 2016/798) adopted on 11 May 2016. Provisional agreement on the "market" pillar on 19 April 2016.
	• <u>Certification and maintenance for safety critical components</u> : A regulation on a system of certification of entities in charge of maintenance adopted in May 2011. Proposal for extension of the regulation included in 4th railway package, see 1 above. ERA's Recommendation for the extension of the system of certification of entities in charge of maintenance (including principles for maintenance of safety critical components) is expected mid-2017					Commission Regulation 445/2011 adopted on 10/05/2011. 4th railway package - adopted 30/01/2013	"Technical" pillar (Regulation 2016/796, Directive 2016/797 and Directive 2016/798) adopted on 11 May 2016. Provisional agreement on the "market" pillar on 19 April 2016.
(20)	– Transport of dangerous goods:						
	• <u>Streamline rules for intermodal transport of dangerous goods</u> : The EU became a signatory to the OTIF with a right of vote (Intergovernmental Organisation for International Carriage by Rail) on 1 July 2011. This had implied formal coordination between EU Member States when establishing positions regarding changes to the rules relating to transport of dangerous goods by rail. Following the work in the OTIF the EU legislation has been amended.					Commission Directive 2012/45/EU of 03/12/2012 and Commission Directive 2014/103/EU of 21/11/2014 Commission Implementing Decision 2012/188/EU of 04/04/2012; 2013/218/EU of 6/05/2013 and 2015/217/EU of 10/04/2014.	
1.5. Service quality and reliability							
(21)	– Passengers' rights:						
	• <u>Uniform interpretation of EU law</u> : Proposal for revision of Regulation 261/2004 on air passenger rights adopted in March 2013.					Proposal for a revision of Regulation (EC) No 261/2004 - COM/2013/0130 final on 13/03/2013	Revision of the Regulation on Passengers rights. EP 1st Reading completed on 6 February 2014. Still examined by the Council.
	• <u>Common principles in all transport modes</u> : Communication "A European vision for Passengers: communication on Passenger Rights in all transport modes" adopted in December 2011.					Communication COM/2011/0898 final adopted on 19/12/2011	
	• <u>Improving the quality of transport for the elderly and disabled</u> : Interpretative Guidelines on the application of Regulation 1107/2006 concerning the rights of disabled persons and persons with reduced mobility when travelling by air adopted in June 2012.					SWD(2012) 171 final adopted on 11/06/2012	
	• <u>Passenger rights for multimodal trips and in the event of bankruptcy</u> : Communication on passenger protection in the event of airline insolvency adopted in March 2013. An IA on the new legislative proposal is planned.					Communication COM(2013) 129 final adopted on 18/03/2013	
	• <u>Improve the level playing field at international level</u> : Guidelines of ICAO adopted. ICAO and OSJD negotiations ongoing.					ICAO guidelines adopted at the 38 th ICAO Assembly (24/9/13 to 4/10/13)	
(22)	– Seamless door-to-door mobility:						

•	Multimodal door-to-door travel: The study "Towards a European Multimodal Journey Planner" completed in 2011. A SWD 'Towards a roadmap delivering multimodal travel information, planning and ticketing service' adopted in June 2014 and to be possibly followed by a regulation (deeper analysis is necessary in view of technology evolution). A delegated act on the ITS specification for real time traffic information (see action (27)) adopted in December 2014 and on the provision of EU-wide multimodal travel is close to finalisation. Further work is planned as part of the Shift2Rail joint undertaking IP4. Various related projects are on-going under Horizon 2020. Continuous effort to build an effective cooperation framework.				SWD(2014) 194 finalised on 13/06/2014 Commission Delegated Regulation (EU) 2015/962 adopted on 18/12/2014	
•	Intelligent systems for interoperable and multimodal scheduling and third party access to travel-data: ITS Specifications within the ITS Directive for the provision of EU-wide multimodal travel information services supporting the access and exchange of interoperable data and services across Europe have been developed together with an expert nominated by Member States along with a supporting study conducting a cost-benefit analysis. Various related projects are on-going or planned under Horizon 2020. Delegated act on the provision of EU-wide multimodal travel is being finalised. A CEF program support action will be launched end 2016/ beginning 2017.					
(23)	– Mobility continuity plans:					
•	Definition of mobility plans: Staff working document on continuity of passenger mobility following disruption of the transport system finalised on 07/05/2014				SWD(2014) 155 finalised on 07/05/2014	
2. Innovating for the future: technology and behaviour						
2.1. A European transport research and innovation policy						
(24)	– A technology roadmap:					
•	Clean, safe and silent vehicles: Communication on STTP adopted in 2012, and work on the first roadmap on 'electrification' of transport was completed in early 2015. Follow-up work on a Strategic Transport R&I Agenda started in 2015. A large-scale R&D-initiative for rail under H2020 adopted in April 2014 (Shift2Rail Joint Undertaking) and formally established in July 2014. Strategic Shift2Rail Master Plan outlining the key rail R&I priorities until 2030 was endorsed by the Council in February 2015 and followed by first calls for proposals end 2015. Horizon 2020 Work Programme 2014-15 covered <i>Smart, green and integrated transport</i> and Work Programme 2016-17() includes three relevant calls for proposals: <i>Mobility for Growth, Automated Road Transport and Green Vehicles</i> .				S2R regulation proposal on 18/12/2013 Decision N° 3/2014 of the S2R JU approving the Master Plan on 24/09/2014 Horizon 2020 work programmes: (European Commission Decision C(2014) 4995 of 22/7/2014 and European Commission Decision C(2015)6776 of 13/10/2015	Council Regulation (EU) No 642/2014 of 16/06/2014 establishing the Shift2Rail Joint Undertaking.
•	Technologies to improve transport security and safety: ITS Specifications related to eCall adopted on November 2012 (Priority Action "d" of the ITS Directive). Decision on Public Safety Answering Points for the deployment of eCall adopted in May 2014. Regulation on type-approval for deployment of eCall vehicle systems adopted in April 2015. A staff working document on the deployment of ITS in-vehicle technologies to increase road safety adopted in October 2014. Horizon 2020 Work Programme 2016-17 includes a specific section on transport safety.				Commission Delegated Regulation (EU) No 305/2013 adopted on 26/11/2012 Proposal for a decision COM/2013/0315 on 13/06/2016 Proposal for a regulation COM/2013/0316 on 13/06/2013 SWD(2014) 297 finalised on 03/10./2014	Decision 585/2014/EU adopted on 15/05/2014 Regulation (EU) 2015/758 adopted on 29/04/2015
•	New or unconventional transport systems (unmanned aircraft, etc): Breakthrough innovation for European aviation was one of the topics of the H2020 Work Programme 2014-2015 adopted in December 2013. Horizon 2020 Work Programme 2016-17 also includes specific research topics on breakthrough innovation and automated road transport.				Horizon 2020 work programmes	
•	A sustainable alternative fuels strategy, including infrastructure: The Clean Power for Transport package was adopted in January 2013. The Directive was amended by the legislator and then adopted in October 2014. In addition, the Horizon 2020 Work Programme 2016-17 includes a specific call of the European Green Vehicles Initiative (EGVI), while alternative fuels infrastructure deployment can also benefit of ESIF and TEN-T/CEF. Moreover, a European Alternative Fuels Observatory has been set up to support the monitoring of the market up-take of alternatively fuelled vehicles and related as well as the Sustainable Transport Forum to support the CPT implementation.				CPT adopted on 24/01/2013: Communication COM(2013)17, Proposal for a directive COM(2013) 18; SWD(2013) 4 Commission Decision C(2015) 2583 final adopted on 23/04/2015	Directive 2014/94/EU adopted 22/10/2014
•	Integrated transport management and information systems: Various actions: 1) Preparatory action of the European Parliament 'To develop and validate a European passenger transport information and booking interface across transport modes'; 2) H2020 transport work programme 2014-15 for ITS: Six projects started in spring 2015; 3) H2020 transport work programme for logistics: two large projects started in spring 2015. The Horizon 2020 Work Programme 2016-17 also includes specific research topics on ITS and under the security research programme a CORE consortium was created to test innovative initiatives enhancing effectiveness in supervising global trade and safeguarding supply chain security. Synergies will be sought with the development of the Common information sharing environment (CISE) for the maritime domain which aims at developing better situational awareness by enhanced cooperation across maritime surveillance authorities (a				COM(2014)451 adopted 08/07/2014	

	communication in July 2014).					
	<ul style="list-style-type: none"> Intelligent infrastructure: A specific action was undertaken to bring the four transport technology platforms (ERTRAC, ERRAC, ACARE, Waterborne TP) and the Construction TP together in a task force to develop a common strategy and roadmap for transport infrastructure (June 2013). The H2020 2014-2015 work programme for ITS addressed smart infrastructure elements. Also the Horizon 2020 Work Programme 2016-17 includes specific research topics on ITS and on ICT infrastructure. 					
	<ul style="list-style-type: none"> Innovations for sustainable urban mobility: A Communication on competitive and resource efficient urban mobility (the 2013 Urban Mobility Package) adopted in December 2013 (see also (31)). The Horizon 2020 Work Programmes include specific topics for demonstration of sustainable urban mobility solutions. The actions launched with the above-mentioned Communication are on-going. 				COM(2013) 913 final adopted on 17/12/2013	
(25)	- An innovation and deployment strategy:					
	<ul style="list-style-type: none"> Deployment of smart mobility systems: A progress report and a review of the ITS Action Plan adopted in October 2014. A Commission implementing decision has been adopted for a standardisation mandate for Urban ITS. A pre-study identifying urban ITS standard to be developed is currently on-going. The Horizon 2020 Work Programme 2016-17 includes specific research topics and Innovation Actions on ITS, ICT infrastructure and smart electric mobility in cities. CEF has generated a project portfolio of 280 million. 				Progress Report presented 21/10/2014 Commission Implementing Decision (2016)808 of 12/02/2016. CEF and Horizon 2020 work programmes	
	<ul style="list-style-type: none"> Deployment of an open standard electronic platform for vehicle on-board units: The issue discussed in the C-ITS platform in order to find a way forward. It is also part of the eCall Regulation (EU) 2015/758 (that requires the Commission to adopt a legislative initiative no later than 9 June 2017. External study on access to in-vehicle data launched mid-2016. 				Final report of the C-ITS platform first phase published on 23 January 2016	
	<ul style="list-style-type: none"> Demonstration projects for alternative fuels: The Commission is funding three major projects aiming to demonstrate the use of electric passenger cars (Green e-motion), light duty vehicles for freight transport (FREVUE) and busses (ZEUS). The LNG Blue corridor project will carry out an extensive demonstration of LNG trucks and the corresponding infrastructure through four European corridors. Alternative fuels and propulsion systems for urban road transport are also demonstrated within the new generation of CIVITAS demonstration projects. 					
	<ul style="list-style-type: none"> Smart mobility partnerships and demonstration projects for sustainable urban transport: Since 2002, the Commission has supported cities in demonstrating new technologies and innovative concepts for better and more sustainable urban mobility through its CIVITAS Initiative. Some 60 cities have tested some 700 measures over the last ten years. Two new CIVITAS demonstration projects, 2MOVE2 and Dyn@mo, started at the end of 2012, with 8 cities involved. The Horizon 2020 Work Programme 2016-17 also foresees innovation actions aimed at increasing the take up of innovative solutions for sustainable urban mobility. 					
	<ul style="list-style-type: none"> Promote increased replacement rate of inefficient and polluting vehicles: A SWD 'Guidelines on financial incentives for clean and energy efficient vehicles' presented in February 2013. The document lays down a set of principles which need to be followed by Member States willing to introduce demand-side measures aimed at promoting low emitting vehicles. 				SWD(2013) 27finalised on 28/02/2013	
(26)	- A regulatory framework for innovative transport:					
	<ul style="list-style-type: none"> Appropriate standards for CO₂ emissions of vehicles: In 2014, the Commission adopted a strategy on CO₂ emissions of HDVs, including establishing a monitoring and reporting system, with support of the VECTO computer simulation tool. Evaluation work is ongoing in preparation of a review of the regulations setting emission performance standards for cars and vans to establish post-2020 targets. The Commission will envisage including CO₂ criteria as an incentive for the use of cleaner vehicles in a foreseen revision of the Eurovignette directive on charging of heavy good vehicles (planned for 2017). In addition to addressing CO₂ emissions, the Commission is considering ways to identify and promote vehicles with significantly low pollutants emissions, including of NO_x. 				Communication on HDV COM(2014)285 adopted 21/05/2014	
	<ul style="list-style-type: none"> Vehicle standards for noise emission levels: A regulation to reduce noise produced by cars, vans, buses and coaches adopted in April 2014 and it should help reduce noise by around 25%. 				Proposal for a regulation COM(2011) 856 on 9/12/2011	Regulation (EU) 540/2014 adopted 16/04/2014
	<ul style="list-style-type: none"> Revised test cycle to measure emissions: A Real Driving Emission project (RDE) has been carried out with the objective to develop a new testing procedure to measure selected regulated pollutants under real world conditions. A Commission Regulation amending Commission Regulation (EC) No 692/2008 as regards emissions from light passenger and commercial vehicles (Euro 6) has been adopted. Beginning 2017, the European Union's emissions type-approval procedure for passenger cars will include a new Real-Driving Emissions (RDE) test conducted using on-board portable emissions measurement systems (PEMS). 					
	<ul style="list-style-type: none"> Public procurement strategies for clean vehicles: Full transposition of Directive 2009/33/EC on the promotion of clean and energy-efficient road transport vehicles was completed in November 2013. The first monitoring report on the application of the Directive was published on 18 April 2013. An external ex-post evaluation was completed in 2015. A review is scheduled for 2017. 					
	<ul style="list-style-type: none"> Interoperability of charging infrastructure: Directive 2014/94/EU requires the use of certain standards (e.g. Type 2 and COMBO 2 for normal and respectively fast charge recharging 				CPT proposed on 24/01/2013	Directive 2014/94/EU adopted 22/10/2014

	points for electric vehicles). A standardisation mandate was addressed to CEN/CENELEC in March 2015 as required by the Directive 2014/94/EU. The Commission also launched a sub-group under the Sustainable Transport Forum (see (24)) to look at interoperability issues for electromobility, beyond the hard infrastructure – the activities of the sub-group are on-going.				PE (2015)725; Standardisation Mandate M/533; EC implementing Decision C 2015 (330) CEN-CENELEC Work Programme	
	• <u>Guidelines and standards for refuelling infrastructures</u> : Following the adoption of Directive 2014/94/EU a standardisation mandate was addressed to the European Committee for Standardisation (CEN/CENELEC) in March 2015.				CPT proposed on 24/01/2013 PE (2015)725 Standardisation Mandate M/533; EC implementing Decision C2015 (330) CEN-CENELEC Work Programme	Directive 2014/94/EU adopted 22/10/2014
	• <u>Interface standards for communication between vehicles and infrastructure</u> : Standardisation work under Mandate M/453 on Cooperative systems for Intelligent Transport in the field of ICT to support interoperability of cooperative systems for intelligent transport in the EU is well advanced in two standardisation bodies: ETSI (ETSI TC ITS) and CEN (CEN TC 278 WG16). Missing gaps to ensure interoperability (standards and beyond) were examined in the C-ITS platform established in November 2014.				Final report of the C-ITS platform first phase published on 23 January 2016	
	• <u>Access conditions to transport data for safety and security</u> : Specifications for data and procedures for the provision of road safety related minimum universal traffic information free of charge to users (Priority Action "c" of the ITS Directive) published on September 2013. Specifications for the provision of information services for safe and secure parking places for trucks and commercial vehicles (Priority Action "e" of the ITS Directive) published on September 2013. Specifications on the provision of reservation services for safe and secure parking places for trucks and commercial vehicles postponed.				Two Delegated Acts were adopted on 15/05/2013: Commission Delegated Regulation (EU) No 886/2013 of 15 May 2013 Commission Delegated Regulation (EU) No 885/2013 of 15 May 2013	
	• <u>Specifications for smart charging and payment systems</u> : Smart Ticketing Guidelines adopted by the Urban ITS Expert Group in December 2012. No other action planned.					
	• <u>Better implementation of existing rules and standards</u> : Sustainable Waterborne Transport Toolbox presented in September 2011 on implementation of new global sulphur emission limits for shipping, focus on financial support, new technology, new fuels. Toolbox progress report and setting-up of new European Sustainable Shipping Forum in spring 2013. 1st meeting of ESSF on 27 November 2013, followed by the creation of several subgroups dealing with various topics. A number of submissions to the IMO, informal guidance documents and interpretations have been developed. The mandate of the ESSF (originally until 31/12/2015) has been extended until 30/06/2018. The Committee for the Implementation of the Directive on Sulphur Content in Marine Fuels was established in October 2014.				Commission Decision C(2013) 5984 final on setting-up ESSF adopted on 24/09/2013 Commission Implementing Decision (EU) 2015/253 of 16/02/2015	
2.2. Promoting more sustainable behaviour						
(27) – Travel information:						
	• <u>Awareness of alternatives to individual conventional transport</u> : Specifications for deployment of ITS on real time traffic information adopted (Priority Action "b" of the ITS Directive). Other initiatives mentioned under action (22) "seamless door to door".				Commission Delegated Regulation (EU) 2015/962 adopted on 18/12/2014	
(28) – Vehicle labelling for CO ₂ emissions and fuel efficiency:						
	• <u>Review of the labelling directive</u> : A revision of the 1999 car labelling directive on hold.					
	• <u>Market take-up of fuel-efficient, safe and low-noise tyres</u> : The tyre type-approval requirements in General Safety Regulation (EC) 661/2009 for lower rolling resistance, rolling noise and wet grip safety have been implemented since 1 November 2012 for all tyre segments. This regulation, coupled with mandatory consumer information incorporated in Regulation (EC) 1222/2009 on tyre labelling, have already lead to 80% of tyres sold on the European market showing in a transparent manner their safety and performance levels to consumers.					
(29) – Carbon footprint calculators:						
	• <u>Standardised methodology for carbon footprint calculation and business-based GHG certification schemes</u> : Inventory of existing international, regional and company-based standards as well as business-based certification schemes. CEN standard EN 16258 'Methodology for calculation and declaration of energy consumption and GHG emissions of transport services (freight and passengers)' adopted and published in early 2013. A related FP7 project focused on gap analysis and comparing CEN EN 16258 with other existing standards. Study comparing methodologies and assessing initially possible options and effects finished beginning 2015. Under 2016 – 2017 Work Programme a Horizon 2020 cooperation project aims to establish consensus on a harmonised carbon footprinting approach, and to explore conditions for an EU wide carbon footprint green freight programme.					
(30) – Eco-driving and speed limits:						
	• <u>Eco-driving requirements</u> : Recast of the driving licence directive to include also eco-driving requirements for busses and trucks finalised in 2012. For cars the changes were considered 2014 but for subsidiarity reasons not pursued.				Commission Directive 2012/36/EU adopted on 19/11/2012	

•	<u>Limiting the maximum speed of light commercial road vehicles</u> : Study from 2013 on speed limiters for light commercial vehicles concluded with recommendation for future type-approval.					
2.3. Integrated urban mobility						
	The 2013 Urban Mobility Package was presented as communication with a series of accompanying SWD and adopted in December 2013. It focuses on guidelines and support to cities for sustainable urban mobility planning (SUMP). An annual conference on SUMP was launched in 2014 (third edition took place in Bremen in April 2016).				COM(2013) 913 final adopted on 17/12/2013	
(31)	– Urban mobility plans:					
•	<u>Preparing urban mobility audits and urban mobility plans</u> : A communication on competitive and resource efficient urban mobility adopted in December 2013 with an annex that set out the concept of Sustainable Urban Mobility Plans. The work to develop indicators on urban performance and a possible European mobility scoreboard based on common targets is on-going.				COM(2013) 913 final adopted on 17/12/2013	
•	<u>Linking EU funds to cities with urban mobility audit certificates</u> : Financial support for urban transport activities within the framework of cohesion policy has not been linked to a formal requirement of having SUMP in place, but it has been highly recommended. In addition, ESI-funds PAs and OPs insist on the necessity that urban mobility measures are part of an integrated, sustainable urban development plan (Article 7 ERDF regulation). Investment into urban transport under Thematic Objective 7 ('sustainable transport') requirement the existence of comprehensive transport plans or frameworks, which address public transport at regional and local level. This is also in line with the CoA report "Effectiveness of EU-supported public urban transport projects" of 8 April 2014.					
•	<u>European support framework on implementing urban mobility plans</u> : A communication on competitive and resource efficient urban mobility adopted in December 2013. In 2014, the Commission launched an EU Platform on Sustainable Urban Mobility Plans, which provides assistance and a venue for cooperation and exchange of experience for the relevant actors and stakeholders. (www.mobilityplans.eu).				COM(2013) 913 final adopted on 17/12/2013	
•	<u>Smart cities and Communities Innovation Partnership</u> : In its Communication from 2012 the Commission put forward the concept for a Smart Cities and Communities European Innovation Partnership. The Strategic Implementation Plan of the EIP was adopted in October 2013. An Invitation for Commitments was launched early 2014, which attracted 380 commitments from cities, companies and research organisations to undertake actions. Currently, most of the 380 commitments are working together in 6 action clusters. This is supported by a very active EIP 'marketplace' and numerous events.				C(2012) 4701 final adopted on 10/07/2012	
•	<u>Corporate/mobility management plans</u> : The concept of corporate, school, or personal mobility plans is being developed and promoted through activities within the CIVITAS initiative and through EPOMM.					
(32)	– An EU framework for urban road user charging:					
•	<u>Validated framework for urban road user charging</u> : SWD on urban vehicle access regulations accompanied the communication 2013 on urban mobility from December 2013. Guidelines tackling the most pressing issues like user information and enforcement are under preparation. A two year study started beginning of 2015 and, with the advice from local policy makers and stakeholders, should lead to developing six non-binding guidance documents on urban access regulation by the end 2016/beginning 2017.				COM(2013) 913 final adopted on 17/12/2013 SWD(2013) 526 finalised on 17/12/2013	
(33)	– A strategy for near "zero-emission urban logistics" 2030:					
•	<u>Best-practice guidelines for monitoring urban freight flows</u> : Part of the 2013 Urban Mobility Package. A two year study started beginning of 2015 and, with the advice from local policy makers and stakeholders, should lead to developing six non-binding guidance documents on urban freight transport by the end 2016/beginning 2017.				COM(2013) 913 final adopted on 17/12/2013	
•	<u>Define a strategy for zero-emission urban logistics</u> : SWD 'A call to action on urban logistics' accompanied the communication 2013 on urban mobility from December 2013 (see above).				COM(2013) 913 final adopted on 17/12/2013 SWD(2013) 524 finalised on 17/12/2013	
•	<u>Joint public procurement for low-emission vehicles</u> : Revision of Directive 2009/33/EC is planned for 2017 as announced in the Energy Union.					
3. Modern infrastructure and smart funding						
3.1. Transport infrastructure: territorial cohesion and economic growth						
(34)	– A core network of strategic European infrastructure – A European mobility network:					
•	<u>Core network of strategic European infrastructure</u> : Core network concept and maps included in the Regulation on Union guidelines for the development of the trans-European transport network adopted by the legislator in December 2013. The Communication on Core Network Corridors and Connecting Europe Facility was adopted in January 2014.				TEN-T Guidelines Regulation proposal COM(2011) 650 final/2 on 19/10/2011 Communication on Building the Transport Core Network COM(2013) 940 adopted on 7/01/2014	Regulation (EU) No 1315/2013 on TEN-T Guidelines Regulation adopted on 11/12/2013

•	Concentrate EU action on components of TEN-T with highest EU added value (cross-border links, multimodal connections, key bottlenecks): Priorities listed in the Commission proposal for a Regulation on Union guidelines for the development of the trans-European transport network .				TEN-T Guidelines Regulation proposal COM(2011) 650 final/2 on 19/10/2011	Regulation (EU) No 1315/2013 on TEN-T Guidelines Regulation adopted on 11/12/2013
•	Deploying large-scale intelligent and interoperable technologies (SESAR, ITS, ERTMS...): SWD on ERTMS implementation presented in February 2014. The SESAR Joint Undertaking is delivering validated SESAR ATM solutions ready to be deployed and supported through very large scale demonstrations. The deployment phase of SESAR has been activated under the Deployment framework set up by the Commission in 2013 and initial SESAR Solutions, included in the first Common Project, are being deployed. Projects for the deployment of road ITS and for C-ITS pilots are co-funded under the CEF funding programme. Moreover, European TEN-T coordinators are preparing a paper on how to boost the deployment of ITS on the core network corridors.				SWD(2014) 48 on ERTMS presented on 14/02/2014 SESAR Pilot Common Project (Regulation (EU) 716/2014) Approval of the SESAR Deployment Programme	Acts on SESAR adopted
•	Energy efficiency needs and climate resilience taken into account in EU-funded transport infrastructure: A 10% increase in the co-funding rates for projects that contribute to reaching climate mitigation objectives, enhancing climate resilience or reducing the greenhouse gas emissions was included in Art. 10 of the Commission proposal for a CEF regulation . This provision, however, was not retained by the legislators in the adopted regulation. However, 10% of funds for transport from operational programmes is to be allocated to projects in the field of sustainable transport.				CEF regulation proposal COM 2011(665) on 19/10/2011	Regulation (EU) No 1316/2013 adopted on 11/12/2013
(35)	– Multimodal freight corridors for sustainable transport networks:					
•	Multimodal freight corridor structures: The geographical alignment of the Corridors was achieved and completed with the entry into force of the Connecting Europe Facility Regulation in December 2013. In March 2014 the Commission appointed new European Coordinators for each of the Corridors, plus ERTMS and MoS. The first work plans were prepared by the European Coordinators for their respective corridors and approved by Member States in May 2015. In parallel, work plans were prepared by the European Coordinators responsible for the horizontal priorities (ERTMS and Motorways of the Sea).				CEF regulation proposal COM 2011(665) on 19/10/2011	Regulation (EU) No 1316/2013 adopted on 11/12/2013
•	Multimodal transport and single wagon load: Study on policy options for wagonload finalised in 2014, two studies on last-mile issues (single European Information Portal; support program features for last-mile) started in Jan 2015.					
(36)	– Ex-ante project evaluation criteria:					
•	Ex-ante project evaluation criteria: The consistency of the selection criteria for Cohesion Fund financed TEN-T projects and CEF financed projects have been ensured by the Common Provisions Regulation annex (part on transport and TEN-T). The Commission presented in December 2014 a revised Guide for Cost-Benefit Analysis of Investment Projects to ensure that support goes to projects that have been carefully prepared and offer best value for money and clear EU added value.				CEF regulation proposal COM 2011(665) on 19/10/2011	Regulation (EU) No 1316/2013 adopted on 11/12/2013
•	Streamlining procedures for projects of overriding European interest: simplified procedures included in TEN-T proposal (see 34). This provision was not retained by the co-legislators in the adopted Connecting Europe Facility Regulation. A study on the topic on-going.				TEN-T Guidelines Regulation proposal COM(2011) 650 final/2 on 19/10/2011	Regulation (EU) No 1315/2013 on TEN-T Guidelines Regulation adopted on 11/12/2013
•	PPP-screening: PPP included in the Commission proposal on CEF (see 37)				CEF regulation proposal COM 2011(665) on 19/10/2011	Regulation (EU) No 1316/2013 adopted on 11/12/2013
3.2. A coherent funding framework						
(37)	– A new funding framework for transport infrastructure:					
•	Infrastructure funding framework: CEF Regulation (was adopted in December 2013. For the 2014-2020 period, strong emphasis in the investment priorities is placed on action "supporting a multimodal Single European Transport Area by investing in the TEN-T" in both the ERDF regulation and in the Cohesion Fund regulation. The Investment Plan for Europe announced in 2014, underpinned by the European Fund for Strategic Investments, will complement the funding framework by catalysing private investments in the field of transport.				CEF regulation proposal COM 2011(665) on 19/10/2011	Regulation (EU) No 1316/2013 adopted on 11/12/2013
•	EU support for efficient use of infrastructure and decarbonisation: Cf. point 34. The revised cohesion policy approach requires a strong result orientation and links access to EU financing to the fulfilment of ex-ante conditions: for support under Thematic Objective 7 (sustainable transport), Member States are required to put a comprehensive framework for transport investments in place, e.g. in the form of a comprehensive transport master plan.					
•	Link TEN-T funding to progress towards the completion of the TEN-T core network: The TEN-T guidelines and the Connecting Europe Facility have been adopted. Financing for transport infrastructure will triple for the period 2014–2020 to €26.3 billion. This EU funding will be tightly focused on the core transport network where there is most EU added value.					
(38)	– Private sector engagement:					

•	<u>Enabling framework for the development of PPPs:</u> The CEF Regulation introduced a new generation of financial instruments aimed to boost the support of private finance and capital markets in general for sustaining investment in long term transport infrastructures. Moreover, the regulation foresees that existing financial instruments, such as the Loan Guarantee Instrument for the TEN-T projects (LGTT) or Project Bonds Instrument (see below) will be merged with those under the CEF Regulation which aim at attracting private project sponsors with the public sector involvement and facilitate the implementation of the complex infrastructure projects.				Ex-ante assessment completed and presented to the CEF Committee in July 2014. Terms and conditions of the Delegation Agreement discussed with the EIB	CEF Delegation Agreement with EIB on 17 July 2015
•	<u>Encourage Member States to use more PPPs:</u> The Commission supports the procuring authorities of the Member States to prepare the projects through the PPP procurement through the calls for proposals under the TEN-T programme. The calls for proposals for the EU grant encompass preparatory activities of the procuring authorities, such as the financial and legal feasibility studies, development of the cost benefit, value for money assessments and public-private comparators, as well as the usage of the innovative financial instruments such as the risk sharing instruments of LGTT or Project Bonds. These are facilitating studies, which aim at enhancing the public sector's knowledge about procurement procedures and PPP implementation.					
•	<u>New financing instruments for the transport sector*, notably EU project bonds:</u> The Commission has established the pilot phase of the Europe 2020 Project Bonds Initiative, adopted by the Regulation 670/2012 with the aim to revive and expand capital markets to finance large European infrastructure projects in the fields of transport, energy and information technology. The new "European Fund for Strategic Investments" (EFSI) which is intended to support an ambitious investment plan in the EU for a global amount of €315 billion investment by means of new financing instruments is also to be used to develop transport infrastructure.				Proposal for a regulation on EFSI COM(2015) 10 on 13/01/2015	Regulation 670/2012 adopted 11/07/2012 Regulation (EU) 2015/1017 adopted on 25/06/2015
3.3. Getting prices right and avoiding distortions						
(39) – Smart pricing and taxation (Phase I – up to 2016):						
•	<u>Revise motor fuel taxation:</u> Proposal for Energy Taxation Directive in 2011. The proposal was withdrawn due to the lack of consensus in the Council				Proposal adopted in 13/04/2011, withdrawn in March 2015	
•	<u>Mandatory infrastructure charge for heavy-duty vehicles:</u> Proposal for a directive on fair and efficient road pricing postponed without date. New proposal to revise Eurovignette is under preparation. Mandatory charging for HGV's could be considered in the options to be analysed as part of the impact assessment (to be confirmed)					
•	<u>Compatibility of car road charging schemes with the EU Treaties:</u> Measures protecting the rights of occasional users (limits on the <i>pro rata</i> price of short term vignettes vs. long term vignettes, and requirements on transparency in setting and changing tolls) will be considered in the impact assessment on the revision of the Eurovignette					
•	<u>Internalisation of external costs:</u> Inventory of internalisation measures published in July 2013. The 2011 revision of the Eurovignette Directive introduced optional internalisation of noise and air pollution costs and variation of charges to tackle congestion. The on-going revision of Eurovignette directive that could further promote the internalisation of local external costs in road transport. Airport congestion was mentioned in the proposal on airport slots (December 2011). Regulation on noise-related operating restrictions at airports was adopted in April 2014. Regulation on Monitoring Reporting and Verification mechanism for CO2 emissions from maritime transport adopted in April 2015. Rail: Implementing Regulation on Noise Differentiated Track Access Charges was adopted in March 2015 and following an IA a SWD on Rail freight noise reduction was published in December 2015. The evaluation of the Environmental Noise Directive is on-going.				Communication adopted on 03/07/2013 Proposal for a regulation COM/2011/0828 final on 1/12/2011 Commission Implementing Regulation (EU) 2015/429 setting out the modalities to be followed on the application of the charging for the cost of noise effects SWD(2015) 300 published on 22/12/2015 Proposal for a regulation COM(2013) 480 final on 28/06/2013	Airport package pending adoption Regulation (EU) No 598/2014 adopted on 16/04/2014 Regulation (EU) 2015/429 adopted on 13/03/2015 Regulation (EU) 2015/757 adopted on 29/04/2015
•	<u>Framework for earmarking revenues from transport:</u> The proposal on fair and efficient road pricing currently on hold. A Communication on the application of national road infrastructure charges levied on light private vehicles adopted in May 2012. More detailed provisions will be considered in the IA on the revision of the 'Eurovignette' Directive (on-going).				COM(2012)199 adopted on 14/05/2012	
•	<u>Guidelines on public funding to different transport modes:</u> The new Aviation Guidelines were adopted on 20 February 2014 and entered into force on 4 April 2014. This action is also covered by the Communication from the Commission on interpretative guidelines concerning Regulation (EC) No 1370/2007 on public passenger transport services by rail and by road, adopted in March 2014 and the Communication from the Commission on the interpretation of Council Regulation (EEC) No 3577/92 applying the principle of freedom to provide services to maritime transport within Member States (maritime cabotage), adopted in April 2014. The Commission also intends to amend and extend Commission Regulation (EU) No 651/2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty ("the General Block Exemption Regulation") to include investment aid in ports and airports. The adoption is planned by the end of 2016.				Aviation Guidelines 2014/C 99/03 adopted on 20/02/2014 Entered into force 04/04/2014	

•	Reassess transport taxation (VAT, company cars): On-going work in DG TAXUD.					
– Smart pricing and taxation (Phase II – 2016-20)						
•	Full and mandatory internalisation of external costs for road and rail; internalisation of local pollution and noise in ports and airports; internalisation of local pollution at sea: consideration of internalisation for inland waterways. Regarding road it is still an unlikely option. Regarding internalisation of external costs for airports, this is something that could be discussed by the Thessaloniki Forum of Airport Charges Regulators from 2016 - too early for legislative initiative. Regarding rail, see bullet on "Internalisation of external costs" above					
4. The external dimension						
(40) – Transport in the world: the external dimension:						
•	Extend internal market rules: Ongoing work in international organisations and in bilateral TRADE negotiations. Bilateral dialogues on maritime transport with US, Japan, Brazil and Norway to address market issues. Annual implementation meetings under the 2002 EU-China Maritime Transport Agreement are continuing with industry's participation for both sides. Preliminary agreement with Brazil for a MoC on maritime transport, currently in the process of ISC for adoption. Market access provisions for all transport modes, but aviation where only air auxiliary services are covered, are included in all FTAs and DCFTAs (except the very old Mexico Agreement which will be reviewed shortly and the commercial agreements with African countries – (EPAs)). Concluded FTAs: Chile, Colombia, Peru', Central American countries, Ecuador, Korea, Singapore, Vietnam, Canada (CETA); concluded DCFTAs: Ukraine, Moldova and Georgia. All these FTAs and DCFTAs contain in addition a specific chapter on maritime transport. Ongoing FTAs negotiations: USA (TTIP), Japan, Mercosur, Thailand, Malaysia, India, Tunisia (DCFTA), Morocco (DCFTA), Philippines and China (only Investment). At the international level the ongoing negotiations in Geneva on "TiSA" (Trade in Services Agreement) also cover all transport services (for air again only air auxiliary services) with a special focus on maritime and road transport. On rail, the MoU between ERA and Brazil was signed in 2014. The objective of this MOU is to promote a mutually beneficial cooperation between the Sides in different matters in the field of railway transportation system. The communication from August 2014 on customs risk management and security of the supply chain has endorsed international cooperation which has led to the revision of the World Customs Organization's (WCO) SAFE Framework of Standards, developing international standards, e.g. on pre-loading air cargo information, and the development of mutual recognition of Authorised Economic Operator programmes. Other projects are on-going.					Communication COM(2012) 556 final adopted on 27/09/2012 COM(2014) 527 adopted 21/08/2014
•	Complete the European common aviation area: Communication from the Commission: EU's External Aviation Policy - Addressing Future Challenges adopted in September 2012. Follow up of December 2012 Council conclusions on-going. Agreements have been signed with the Western Balkans, Morocco, Jordan, Georgia, Moldova and Israel, and negotiations have been finalised with Ukraine pending authorisation from the Council to sign the agreement. A tailored EU approach is also being pursued towards other key partners including Brazil, Turkey, ASEAN, the Gulf States, China and India. The new Aviation Strategy for Europe presented in December 2015 announces additional initiatives that should place the EU as a leading player in international aviation, whilst guaranteeing a level playing field.					Communication COM(2012) 556 final adopted on 27/09/2012 Communication COM (2015) 598 final adopted on 07/12/2015
•	Take action in multilateral forums to promote energy efficiency and climate action: On-going efforts in IMO and ICAO. IMO adopted the Energy Efficiency Design Index in 2011, which applies to new ships. Work is now focussing on developing a global system for monitoring, reporting and verification of GHG emissions which is expected to be adopted during 2016. In parallel, a discussion is on-going on setting up a global emissions reduction target in accordance with the objectives of the UNFCCC Paris Agreement. Additional efficiency measures and possibly market-based measures are also to be considered in the mid-term. In February 2016 ICAO proposed the first ever fuel efficiency/CO ₂ standard for aircraft, with intense European involvement. Work on a future Global Market Based Measure (GMBM) to mitigate emissions stemming from the growth of aviation emissions is accelerating, in view of the October 2016 ICAO General Assembly, with intense European participation.					
•	Use multilateral and bilateral layers to tackle terrorism: Memorandum of Understanding signed with the US Coast Guard in 2012 in order to promote a strengthened and harmonised maritime security system. The Commission supports capacity building in 3rd countries for improving maritime safety & security in the framework of SAFEMED and TRACECA projects for the Mediterranean Black/Caspian sea respectively.. No substantive progress in IMO on piracy. Discussions underway with IMO to develop a common outreach policy in order to improve port and ship security globally.					Adoption of EU Maritime Security Strategy in 2014
•	Cooperation framework to extend EU transport policy to neighbouring states: In July 2011 the European Commission adopted the Communication "The EU and its neighbouring regions: A renewed approach to transport cooperation". Together with Georgia, Ukraine, Moldova the Commission defined an ambitious transport agenda, which will contribute significantly to the goals of the Association Agreements signed in 2014. Eastern Partnership maps (together with NDPTL ones) covering rail and road connections, ports and airports were included in the TEN-T Regulation through a delegated act in 2014. The Northern Dimension Partnership on Transport and Logistics (NDPTL) became operational					COM(2011) 415 final adopted on 07/07/2011

<p>early 2011 and is financially supported by the Commission. As far as the Western Balkans are concerned the Commission continues co-operation in the context of the South East European Transport Observatory (SEETO). The Commission also follows closely acquis approximation in these countries on a bilateral basis through the Stabilisation and Association Process and expects that the future implementation of the Transport Community Treaty with Western Balkans will further strengthen the cooperation with the region. Furthermore, the maps of the Western Balkans and Turkey were adopted together with the revision of the TEN-T. Regarding Turkey, a high level dialogue was set up in 2013 and two high level technical meetings covering a large number of transport issues took place in 2014. Finally in 2013, a Euromed ministerial conference took place. In the framework of the Regional Transport Action Plan (RTAP) for the Mediterranean region, the first high-level conference on the financing of the future Trans-Mediterranean transport Network (TMN-T) took place in December 2014.</p>					
<ul style="list-style-type: none"> • <u>Cooperation with Mediterranean partners for a maritime strategy</u>: MEDAMoS project to extend EU maritime transport policy to Mediterranean neighbours is concluded. However, work is still ongoing to develop a mutually agreed indicative map of the Trans-Mediterranean Transport Network (TMN-T) as an extension to the TEN-T. Work will be taken forward through the working groups of the Euromed transport forum and relevant stakeholders. SAFEMED 3 projects now implemented by EMSA. Co-operation within the Union for the Mediterranean was further boosted with a Union for the Mediterranean Ministerial meeting on Blue economy held in autumn 2015. EU Strategy for the Adriatic and Ionian Region was presented in June 2014 and incorporated into the Macro-Regional Strategy. 				COM (2014) 357 adopted on 17/06/ 2014 ()	
<ul style="list-style-type: none"> • <u>Removal of exemptions for liner shipping conferences</u>: Following the abolition of the EU block exemption for container shipping cartels ("conferences") in 2008, the sector is now fully subject to the EU antitrust rules. DG COMP conducted unannounced inspections in May 2011 at 12 global container shipping companies (both EU and non-EU) to check compliance (ongoing investigation). The EU approach to abolish conferences has been supported and promoted during bilateral and multilateral maritime transport dialogue meetings with third countries (US, China, Japan, Korea, Canada etc.). Since 2011, DG COMP has continued advocacy with international counterparts as appropriate. 					
<ul style="list-style-type: none"> • <u>Research and innovation partnerships</u>: SESAR and NextGen (US) cooperation has been progressing and bringing results, for example many of the green procedures tested under the collaboration project Atlantic Interoperability Initiative to Reduce Emissions (AIRE) have been implemented into 'day-to-day operations'. 					

State of advancement of the White Paper programme (in the European Commission)

