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Together towards competitive and resource-efficient urban mobility

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Together towards competitive and resource-efficient urban mobility

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Why? What is the problem being addressed?	
1.	Many of the EU objectives that are crucial for a competitive and sustainable transport systems are at risk. Those include: seamless mobility along the TEN-T, improved road safety, reduced CO_2 emissions and noise pollution and improved air quality. This negatively impacts the well-being of citizens and the effectiveness of businesses in urban areas. The cause identified for this problem is that there is regulatory failure at the urban level, due to a lack of an integrated urban mobility approach, which market mechanisms alone are not able to address. The lack of an integrated urban mobility approach can be further decomposed into a too narrow scope in terms of the policy issues being addressed and/or inadequate procedures and processes. Amongst the drivers for this are: a lack of political will or interest, a lack of funding, a lack of knowledge of the concept and its benefits, car-oriented communities and planning culture and tradition. The most affected stakeholders are EU citizens in general, businesses, transport operators and users, and local, regional and national authorities.
What is this initiative expected to achieve?	
2.	The general objective is to unlock the full potential of urban areas to contribute to a more competitive and resource-efficient transport system. The specific objective is to ensure the uptake of an integrated urban mobility approach by EU urban areas. The operational objectives are to provide urban areas with and stimulate the uptake of a policy framework encompassing all policy issues and of a governance framework encompassing all procedures and processes to ensure such an approach.
What is the value added of action at the EU level?	
3.	The EU added value consists of ensuring a more effective and coordinated policy-making in an by the European urban areas, by providing national authorities with a policy and governance framework for the development of integrated mobility approaches in urban areas, in full respect of subsidiarity. As a result, urban mobility policies should be implemented in a more effective way, achieving better impacts on the well-being of citizens and the effectiveness of businesses in urban areas, on top of meeting local, national and EU policy targets and comply with relevant EU legislation. The coordinated EU action will also be more effective at ensuring free flow of goods and people, a seamless mobility along the TEN-T and increasing the innovation potential of the EU.
B. Solutions	
What legislative and non-legislative policy options have been considered? Is there a preferred choice or not? Why?	
4.	The considered policy options are: a business as usual scenario to continue and improve existing EU activities in urban mobility planning, non-binding recommendations on Sustainable Urban Mobility Plans (SUMPs), and a mandatory EU framework on SUMPs. A mandatory framework could be considered for urban areas either defined by the Member States themselves, or defined at EU level. Regarding the level of ambition, recommendations are based on comprehensive requirements for the policy framework while a mandatory approach is based on minimum requirements for the policy framework. The preferred policy option is non-binding recommendations with comprehensive requirements for the policy

framework (option 1B). This option scores best overall on effectiveness, efficiency, coherence and stakeholder support. Given the large diversity of urban mobility planning approaches at Member States level and given the current limited availability of comparable data and statistics, non-binding recommendations come out as the optimal way forward at this point in time.

Who supports which option?

5. Local/regional authorities, city networks, members of the Committee of the Regions and a broad range of EU experts and associations support the continuation and improvement of existing EU initiatives (business as usual option) and of the non-binding recommendations options. This was also the result of the public consultation. In the public consultation, only workers' and passengers' associations supported a mandatory approach. Stakeholders and experts supported minimum requirements on the policy and governance framework, except for a requirement on certification, which they rejected.

C. Impacts of the preferred option

What are the benefits of the preferred option (if any, otherwise main ones)?

6. Voluntary recommendations on SUMPs will stimulate the uptake of SUMPS in EU urban areas. The more cities implement a full SUMP, the higher the potential environmental, social and economic benefits will be for citizens, consumers, businesses and authorities. The main expected benefits of the introduction of a full SUMP are reduced congestion, a better mobility along the TEN-T, cost savings due to a more coordinated, effective and efficient combination of measures within a SUMP, increased research and innovation potential, increased road safety, increased social inclusion and accessibility of work places, better air quality, reduced CO_2 emissions and noise pollution. The preferred option stimulates the use of comprehensive policy requirements for a SUMP. Therefore, the impact could even be higher. By respecting the subsidiarity principle and by refraining from imposing specific measures and/or targets on cities, the preferred option leaves flexibility to the Member States and its regional/local authorities.

What are the costs of the preferred option (if any, otherwise main ones)?

7. Local and regional authorities are affected due to higher administrative costs for developing and implementing a SUMP in comparison with traditional transport and infrastructure plans. In France the minimum average costs of developing a SUMP for cities between 100,000 and 200,000 inhabitants were estimated at €80,000 and the maximum average costs at €550,000. However, these authorities will benefit from large costs savings due to the implementation of a more coordinated, effective and efficient combination of measures. Results from the first round on Local Transport Plans in the UK indicate that the benefits of integrated transport schemes are likely to be significant relative to the costs and offering value for money.

How will businesses, SMEs and micro-enterprises be affected?

8. Businesses located in urban areas will have an easier access to services and resources. The implementation of a SUMP will lead to reduced congestion, time and costs savings, thereby improving accessibility and therefore the attractiveness of the location and improve business opportunities. The overall impact of SUMPs on SMEs is expected to be positive as the costs of running business in urban areas, related mainly to congestion would decrease and accessibility would improve. Reduced congestion through SUMPs in urban areas will be positive for the TEN-T logistics,

by improving access to motorways and better linkages with main transport hubs (ports, airports) located in urban areas.

Will there be significant impacts on national budgets and administrations?

9. The impact on national budgets and administrations will not be significant. National administrations will be involved in developing national frameworks on SUMPs to guide and assist their urban areas.

Will there be other significant impacts?

10. Developing a SUMP framework at the EU level could strengthen the competitiveness of the EU industry. If the EU is successful in tackling urban mobility challenges, the acquired know-how and technologies could be further exported and companies leading the innovation in transport mobility solutions could expand to foreign markets. Moreover, the SUMP framework can bring additional positive results to the competitiveness of the EU industry, as one of the underlying objectives of SUMPs is to improve efficiency and cost-effectiveness of transportation of persons and goods.

D. Follow up

When will the policy be reviewed?

The Commission services will evaluate by 2020 the uptake of integrated urban mobility approaches in the European Union. Based on this, the Commission services shall assess the need for further action on integrated urban mobility.

1. GENERAL POLICY CONTEXT

1.1. Background in the development of the proposal

11. In 2010, the Europe 2020 Strategy[1] for smart, inclusive, and sustainable growth highlighted the importance of a modernised and sustainable European transport system for the future development of the Union and stressed in this context the need to focus also on the urban dimension of transport. Consequently, urban mobility is an important focal area in the 2011 Transport White Paper[2] and several relevant initiatives were announced.

12. The Transport White Paper has already described the set of Commission actions that are needed to improve urban mobility, in addition to already developed related and targeted EU legislation and policy measures. These urban mobility actions would help to realise the key EU Transport White Paper objective of a modernised, resource efficient and more competitive European transport system.

Despite existing EU legislation and policies with impact on urban mobility (e.g. on Trans-European Network for Transport (TEN-T), road safety, climate change, air quality, noise) many cities in Europe still face common challenges that affect not only the competitiveness of the EU transport system but also the well-being of citizens and effectiveness of businesses. To tackle these urban mobility challenges the Transport White Paper suggests that an integrated urban mobility approach is needed.

Over the last decades and especially in recent years a growing focus on sustainability has given rise to the need to rethink traditional urban mobility approaches in order to achieve improvement. Given local specificities, planning cultures and experiences, different degrees of sophistication of urban mobility planning exist throughout Europe.

13. According to the White Paper a greater coordination of all authorities having an influence on the transport system is highly desirable, as well as extension of the coordination of such authorities beyond the strict city borders[3]. In the White Paper it is therefore announced in Initiative 31 that the Commission will "examine the possibility of a European support framework for a progressive implementation of Urban Mobility Plans in European cities, establish procedures and financial support mechanisms at European level for preparing Urban Mobility Audits, as well as Urban Mobility Plans, set up a European Urban Mobility Scoreboard based on common targets, and examine the possibility of a mandatory approach for cities of a certain size, according to national standards based on EU guidelines". It is also proposed to "link regional development and cohesion funds to cities and regions that have submitted a current, and independently validated Urban Mobility Performance and Sustainability Audit certificate".

[1] COM(2010)2020 final
[2] COM(2011)144
[3] SEC(2011)391, Commission staff working document to the Transport White Paper "Roadmap to a Single Transport Area", p90

1.2. European policy context

Already in 2002 the European Conference of Ministers of Transport (ECMT) pointed out in their report on 'Implementing sustainable urban travel policies'[4] that cities face problems and barriers regarding planning, and measures setting and implementation. A package of complementary policy instruments needs to be developed to help cities moving towards sustainability. Better integration of land-use and transport planning is necessary, and a multi-sectorial and integrated approach is required.

14. Urban mobility is a shared responsibility between the EU and the Member States at national, regional and local level. This was recognised through the adoption of the Green Paper[5] and Action Plan[6] on Urban Mobility. The Action Plan includes 20 actions from 2009 until 2012 to support local, regional and national authorities to make urban mobility more sustainable. The concept of promoting integrated urban mobility policies through accelerating the take up of Sustainable Urban Mobility Plans (SUMPs), which are strategic plans building on existing planning practices and based on integration, participation and evaluation principles[7], was reflected in Action 1 of the Action Plan on Urban Mobility "Accelerating the take-up of sustainable urban mobility plans". Several EU initiatives have been realised to establish and disseminate good practice (see section 1.3).

The Action Plan on Urban Mobility was reviewed, in a way proportionate to its scope. It came out clearly that SUMPs was the most mature topic with clear stakeholders support and that further action should be taken after the completion of the Action Plan: "The encouragement of Member States to provide platforms that would foster the development of sustainable urban mobility policies has not been fully reached. It has been difficult to obtain widespread take-up because necessary 'multiplication and dissemination' at Member States level has not taken place. (…) Via the ELTISplus project a working definition of a SUMP has been provided. However there is no official EU document with a definition of a SUMP". This is in line with Initiative 31 of the White Paper.

15. In 2008[8] the European Parliament adopted a resolution on urban mobility. The Parliament underlined that better coordination is essential for improving urban transport and mobility. It called for a better coordination between neighbouring local authorities, and considered it necessary for urban development and planning to be carried out on an integrated basis.

[4] ECMT (2002), Implementing sustainable urban travel policies, Paris, OECD, p51. Since 1953 the ECMT was an intergovernmental organisation attached to the OECD. In May 2006 the ECMT transformed into the International Transport Forum (ITF), which is an intergovernmental body within the OECD family and serves as a global platform for transport policy makers and stakeholders.

[5] COM(2007)551

[6] COM(2009)490

7 A Sustainable Urban Mobility Plan is "*a strategic plan designed to satisfy the mobility needs of people and businesses in cities and their surroundings for a better quality of life. It builds on existing planning practices and takes due consideration of integration, participation, and evaluation principles." (the state-of-the-art of sustainable urban mobility plans in Europe – Rupprecht Consult, Eltisplus).* The concept of SUMPs will be further explored in section 5, and further information can be found in appendix 4 to 6.

[8] European Parliament resolution of 9 July 2008 on 'Towards a new culture of urban mobility', 2008/2041(INI)

16. In 2010 the Council "welcomed the Action Plan on Urban Mobility; and invited the Commission to ensure that the new Transport White Paper contains targets and policies for promoting more efficient, sustainable, safe and healthy urban mobility"[9].

17. The European Economic and Social Committee[10] and the Committee of the Regions[11] both adopted in 2010 an opinion on the Action Plan on Urban Mobility, and the Committee of the Regions recommended an integrated approach to urban policies.

18. The Seventh Framework Programme for Research and Technological Development and Demonstration activities[12] addresses sustainable urban mobility, including innovative urban management and planning practices through the CIVITAS initiative[13]. Other projects on sustainable urban mobility planning have been carried out, for example the PILOT project[14], the ELTISplus project[15] and other related activities under the Intelligent Energy Europe/STEER programme[16].

1.3. Existing European initiatives

EU action over the past years has contributed to making urban mobility more competitive and sustainable and mitigating its negative impacts. The current EU policy is a project-based, bottom-up approach, which helps pro-active, interested cities, local authorities and citizens.

Since 2002, the EU is running the CIVITAS programme under the Framework Programme for Research. CIVITAS supports demonstration activities related to urban mobility. It has so far provided funding to 59 cities and around 200 cities are members of the CIVITAS Forum Network to learn from the lead cities. The CIVITAS programme will continue under the next financial framework 2014-2020.

The EU is also conducting a large number of awareness-raising activities for stakeholders and the general public. The most important one is the annual European Mobility Week, which encourages local authorities to introduce and promote sustainable transport measures and to invite citizens to try out alternatives to car use. Close to 8000 permanent measures have been implemented as a result of the campaign. In 2012, 2.158 cities registered their participation, covering 29.2% of the total EU population. The "Do The Right Mix[17] campaign" for its part supports sustainable urban mobility campaigners and promotes the advantages of combining different modes of transportation.

In addition to campaigns there are useful websites including 1) the ELTISplus website[18], that facilitates the exchange of information, knowledge and experiences in the field of urban mobility between individuals working in the field of transport and related disciplines; 2) the

[9] Council Conclusions of 24 June 2010 on the Action Plan on Urban Mobility
[10] European Economic and Social Committee opinion on the Action Plan on Urban Mobility of 27 May 2010, TEN/414
[11] Committee of the Regions opinion on the Action Plan on Urban Mobility of 27 August 2010, 2010/C 232/05, recommendations on integrated urban policies approach and SUMPs on p1
[12] http://ec.europa.eu/research/fp7/index_en.cfm
[13] http://www.civitas-initiative.org/index.php?id=69
[14] http://www.pilot-transport.org/index.php?id=47, supported by DG Environment
[15] http://www.mobilityplans.eu/
[16] http://www.eaci-projects.eu/iee/page/Page.jsp?op=project_list&searchtype=3
[17] http://dotherightmix.eu
[18] http://www.eltis.org/

sustainable urban mobility plans website[19] that supports local authorities in developing SUMPs and is complemented by guidelines, events and training workshops on how to develop and implement SUMPs and 3) the LEZ (Low Emission Zones) website[20] that allows citizens and businesses to find out the emissions standard of the LEZ they wish to travel into, and of their vehicle.

Looking forward, the Commission will set up a European Platform on Sustainable Urban Mobility Plans, which will coordinate the activities of all EU programmes related to urban mobility planning. It will integrate the above-mentioned websites and link with the CIVITAS initiative. It will act as a virtual knowledge and competence centre, consolidating relevant experiences and information across the EU. This will help tackle implementation issues at city level. It will also include the sharing of relevant data and statistics and the elaboration of common indicators on urban mobility performance.

It should also be mentioned that the development and deployment of sustainable urban mobility measures and plans is supported by the structural funds and the TEN-T funds.

1.4. International policy context

19. Heads of State and Government meeting at the 2012 United Nations (UN) Conference on Sustainable Development 'Rio+20' recognised the importance of sustainable transport for economic growth and sustainable urban development and agreed, inter alia on "the need to promote an integrated approach to policy making at the national, regional and local levels for transport services and systems to promote sustainable development[21]."

Moreover, the International Energy Agency (IEA) also emphasises that urgent energy-efficiency policy attention in relation to urban transport systems will be needed to mitigate associated negative noise, air pollution, congestion, climate and economic impacts, all of which can cost countries billions of dollars per year. According to the IEA the pathway to improving the urban transport systems includes four stages: planning, implementing, monitoring and evaluation. As such, the IEA also argues for an integrated approach to urban mobility[22]. More information can be found in Appendix 10.

20. Around the world there is increased attention to integrated urban mobility, particularly in rapidly urbanising countries. The 2012 Brazilian urban mobility law[23] requires the preparation of an urban mobility plan for all Brazilian cities with more than 20,000 inhabitants. In India a National Urban Transport Policy has been defined in 2006. Under this policy cities have been asked to develop Comprehensive Mobility Plans. These action plans have begun to evolve in a few metropolitan cities to address pollution and congestion[24]. In Mexico the state government is responsible for general mobility and transport policies, plans and programs, including sustainable mobility plans. In 2011 the OECD concluded that the lack of coordination of efforts

[19] http://www.mobilityplans.eu
[20] http://www.lowemissionzones.eu/
[21] United Nations, Resolution 66/288adopted by the General Assembly: "The future we want" (available at: http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/66/288&Lang=E)
[22] IEA/OECD (2013), Policy pathway: A tale of renewed cities: a policy guide on how to transform cities by improving energy efficiency in urban transport systems, p57
[23] Lei Nº 12.587, of 03/01/2012.
[24] OECD/ITF (2011) – Key Mobility Challenges in Indian Cities, p25. The ITF is an intergovernmental body within the OECD family.

between different level of government, various authorities and transport operators in Mexico can be a major obstacle faced to transport modernisation[25]. In China urban master plans are required by the state for all cities for a 20 years period[26]. The central government outlines the form and procedures and the municipality develops the contents of the plan. The plan covers a wide range of topics including transport. However, with the focus on short term construction it is difficult to develop sustainable transport systems through an integrated urban mobility approach. Coordinated policy making will not be achieved in the near future. The OECD recommends China to strengthen the synchronization of central government with local government on sustainable transport strategy and enhance the capacity of local government[27].

21. In the developed economies an integrated approach to urban mobility is also gaining importance. The USA Federal legislation[28] requires each state to prepare a transportation plan considering all transport modes and based on at least a 20-year forecast period, which may include a financial plan. Under SAFETEA-LU, the policy for the metropolitan planning process is to promote consistency between transportation improvements and state and local planned growth and economic development patterns. Metropolitan Planning Organizations cooperate with the state in developing transportation plans and programs for the urbanized area. The plans are to provide for the development of all transportation facilities (including walking and cycling) and serve as an intermodal system for the state, metropolitan areas, and the nation[29]. In Canada a national transit framework including elements such as multi-stakeholder dialogue, policy integration with health, environment and urban planning and public transit funding, has not been adopted or implemented yet[30]. However, the city of Sherbrooke in the province of Québec is one of the first cities who formally adopted a SUMP in February 2012, after a process of intensive stakeholder and public consultation since 2008[31]. Finally, in Australia the concept of an integrated approach to urban mobility is known and SUMP guidelines were published in 2012[32].

2. PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

Lead DG: Directorate General for Mobility and Transport
Agenda planning: 2013/MOVE/026
EU framework for Sustainable Urban Mobility Plans ('Urban Mobility Package')

[25] OECD/ITF (2011) – Implementing Sustainable Urban Travel Policies in Mexico, pp. 6, 29-30
[26] OECD/ITF (2011) – Implementing Sustainable Urban Travel Policies in China, pp. 14-15
[27] OECD/ITF (2011) – Implementing Sustainable Urban Travel Policies in China, p28
[28] The Surface Transportation Act (TEA-21) and its subsequent reauthorization acts (SAFETEA-LU) and the Energy Independence and Security Act of 2007
[29] http://www.mrsc.org/subjects/transpo/stateregiontrans.aspx#regional
[30] CUTA Transit Vision 2040 report, pp. 28-33, http://www.cutaactu.ca/en/publicationsandresearch/resources/CUTABook_Complete_Lowres.pdf
[31] This SUMP aims to promote modal shift from solo car use to multimodal and clean transport modes to reduce air and noise pollution, construct new transportation facilities and new business activities and improve health and well-being of residents by increased use of active transport modes, see http://www.mobilitedurable.qc.ca/
[32] http://www.planning.wa.gov.au/dop_pub_pdf/guidelines_integrated_transport_whole.pdf

2.1. Organisation and timing

22. This Impact Assessment was elaborated by DG MOVE, assisted by a Commission Impact Assessment Steering Group (IASG) on Urban Mobility re-established in November 2011[33]. The IASG met on 11 December 2012 and on 19 February 2013. The third IASG meeting took place on 20 June 2013 and the fourth and last IASG took place on 10 July 2013. A final version incorporating the comments made during this meeting was circulated on 19 July 2013.

2.2. Consultation and expertise

Process of consultation

23. An on-line stakeholder consultation was carried out between 18 June and 7 September 2012 as part of the study "Panteia/NEA (2013), Review of the Action Plan on Urban Mobility" MOVE C1/319-1/2011 and attracted 116 contributions with 62 contributions on Sustainable Urban Mobility Plans.

24. An on-line public consultation on the urban dimension of EU transport policy, including the issue of Sustainable Urban Mobility Plans, has run between 17 September 2012 and 17 December 2012 and attracted 206 participants. 195 participants replied to the questionnaire and are included in the statistics, the others sent position papers. A summary report of the contributions received from stakeholders during the public consultation on the urban dimension of EU transport policy is available on the Commission website[34].

25. For both consultations, it should be noted that although the number of respondents is high enough to draw learnings and conclusions, it is not enough to claim representativeness, especially when breaking down answers under the different categories of respondents.

26. A high level conference on urban mobility took place on 17 September 2012 and a meeting with representatives from EU Member States on urban mobility took place on 12 December 2012. A dedicated expert consultation was carried out on 29 January 2013[35]. A stakeholder consultation meeting on urban mobility was held on 21 May 2013, and a similar meeting with the Committee of the Regions' members took place on 13 June 2013.

27. A special Euro barometer citizen survey into 'Attitudes of Europeans towards urban mobility' took place between 24 May and 9 June 2013. 26,680 face-to-face interviews were held in EU 28 Member States[36].

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[33] The services involved in this group are the Secretariat-General, DG Climate Action, DG Communications Networks, Content and Technology, DG Economic Affairs and Financial Affairs, DG Employment, Social Affairs and Equal opportunities, DG Energy, DG Enterprise and Industry, DG Environment, DG Health and Consumers, DG Internal Market and Services, DG Justice, DG Research, DG Regional Policy, DG Taxation and Customs Union, Joint Research Centre and the Legal Service.

[34] http://ec.europa.eu/transport/themes/urban/studies/doc/2013-a032862-urban-mobility-public-consultation-report.pdf

[35] COWI Sustainable Urban Mobility Plans expert workshop report, March 2013

[36] The Eurobarometer citizen survey results are available at: To be completed when available

28. Input from stakeholders has been taken into account in this impact assessment study. Appendix 1 demonstrates that the minimum consultation standards have been respected. The details of all public, stakeholder, expert and member states consultations are provided in Appendix 2.

External expertise

29. External expertise was used to assess the various options available to develop and implement integrated urban mobility approaches, including aspects raised during the public and stakeholder consultations[37]. The study has revealed that European cities are on the move towards integrated urban mobility approaches and this trend is likely to continue. However, few cities implement a full integrated urban mobility approach. With a view to the mobility, social and environmental challenges the urban transport system faces, the lack of coordinated and target policy action in cities is a particular challenge.

The relevant social partners have also been consulted throughout the entire process. This concerned IRU (International Road Transport Union), UITP (Union Internationale des Transports Publics), CER (Community of European Railway and Infrastructure Companies), CEEP (European Centre of Employers and Enterprises providing Public services) and ETF (European Transport Workers' Federation). Their views are taken into account in this report in so far as they are directly relevant to the issue at hand.

Principal relevant findings of the public consultation

30. 87 % of the registered participants believe that there is a lack of coordination between authorities and other actors in the use of various policy instruments, and that integrated urban mobility planning could be an answer to tackle this issue. 5% of the respondents disagree.

86% of the registered participants believe that EU-support for the development of Sustainable Urban Mobility Plans (SUMPs) would contribute to the broader take up of these plans in urban areas. 74% is of the opinion that best practices on SUMPs should be developed and exchanged at EU level. Moreover, 66% finds that the EU should provide a platform for this. 57% of the respondents support the development of guidelines and recommendations. Furthermore, 58% believes that the EU should give financial support for the development of SUMPs, whereas 57% believes that the EU should fund R&D projects related to urban mobility planning. 29% of the registered respondents, especially workers' and passengers' associations, point to a mandatory framework for SUMPs in EU cities.

31. The principal objectives of SUMPs, as ranked by the participants, are improving air quality, liveability, leisure, recreation and accessibility. The two preferred topics such a plan should address are walking and cycling, closely followed by a public transport plan, including travel information, ticketing and payment systems. Around 67% of the registered respondents said that urban planning does not give sufficient consideration to urban freight logistics.

[37] A study has been carried out by COWI sprl Belgium under one contract. The "Study to support an Impact Assessment on the Urban Mobility Package (UMP), activity 31 SUMPs" was launched in December 2012, gathered further information on Sustainable Urban Mobility Plans, and assessed different options to progressively implement such plans in European cities. The report is available at (To be completed when available)

32. 67% of the registered participants are in favour of linking the access to EU funding for urban transport projects to the existence of SUMPs to ensure that supported projects are in line with relevant local, national and EU policies and to avoid waste of financial resources. About 22% of the registered participants are against the idea of making a SUMP a condition for funding as this could lead to unfair discriminations between cities and countries and more administrative burden.

Overall, the results of the public consultation show that there is a keen desire among stakeholders for an integrated urban mobility scheme and stronger EU commitment[38].

Principal relevant findings of the Eurobarometer citizen survey

A very large majority of all Europeans think that urban air and noise pollution accidents and congestion, are important challenges and nine out of ten Europeans encounter problems when travelling within cities that limit their access to important goods and services. Travelling costs are also considered to be an important issue in a large majority of Member States. Importantly 72% think that the situation will stay the same or get worse. A clear majority thinks that city authorities are mainly responsible for taking action to address urban mobility challenges.

2.3. Results of the consultation of the Impact Assessment Board

The Impact Assessment Board (hereafter "the Board") gave a positive overall opinion with a number of comments to be integrated. The Board asked for a more streamlined problem definition by focusing on the key issues to be tackled by this initiative. This point has been addressed by linking the key issues better to the well-being of citizens and effectiveness of businesses. Also in answer to comments from the Board, it is clarified how the results of previous EU initiatives were used, including the Action Plan on Urban Mobility; how the benchmark approach was developed and how SUMPs implementation issues will be dealt with. Moreover, the baseline scenario in terms of the existing relevant EU initiatives and their expected results, and the demonstration of the EU-added value is strengthened. In response to the Board's comments, a more concrete definition of the objectives and a simplified presentation of the options is put forward. Furthermore, a clearer definition of the impacts with regard to how they address the main barriers for the uptake of integrated urban mobility planning and to how the options are expected to deliver on the objectives is presented. Last, the Board asked for a better distinction between the different types of stakeholders when presenting their views. This issue is addressed within the limits of the available data.

3. PROBLEM DEFINITION

3.1. The problem

In 'A resource-efficient Europe - Flagship initiative under the Europe 2020 strategy'[39] a key component related to transport was identified. It emphasised the need for a vision for a low-carbon, resource-efficient, secure and competitive transport system that removes all obstacles to the internal market for transport, promotes clean technologies and modernises transport networks. The Transport White Paper translated this into a vision for a competitive and sustainable transport system.

[38] COWI (2013), Results of the public consultation 'The urban dimension of the EU transport policy', p12
[39] COM(2011)21

However, despite existing EU policies and legislation tackling individual policy areas with impact on urban mobility (e.g. Trans-European Network for Transport (TEN-T), road safety, climate change, air quality, noise), and related action in the Member States, many cities in Europe still face common challenges. They are struggling with congestion and accessibility[40], seamless mobility along the TEN-T, traffic accidents on urban roads, air pollution, CO_2 emissions and noise pollution.

This is resulting in large costs for the society as a whole: the efficiency and cost-effectiveness of transportation of persons and goods is suboptimal, having negative impacts on the well-being of citizens and effectiveness of businesses. This also creates a missed opportunity to further increase the innovation potential of the EU. The momentum is not seized to further develop innovative solutions for urban mobility challenges. As a result, the EU as a whole is missing an opportunity to export know-how and technologies, thereby not realising the full competitiveness potential of the EU industry.

Therefore, ***the main problem identified is that the EU objectives crucial for a competitive and sustainable transport system - i.e. seamless mobility along the TEN-T, improved road safety, reduced CO2 emissions and noise pollution, and improved air quality - are at risk because of transport developments in urban areas[41]. This consequently negatively affects the well-being of citizens and effectiveness of businesses located in urban areas.***

Notwithstanding local factors, the general root cause of this problem- identified through EU activities and stakeholders and experts opinions - is linked ***to regulatory failure at the urban level and the fact that market mechanisms alone are not able to address this situation.***

The regulatory failure is linked to the fact that many local authorities are not effective in their actions ***due to a lack of an integrated urban mobility approach***. They tackle the individual policy areas separately, without necessarily looking for possible synergies or conflicts between those individual policy areas. For example on land use planning, accessibility and air quality: by building a large shopping mall outside a city centre without linking it sufficiently to public transport, air quality and congestion could deteriorate because of a rise in car trips. In this respect, one could argue that currently, many European cities face a "missing link", which would ensure an integrated urban mobility approach.

Besides, the market mechanisms in urban areas do not lead to the achievement of the EU objectives mentioned above, because of difficulties with attributing market value to the identified challenges, insufficient economic incentives and requirements for substantive initial investments that do not guarantee returns in the near future. This market failure is to a large extent also a consequence of legal uncertainty and unclear long-term transport policies in many urban areas.

[40] The term accessibility is used here in a broad sense as people's ability to reach goods, services and activities, which can be distinguished between: accessibility of the urban transport network within the urban area, accessibility between local urban transport networks and regional, national and international transport networks for persons and goods, and finally in a more narrow sense as the prevention and removal of barriers preventing persons with disabilities, older persons and those with functional limitation from equal access or participation in accordance with the European Accessibility Act.

[41] The definition of urban agglomeration/functional city could be based on the harmonised definition of urban areas agreed by OECD and EU. It is a 4 step approach based on among other criteria of population density above 1,500 people/km2 in the "core" city combined with working catchment areas where more 15% works in the defined core area. Thus, the functional city covers transport to, from, through and within the urban agglomeration area. When the shorter term of 'cities' is used in the IA report it is used as a synonym for the urban agglomeration/functional city.

The underlying cause of the main problem, i.e. the inadequate regulatory approach to integrated urban mobility in many European urban areas can be further explained by two problem drivers:

1. ***Problem driver 1***: Policy making in many European urban areas often fails to address all policy issues essential to ensure an integrated approach to urban mobility

2. ***Problem driver 2***: Procedures and processes in many European urban areas are often inadequate to ensure an integrated approach to urban mobility

According to experts the major barriers for the uptake of an integrated approach to urban mobility in many EU urban areas[42] and the related (sub)problem(s) identified above can be found in the following areas: lack of political will or interest, lack of funding (for development and implementation of actions), lack of knowledge of concept and of its benefits, car oriented communities, and planning culture and tradition. In city case studies the lack of funding, possibly related to the current economic situation, and planning tradition were ranked as the most important barriers.

This initiative will tackle all the barriers, to the exception of the lack of funding, as it will not release any additional budget for the development and implementation of integrated approaches to urban mobility (although feedback from the UK indicates that more attention to integrated urban mobility helps local authorities take the decision to dedicate more funds to this important policy area, see section 6.3.6).

The following sections present evidence for the main problem and its drivers. First of all, it will be demonstrated that in many European urban areas the well-being of citizens and effectiveness of businesses is at risk, due to persisting problems with accessibility, congestion and its relation to seamless mobility along the TEN-T, traffic accidents on urban roads, air and noise pollution and CO_2 emissions (see section 3.1.1). Secondly, it will be demonstrated that many European urban areas do not have an integrated urban mobility approach, as they do not address all policy issues and/or do not have the optimal procedures and processes (see section 3.1.2). Lastly, the link between these two issues will be clarified (see section 3.1.3).

3.1.1. Urban mobility challenges endangering the well-being of citizens and effectiveness of businesses

33. The share of the population residing in predominantly and intermediate urban areas is currently around 76% of the EU population[43]. Demographic trends have an impact on the requirements on urban mobility and transport, especially regarding the mobility and accessibility needs of elderly people. Around a sixth of EU population has a disability[44]. Over a third of people aged over 75 have disabilities that restrict them to some extent, and over 20% are considerably restricted. These numbers are set to rise as the EU's population ages[45].

[42] Rupprecht Consult, ELTIsplus State of the Art report on Sustainable Urban Mobility Plans (September 2012), p. 30 and COWI (2013), Study to support an Impact Assessment of the UMP, act. 31 SUMPs, p. , and SUMP expert workshop report 29 January 2013

[43] About 41% of the EU population lives in predominantly urban regions, 35% in intermediate regions and 23% in rural regions according to Eurostat NewsRelease 5/12 (March 2012), available at: http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/1-30032012-BP/EN/1-30032012-BP-EN.PDF

[44] SEC(358). p131

[45] COWI (2013), Study to support an Impact Assessment of the UMP, act. 31 SUMPs, p37.

34. Economy activity is even more spatially concentrated than population. Around 85% of the EU's GDP is generated in cities[46]. Services represent about 72% of the total EU gross value added. Proximity of people and activities and a shift towards a knowledge based and service based economy will continue to drive urbanisation in the EU[47].

Congestion in the EU is often located in urban areas and regions. Congestion costs in urban areas are currently estimated at around €80 billion per year[48]. Congestion creates stress and loss of time for the citizens and reduces the effectiveness of businesses that rely on transport for supplies and/or sales. Heavy congestion increases vehicle fuel consumption by 30%[49]. Urban congestion has a negative impact on inter-urban and cross-border travel, as most transport starts and ends in urban areas. Urban congestion is linked to accessibility of a city, especially regarding the last mile to and from main nodes on the TEN-T network[50], both for passenger and freight transport. As recognised by the TEN-T policy, connectivity within and between the regions often translates to connections among the main cities in and beyond the regions. The TEN-T chain is only as strong as its weakest link: the efficiency of urban transport is essential to achieve a seamless mobility along the TEN-T. The TomTom congestion index based on GPS measurements shows significant delays in the monitored cities, especially in peak hours. Most cities in this index belong to the urban nodes in the TEN-T network[51].

35. In 2011, 38% of all fatal road traffic accidents is reported to take place in urban areas in the EU, meaning 11,600 deaths. 70% of all reported road traffic accidents (fatal and non-fatal) take place in urban areas, meaning for the EU total for 2011 around 775,000 accidents. Pedestrians make up the largest share of victims and elderly people are over-represented in fatal accidents in urban areas. The number of urban fatalities now constitutes a greater part of all road fatalities, from nearly 36% in 2001 to 38% in 2011[52].

36. Together with the increase in energy use of the transport sector in the EU, CO_2 emissions for transport have increased by 28% between 1990 and 2010. The transport sector has increased its share of total CO_2 emissions from 20% in 1990 to 29% in 2010[53,54]. Urban transport is responsible for about 23% of total CO_2 emissions from transport[55]. This is impacting the well-being of virtually all populations, including those living in cities.

[46] COM(2009)490, p2
[47] SEC(358) p141
[48] No data is publicly available for the urban congestion costs. The current estimate is based on the PRIMES-TREMOVE transport model.
[49] SEC(2011)358, pp. 13-14
[50] COWI (2013), Study to support an Impact Assessment of the UMP, act. 31 SUMPs, p40
[51] COWI (2013), Study to support an Impact Assessment of the UMP, act. 31 SUMPs, p42
[52] CARE database http://ec.europa.eu/transport/road_safety/specialist/statistics/index_en.htm
[53] Total CO2 emissions include international bunkers (aviation and maritime) but exclude combustion emissions from pipeline transportation, ground activities in airports and harbours, and off-road activities.
[54] European Commission, EU Transport in Figures, Statistical Pocketbook 2013
[55] No statistics are available for the share of CO2 emissions from urban transport. The current estimates are based on the PRIMES-TREMOVE transport model.

37. Many European cities[56] are plagued by air quality problems, with pollutant concentrations well above the limit values for PM_{10} and NO_2 set by EU legislation[57] for health protection reasons. Transport is a main source of PM_{10} and NO_x emissions (which contributes to ozone creation) and the emission of air pollutants in cities is particularly linked to road traffic exhaust. As such, air quality is also closely related to traffic congestion. Although emissions of air pollutants from road transport have declined since 1990, air quality is still an issue in cities across Europe. About 6-27 % of the urban population in the EU was potentially exposed to ambient nitrogen dioxide (NO_2) concentrations above the EU limit value set for the protection of human health (40 microgram NO_2/m^3 annual mean) between 2001-2010. Even a higher share, about 18-41 % of the urban population in the EU, was potentially exposed to ambient concentrations of particulate matter (PM_{10}) in excess of the EU limit value set for the protection of human health (50 microgram/m^3 daily mean not to be exceeded more than 35 days a calendar year) between 2001-2010 and there is no apparent trend over this period[58]. Obviously, air quality has a direct impact on health and therefore well-being.

38. Around 40 million people across the EU are exposed to noise levels above 50 decibel from roads within areas during the night.[59] The WHO night noise guidelines for Europe describe levels above 55 decibel during the night as increasingly dangerous to public health, increasing the risk for cardio-vascular diseases[60]. The external costs of noise in the EU amount to at least 0.35 % of its GDP and mostly due to road traffic. Urbanisation, growing demand for motorised transport and inefficient urban planning are described as the main driving forces for environmental noise exposure[61].

39. The above assessment of mobility and sustainability challenges has shown that many EU cities are far from having solved their urban mobility challenges and from achieving a healthy and effective environment for their citizens and businesses. The total costs linked to congestion, accidents, noise, air pollutions and CO_2 emissions impose a large burden on society as a whole. If no action is taken, it will continue to be a burden for future generations. The challenges are also endangering a more competitive and resource-efficient transport system, which is the key EU Transport White Paper objective. The future prosperity of the EU will depend on the ability of all its regions to remain fully and competitively integrated in the world economy. As most transport of goods and people starts and ends in a urban areas, connectivity within and between the regions often translates to connections among the main cities in and beyond the regions. Taking into account that the majority of population lives in urban areas, it becomes obvious that the efficiency of urban transport goes beyond the local level and affects mobility in general.

[56] DG Environment published on its website an updated list of Air Quality Zones (including urban agglomerations) related to the environmental objectives PM_{10} and NO_2: http://ec.europa.eu/environment/air/quality/legislation/pdf/PM10%202011_TEN.pdf, and http://ec.europa.eu/environment/air/quality/legislation/pdf/NO2%202011_TEN.pdf

[57] Directive 2008/50/EC

[58] EEA, 2012. Air quality in Europe — 2012 report

[59] COM (2011) 321, Report on the implementation of the Environmental Noise Directive

[60] http://www.euro.who.int/en/what-we-do/health-topics/environment-and-health/noise/publications

[61] COWI (2013), Study to support an Impact Assessment of the UMP, act. 31 SUMPs, p53

3.1.2. The lack of an integrated approach to urban mobility in many European urban areas

Given local specificities, planning cultures and experiences, different degrees of sophistication in urban mobility planning exist throughout Europe. However, the current urban mobility practices reveal many gaps with regard to elements that are necessary for achieving a true integrated urban mobility approach. In line with the view of a large majority of experts and stakeholders[62] and with evaluation experience from the ELTISplus and CIVITAS initiatives[63], the most successful urban areas have applied integrated approaches to tackle the multi-sectorial problems in policy-making linked to their transport system. Therefore the concept of an integrated urban mobility approach emerged. This integrated approach tries to address all challenges and complexities of urban transport system by ensuring adequate policy elements and governance principles in policy actions at city level (see Appendices 4, 5 and 6).

Based on agreed common elements of an integrated urban mobility approach from those previous EU initiatives, a "**benchmark integrated urban mobility concept**" has been developed through an extensive consultation process, both with stakeholders and experts[64]. The tables in Appendix 4 provide a justification of the elements included in the benchmark concept. It incorporates specific elements - on (a) policy elements and (b) processes and procedures - necessary to achieve well-being of citizens and effectiveness of businesses, and the EU objective of a competitive and resource efficient transport system. Those specific elements focus on the need to tackle the main urban challenges identified before (accessibility, congestion and seamless mobility along the TEN-T, traffic accidents, air and noise pollution, CO_2 emissions). On the geographical scope this "benchmark" concept covers all movements of goods and people to, from, through and within an urban area, being the urban agglomeration or functional city[65].

The elements identified for the **policy framework** for cities' policy making (cfr. problem driver 1 on policy issues) to ensure the effectiveness and coherence of an integrated approach are the following:

- address both freight and passenger transport
- address all transport modes
- address the following topics: public transport services, non-motorised transport, city logistics, mobility management, integration of transport modes (multi-modality), and the road network and motorised transport (including moving and stationary traffic)

40. The elements identified related to the **governance framework** (in terms of processes and procedures of cities' policymaking) (cfr. problem driver 2) are more fixed. The following can be considered:

- Contains pledge to sustainability (3 dimensions: economic, social and environmental)
- Includes or is built on long-term strategy
- Identifies objectives and sets targets in line with EU policies

[62] E.g. ELTISplus consultations, Rupprecht Consult ELTIsplus State of the Art report on Sustainable Urban Mobility Plans (September 2012)
[63] COWI (2013), Study to support an Impact Assessment of the UMP, act. 31 SUMPs, based on CIVITAS Guard evaluation 2010 and CIVITAS cities speaks out 2012, pp. 65-66
[64] COWI (2013), Study to support an Impact Assessment of the UMP, activity 31 SUMPs p103, COWI SUMP expert workshop report and minutes stakeholder meeting
[65] See footnote 41 on the definition of an urban agglomeration/functional city

- Provides short-term implementation plan (timetable + budget plan; allocation of responsibilities)
- Integrates different relevant policy areas, in particular land-use and transport planning
- Considers all transport to, through and within the urban agglomeration area and coordination between different authority levels
- Includes baseline analysis including performance audit
- Is developed in a participatory approach
- Includes impact assessment on proposed measures
- Is based on integrated planning and implementation
- Is formally adopted
- Foresee mechanisms for monitoring of implementation and performance
- Foresee mechanisms for review and update of plans
- Includes a conformity check on requirements

Based on the elements in the model benchmark concept on an integrated urban mobility approach, an assessment has been made of the current situation in the Member States. See table 1 (COWI, 2013). Appendix 4 provides an extensive justification for this assessment. An overall conclusion is that some European cities implement to a certain degree an integrated urban mobility approach, but that in most cases they do not reach the level of a full "benchmark" integrated urban mobility approach. Below some further illustrations of countries and specific elements are given:

Integrated urban mobility strategies have evolved in France and the UK where respectively the "Plans de Déplacements Urbains" (PDUs) and the Local Transport Plans (LTPs)[66] have been introduced. In these countries it has been concluded that the development of such integrated approaches – at least for the larger urban areas – is an important prerequisite for the achievement of policy objectives and targets. Competent authorities have been designated and charged with the development of these integrated strategies by national legislation. But even in these countries it appears that more needs to be done to develop more coordinated and integrated approaches with targeted policy actions[67].

In several other Member States (e.g. those who have last joined the EU), however, traditional (fragmented) urban mobility approaches persist or are only slowly evolving. They remain too limited in scope to address appropriately all the issues identified under the problem definition. Furthermore, their planning processes and procedures are not adequate to ensure a proper coordination of the actions deployed by different authorities. Apart from France and the UK the approaches in other countries do not always cover the whole urban agglomeration. Freight transport is less covered than passenger transport[68]. Cities in Member States that have last joined the EU are generally less advanced than in old Member States, although some cities undertake urban mobility approaches at a high level. According to experts and respondents to

[66] In the UK there is no common approach on LTP's. In England LTP's are legally defined. There are different arrangements applying to Wales, Scotland and Northern Ireland. Wales has a well-established transport planning framework (Transport Whales Act). Eltisplus State of the Art report 2012, p21

[67] COWI (2013), Study to support an Impact Assessment of the UMP, act. 31 SUMPs, p77

[68] In the public consultation around 67% of the registered respondents say that urban planning does not give sufficient attention to urban freight logistics. This fact was confirmed by various stakeholders at the meeting of 21 May. In a 2007 survey in Sweden on urban freight transport planning 65% of the respondents (32.4% of 290 municipalities) consider freight transport to be a problem in urban agglomerations (noise and safety in smaller cities and emissions in larger cities). However, few cities have one or more employees working more than 20% of their time on urban freight and 43% of all cities indicated they have no time at all to work on urban freight (Linholm (2013), Enabling sustainable development of urban freight from a local authority perspective, pp. 7-10).

the public consultation process insufficient coordination on urban mobility is a persisting problem.

Table 1: Assessment of current level of integrated urban mobility approach (IUMA) in EU 28[69]

Country	No of cities *	Population in cities	No IUMA	Low/ Medium IUMA	Medium/ High IUMA	Full IUMA
Austria	5	2,642,423	None	Some	Some	None
Belgium	7	2,306,490	None	Few	Many	None
Bulgaria	7	3,330,714	None	Many	None	None
Croatia	3	613,111	Some	Some	None	None
Cyprus	2	577,300	Few	Many	None	None
Czech Republic	6	2,227,034	Few	Many	Few	None
Denmark	4	1,597,610	None	Some	Some	None
Estonia	1	401,140	None	Many	None	None
Finland	8	1,848,032	Some	Some	Few	None
France	54	28,768,438	None	Few	Many	None
Germany	81	29,148,473	Few	Some	Some	None
Greece	7	4,408,762	Some	Some	None	None
Hungary	9	3,229,655	Few	Many	Few	None
Ireland	2	1,309,209	Some	None	Some	None
Italy	41	19,166,051	Few	Some	Some	None
Latvia	1	806,993	None	Many	None	None
Lithuania	4	1,198,585	Some	Some	Few	None
Luxemburg	1	143,697	None	Many	None	None
Malta	1	5,784	None	Many	None	None
Netherlands	20	8,338,566	Few	Some	Many	None
Poland	39	13,476,139	Few	Many	Few	None
Portugal	6	4,412,536	None	Many	Few	None
Romania	19	5,708,596	Some	Many	None	None
Slovakia	2	768,562	Some	Some	None	None
Slovenia	2	375,155	Some	None	Some	None
Spain	51	19,438,047	Few	Many	Few	None
Sweden	6	2,040,531	None	Some	Some	None
United Kingdom	66	29,808,427	None	Few	Many	None
Total	**455**	**188,096,060**	**Few**	**Some**	**Some**	**None**

Note: It cannot be excluded that few cities might have reached a level of approach that includes all benchmark elements and resembles a full IUMA

* Urban areas above 100,000 inhabitants

[69] COWI (2013), Study to support an Impact Assessment of the UMP, act. 31 SUMPs, p13

Example: cities' suboptimal approach to urban logistics

Although urban logistics makes up a relatively small share of urban traffic (e.g. 17% of all vehicle.km on London's roads in 2010[70]), they make a major contribution to the success of cities. It is clear that cities are places for the exchange of goods and information which are at the heart of our economy and way of life. For cities to be successful they need to optimise the exchange of goods and information while remaining attractive places to live and work.

But throughout Europe there are significant problems with the movement of goods in urban areas. Congestion has a negative impact on productivity and competitiveness of urban economies, causes inefficiencies in logistics operations and so increases costs. The costs of the 'first' and 'last mile' of supply chains are too high and present a barrier to growth in some sectors. Finally the environmental impacts of urban logistics operations can be high contributing to air and noise pollution, road damage and CO_2 emissions. Due to the proximity and density of people in urban areas the external costs of urban freight transport can be high.

While the technical knowledge to solve most of these problems is available, the root cause of the continued problem is the lack of understanding and political attention to urban logistics amongst national and local decision makers. While most people acknowledge the importance of the movement of goods and services to cities and the economy - "urban logistics" is very often neglected in the integrated urban mobility approach. In a survey of Swedish cities 43% did not spend any time working on freight transport issues despite 65% identifying freight transport as a problem[71].

3.1.3. The link between the urban mobility challenges endangering the well-being of citizens and effectiveness of businesses & the lack of an integrated urban mobility approach

To substantiate the main problem identified for this initiative it is necessary to link it to the lack of an integrated approach to urban mobility in many European cities.

Ideally, this should be demonstrated by a clear statistical correlation: cities with a good tradition in relation to integrated urban mobility approaches would have to score better in relation to congestion and accessibility, seamless mobility along the TEN-T, traffic accidents on urban roads, air pollution, CO_2 emissions and noise pollution, and vice versa for cities without an integrated urban mobility approach. However, several other factors impede the trustworthiness of such a linear link (COWI, 2013). First of all, urban issues such as congestion and accessibility, road safety, air pollution, CO_2 emissions and noise pollution are influenced by many other factors and policy initiatives. As such, singling out the impact of one influencing factor – an integrated urban mobility approach – would be problematic. Moreover, other elements could impede a clear statistical correlation, such as the lack of historical recorded data that can show long term trends, the time lag between the initiation of an integrated planning approach and the possible resulting outcome, certain planned measures might not have been implemented, the more advanced integrated urban mobility approaches

[70] Transport for London (29 June 2012), London freight data report 2012 update, http://www.tfl.gov.uk/microsites/freight/documents/london-freight-data-report-2012.pdf

[71] "Assessing knowledge and awareness of the sustainable urban freight transport among Swedish local authority policy planners" – Maria Lindholm and Magnus Blinge, 2006

are only recently being implemented and therefore it is still too early to draw conclusions from it. Even more important is the fact that different cities all have a different starting point. Certain cities might historically have suffered heavily from congestion, accessibility problems, CO_2 emission and noise pollution. Although the implementation of a true integrated urban mobility approach might have significantly improved their situation, these cities might still be worse off than other cities which because of historical developments encountered much less problems with congestion, accessibility problems, and environmental pollution. It could be that these historically better performing cities in relation to the European objectives might not have a very well developed integrated urban mobility tradition. This difficulty in demonstrating a clear causal linkage is furthermore hampered by the fact that the effectiveness of an integrated urban mobility approach also depends on its implementation, i.e. the actual measures that are put in place. An in theory perfectly integrated urban mobility approach, could due to implementation failure nevertheless not generate the desired results.

For all these reasons, it is not possible to demonstrate a 100% clear linkage between the well-being of citizens and effectiveness of businesses issue and the existence of a true integrated urban mobility approach. However, based on anecdotal evidence and the view of experts, this link can nevertheless be substantiated by providing strong indications of the benefits of an integrated urban mobility approach. This is done in Appendix 11 by the elaboration of case studies of good and mixed practice on integrated urban mobility approaches, in combination with the opinion of relevant experts.

The main conclusion that can be drawn from those case studies is that the examples of good practice show that the implementation of packages of interlinked and coherent measures through an integrated urban mobility approach contribute towards achieving specific EU targets on road safety and air quality, helps reducing congestion, and leads to cost savings. Thus, they contribute to more well-being for citizens and more effectiveness for businesses. The Vienna example also demonstrates that urban congestion was not efficiently tackled due to a lack of an integrated approach in the beginning, but new transport plans and the implementation of future-oriented measures including both urban and regional aspects have compensated the adverse effects.

3.2. Stakeholders points of view on the problem

41. In 2008 the European Parliament called it essential to adopt a new approach to strategic planning for urban areas in order to anticipate the coming environmental, energy and mobility challenges, and considered it necessary for urban development and planning to be carried out on an integrated basis[72]. At the high level conference on urban mobility in September 2012 representatives from the Committee of the Regions and the European Parliament raised the importance of a holistic and comprehensive approach for urban mobility. In 2010 the Council encouraged the coordination of transport infrastructure and service planning with town and country planning, including land use planning; and recognised that local and regional transport infrastructures should be improved and properly interconnected with national long-distance networks and the TEN-T Network[73].

42. In the Review of the Action Plan on Urban Mobility stakeholders only regard the current EU approach on integrated urban mobility as a first step. Continuation of

[72] European Parliament resolution of 9 July 2008 on 'Towards a new culture of urban mobility' 2008/2041(INI), pp. 3-4

[73] Council Conclusions of 24 June 2010 on the Action Plan on Urban Mobility, p3

support by the EU in the exchange of best practice and knowledge, as well as through the development of guidelines is strongly welcomed to improve awareness, knowledge and the quality of data. Furthermore, stakeholders feel that the integration of various policy sectors within these plans should be strengthened[74].

The results of the public consultation on the urban dimension of EU transport policy show that there is a strong wish amongst stakeholders to see an integrated urban mobility scheme, and a more pronounced involvement of the European Union. 87% of the registered participants believe that there is a lack of coordination between authorities and other actors in the use of various policy instruments[75]. This support is valid for all categories of stakeholders (e.g. civil society, local and regional public authorities, companies), although the number of respondents may not always be representative enough for some of those categories.

3.3. Who is affected, in what ways, and to what extent

43. Local and regional authorities are affected as they currently develop less cost-effective solutions with unnecessarily high costs and/or inconsistency with EU policy targets or legislation.

44. Local, regional and national authorities, transport operators and users, and businesses are affected by congestion leading to less accessibility of/within cities, unpredictable and longer travel times and higher costs due to lost time and inefficiencies.

45. As a consequence of inappropriate planning approaches, businesses have fewer opportunities to develop innovative transport and mobility technologies and services and less 'economies of scale' and export opportunities.

46. Tax payers are affected due the development and implementation of a less coordinated and targeted combination of measures including unnecessarily high costs.

47. EU citizens in general are affected due to the impact on their health of air quality pollutant concentrations well above the limit values set by EU legislation, of high urban traffic noise levels, and of serious traffic accidents in urban areas.

3.4. The baseline scenario

This section describes how the problem will evolve, if no additional policy action is taken. First it will be assessed what legislation is already in place and how the approach of cities towards integrated urban mobility will evolve. Third, urban developments and trends at unchanged policy will be analysed.

3.4.1. Existing legislation

48. Legislation that is already in place for making urban mobility more competitive and sustainable and mitigating its negative impacts is:

49. 1) For reducing CO_2 emissions, the EU has established CO_2 performance requirements for passenger cars and light commercial vehicles[76]. It has also put in

[74] Panteia/NEA (2013), Review of the Action Plan on Urban Mobility
[75] COWI (2013), Results of the public consultation 'The urban dimension of the EU transport policy', p21
[76] Regulation 443/2009/EC and Regulation 510/2011/EC

place rules for clean public procurement through the Clean Vehicles Directive[77]. The effects are however difficult to measure as there are many other drivers behind CO_2 emissions than the performance of the vehicles' engines (for example heating of houses and offices is another important driver).

2) The EU has also implemented a Trans-European Transport Network (TEN-T) policy aimed at connecting European cities while taking transit traffic out of urban centres. This is also leading to a gradual improvement of especially congestion in urban areas, although this is often counter-balanced by an increase in traffic due to the ever increasing concentration of population and business activities in urban areas.

3) Recently, the Commission has proposed a Directive for the development of the refuelling infrastructure for alternative, cleaner fuels[78], the development of which is particularly beneficial to urban areas.

50. 4) EU legislation on noise[79] also seeks to protect EU citizens especially in built-up areas, in public parks or other quiet areas in areas. However, many urban areas still do not succeed to be at or below the maximum daily noise levels while 90% of the noise is caused by road traffic.

5) EU legislation on air quality[80] seeks to protect EU citizens from harmful exposure to air-borne pollutants and particulate matter. But a large proportion of urban areas, more than 30%, do not succeed to comply with the legislation while road-traffic related emissions are the main cause of poor air quality.

3.4.2. Autonomous developments towards an integrated urban mobility approach

51. As demonstrated above, until now relatively few European countries and their cities have developed a true integrated urban mobility approach. Several factors will influence the current state of play, even if no additional policy action is taken, and will act as drivers or barriers of the uptake of a true integrated urban mobility approach.

Based on the assessment of the effects of the overall economic situation, existing EU legislation and policies, EU support programmes and other initiatives, and considering other drivers and barriers for improved coordination and targeted policy actions an overall estimate of the baseline level can be developed[81].

As developed in section 1.3, existing European policy in relation to integrated urban mobility is essentially focused on 1) Exchange of best practice (ELTISplus website, mobility plans website), 2) Awareness raising on sustainable urban mobility, 3) Research and Development on sustainable urban mobility (CIVITAS programme) and 4) Funding for the development and deployment of sustainable urban mobility measures and plans. It is expected that those activities will contribute to the increase in the spontaneous development and implementation of SUMPs, leading by 2030 to approximately 65% of the EU urban areas having a SUMP of

[77] Directive 2009/33/EC
[78] See http://ec.europa.eu/transport/themes/urban/cpt/index_en.htm)
[79] Directive 2002/49/EC
[80] Directive 2008/50/EC
[81] COWI (2013), Study to support an Impact Assessment on the UMP act. 31 SUMPs , pp. 112-122

medium/high quality (COWI, 2013, see table 2 below). However, this is only a very gradual increase and the level of quality and therefore effectiveness would not be optimal.

Also, as developed under section 3.4.1, exiting EU legislation is also brining a gradual improvement in certain areas such as emissions and noise levels. However, it is unrealistic to realise the necessary step-change with the current EU activities and legislation alone.

With regard to the overall economic situation, it is likely that the economic downturn will slow down the transition towards more integrated urban mobility due to budgetary constraints, both for the development of an integrated mobility approach, as for its implementation. However, even in case of lower economic growth, transport demand is expected to increase, making the urban transport challenges and therefore the need for achieving sustainable urban mobility even more pressing, possibly resulting in a higher uptake of integrated urban mobility approaches. It is likely that the legislation on air quality and noise will lead to specific action plans and measures on road traffic and congestion reduction. The targets and (voluntary) initiatives related to CO_2 reduction are also likely to lead to specific action plans and measures on energy savings and CO_2. The same applies for road safety targets and related plans and measures.

The impact of all these specific plans and measures on coordination towards an integrated mobility approach remains uncertain. Other factors could further influence this process. Cities might compete about being attractive cities and might therefore be keener to improve their transport system in a sustainable way. Access to (national) co-funding could be another driver towards a more integrated approach. However, planning traditions and a lack of knowledge might go against this trend. Existing EU and national support programmes on integrated urban mobility might to some extent mitigate and counter some of these barriers.

From this analysis it is clear that certain developments point towards a future increased take-up of integrated urban mobility approaches, but that the other factors mentioned above could mitigate this effect[82]. On this basis COWI (2013) has developed a baseline scenario. The results can be found in table 2. They build on the same categorisation as used in table 1, and as further explained in appendix 4[83]. This baseline assessment is based on the assumption that more cities will develop some form of integrated urban mobility approach, but will not go all the way towards the "benchmark" integrated urban mobility approach. It is assumed that the percentage of cities without any form of integrated urban mobility approach will decrease, as these cities are assumed to move towards a more integrated approach and consequently move into the low or medium category in table 1. Moreover, it is assumed that certain cities that were up to now underperforming will improve the quality of their current practices and will therefore develop integrated urban mobility approaches of medium to high quality. However, it needs to be noted that the baseline scenario, as developed by COWI (2013) can serve as estimation only. Exact, quantified and historical data on the uptake of integrated urban mobility approaches are lacking, and as such no clear trends for the future could be identified. The estimations as presented in table 2 are therefore to be interpreted as a possible evolution in the future, representing an expert view, based on extensive literature review and consultation with experts and stakeholders.

[82] Ibidem,

[83] In the previous section, the current use of an integrated urban mobility approach was estimated using four different categories where the "full" integrated urban mobility approach was defined as the "benchmark integrated urban mobility approach", encompassing all the necessary requirements for reducing the risk of not achieving the key EU policy objective towards a more competitive and resource-efficient transport system.

Table 2: Estimation on the uptake of integrated urban mobility approaches (IUMA) in Europe (COWI, 2013), baseline year 2030

	No of cities*	Population in cities in million	No IUMA	Low/ Medium IUMA	Medium/ High IUMA	Full IUMA
Current situation	455	188	Few	Some	Some	None
Current situation	455	188	10-15%	30-35%	50-55%	0%
Baseline	455	188	0-5%	30-35%	60-65%	0%

Note: See table 1 and appendix 4 for more information on the classification of IUMAs

3.4.3. Urban developments and trends

52. The Commission services have carried out a modelling analysis of possible future developments in a scenario at unchanged policies, the so-called baseline scenario. The 'Reference scenario' is a projection of developments in the absence of new policies beyond those adopted by March 2010. This 'Reference scenario' was used in the impact assessments accompanying the White Paper on Transport[84], the Roadmap for moving to a competitive low carbon economy in 2050[85], and the Energy Roadmap 2050[86].

In order to take into account the most recent developments, such as higher energy prices and additional policies on infrastructure and energy taxation adopted by November 2011, an additional scenario (Scenario 1) has been modelled to serve as a business-as-usual scenario for the present impact assessment. Scenario 1 builds on a modelling framework including the PRIMES energy model and its transport model (PRIMES-TREMOVE)[87], the PROMETHEUS and GEM-E3 models[88]. A detailed elaboration of the baseline scenario, the methodology and the assumptions used is provided in Appendix 3. Below a summary is given of the resulting urban developments and trends.

Demographic trends in the EU point towards increasing urbanisation and an ageing population, which will have an impact on the requirements on urban mobility and transport, especially regarding the mobility needs of elderly people. The proportion of the EU population residing in predominantly and intermediate urban areas, currently around 76%[89], is expected to increase by about 5 percentage points by 2030 and an additional 5 percentage points by 2050[90]. Furthermore, elderly people aged 65 years and over would represent about

[84] SEC(2011) 358 final
[85] SEC(2011) 288 final
[86] SEC(2011) 1565/2
[87] See Annex 3 for more information. A model description is available at: http://www.e3mlab.ntua.gr/e3mlab/PRIMES%20Manual/The_PRIMES_MODEL_2010.pdf
[88] See Annex 3 for more information. A model description is available at: http://147.102.23.135/e3mlab/index.php?option=com_content&view=section&id=8&Itemid=56&lang=en
[89] About 41% of the EU population lives in predominantly urban regions, 35% in intermediate regions and 23% in rural regions according to Eurostat NewsRelease 5/12 (March 2012), available at: http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/1-30032012-BP/EN/1-30032012-BP-EN.PDF
[90] United Nations, Department of Economic and Social Affairs/Population Division (2011), World urbanisation prospects - The 2011 revision, http://esa.un.org/unpd/wup/index.htm

29% of the EU-27 population by 2050[91]. The share of services in economic activity is expected to increase to 76% by 2050 and continue to drive the urbanisation in the EU.

Overall, at EU level, urban transport activity is expected to continue growing in line with the economic activity in the long-run. Passenger transport would increase by 27% between 2010 and 2030, and an additional 11% by 2050. Freight transport is projected to grow by 28% by 2030 and an additional 15% between 2030 and 2050. Transport demand and modal choice differ widely between European cities, and depend to a large extent on urban design and infrastructure but may be also influenced by other factors such as income, family size and structure, employment, speed, culture and behaviour. Passenger cars transport activity in urban areas is projected to increase by about 39% between 2010 and 2050, at higher rate than in the inter-urban area (about 32% during the same time period). Passenger cars would maintain their dominant role in urban transport.

Transport accounts today for over 30% of final energy consumption and urban transport provides almost 30% of the transport sector final energy consumption. In the context of growing demand for transport, energy demand by transport in urban areas is projected to decrease by about 7% by 2030 and an additional 8% by 2050. The improvements in specific fuel consumption are mainly driven by the implementation of the Regulations setting emission performance standards for new passenger cars and vans[92] and by the increasing fossil fuel prices for heavy duty vehicles[93]. The costs of congestion in urban areas of the EU are projected to increase by almost 40% by 2030 and by over 65% by 2050. By 2050, the external cost of accidents associated with urban transport would increase by some 40%.

Overall, total CO_2 emissions from transport would still be 31% higher than their 1990 level by 2020, and 23% higher by 2050 owing to the fast rise in the transport emissions during the 1990s. At EU level, urban transport is responsible for about 23% of total CO_2 emissions from transport[94,95]. CO_2 emissions from passenger transport services at urban level are projected to decrease by about 39% by 2050, while CO_2 emissions from road freight would increase by almost 5%. Overall, urban transport CO_2 emissions would shrink by about 16% by 2030 and by about 25% by 2050 both compared to 2010 levels, mainly due to the Regulation setting emission performance standards for new passenger cars. The use of renewable energy sources would play a more limited role in Scenario 1 by 2050[96].

53. An important share of EU's urban population is exposed to air pollution concentration exceeding the EU air quality limits[97,98]. The NO_x emissions and PM

[91] SEC(2011) 358 final

[92] Regulation (EC) 433/2009 and Regulation (EU) 510/2011

[93] Fuel costs represent a relative important share of operational costs and thus HDVs manufacturers have the minimisation of these costs among their main objectives, achieved by improvements in technology related i.e. to vehicle design, vehicle powertrain, etc.

[94] Total CO2 emissions include international bunkers (aviation and maritime) but exclude combustion emissions from pipeline transportation, ground activities in airports and harbours, and off-road activities.

[95] No statistics are available for the share of CO2 emissions from urban transport. The current estimates are based on the PRIMES-TREMOVE transport model.

[96] Renewable energy sources would cover 10% of the energy needs of transport by 2020, reflecting the implementation of the Renewables Directive (Directive 2009/28/EC).

[97] About 6-27 % of the urban population in the EU was potentially exposed to ambient nitrogen dioxide (NO2) concentrations above the EU limit value set for the protection of human health (40 microgram NO2/m3 annual mean) between 2001-2010. Even a higher share, about 18-41 % of the urban population in the EU was potentially exposed to ambient concentrations of particulate matter (PM10) in excess of the EU limit value set for the protection of human health (50 microgram/m3 daily mean not to be exceeded more than 35 days a calendar year) between 2001-2010 (Source: EEA, 2012. Air quality in Europe — 2012 report).

attributed to urban transport are projected to drop by 70% between 2010 and 2050, driven mainly by the reductions in the permissible EURO standards emission limits for type approval of new cars and heavy duty vehicles. However, the expected magnitude of the decline may be reduced by higher real world emissions and slower turn-over rates of the vehicle fleet than expected, in particular in the period up until 2020.

About half of the citizens in the EU-15 are estimated to live in areas which do not ensure acoustical comfort for residents. Increasing traffic volumes in absence of additional policies may exacerbate the existing problems. Noise-related external costs for urban transport are projected to increase by about 26% by 2030 and an additional 8% by 2050.

3.5. The EU's right to act

54. The right for the EU to act in the field of transport is set out in Articles 90-91 of the TFEU, in Title VI, which makes provisions for the Common Transport Policy, and in Articles 170-171 of the TFEU, Title XVI on the trans-European networks[99]. According to Articles 90-91 of the TFEU, the Common Transport Policy needs to contribute to the broader objectives of the Treaties. Its main objectives are to complete the internal market for transport, ensure sustainable development, improve road safety and promote a better territorial cohesion and integrated spatial planning. In the present case on urban mobility the subsidiarity principle, as set out in Article 5 (3) of the Treaty on the European Union, has to be respected. This involves assessing two aspects: the problem cannot be solved in an optimum way by Member States alone (the necessity test) and the objectives can be better achieved at EU level (the added value test)[100].

55. The necessity to take action at EU level on urban mobility is linked to the fact that urban transport systems are integral elements of the European transport system and therefore also of concern for the Common Transport Policy[101]. Consumers, citizens and transport users are interested in pan-European mobility, as emphasised by the TEN-T policy. As most transport of goods and people starts and ends in a city, the urban dimension linked to the TEN-T cannot be neglected. No action by the EU in this field, or inconsistent actions of individual Member States, could lead to sub-optimal solutions. As a consequence the smooth functioning of the internal market and fluid mobility within the EU could be hampered[102]. The TEN-T chain is only as strong as its weakest point: the efficiency of urban transport is essential to achieve a seamless mobility along the TEN-T.

56. Urban congestion and poor accessibility affects enterprises situated or operating in urban areas, both enterprises within a Member State as from other Member States.

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[98] A technical report from the EEA in 2006 projected that in 2030 the annual limit value for NO2 (Directive 1999/30/EC) would only be met in a few of the 20 European cities investigated (Source: EEA, Air pollution at street level in European cities, Technical report 01/2006).

[99] Urban mobility and transport cover a wider domain than transport alone. The Commission can therefore also make specific proposals on the basis of articles other than Articles 90-91 and Articles 170-171. For example Article 192 of the TFEU also provides a legal basis for addressing the environmental sustainability of the transport system, including measures affecting town and country planning.

[100] See in this respect the Impact Assessment accompanying the Action Plan on Urban Mobility (COM(2009)490 and SEC(2009)1212 Annex IV: The EU's right to act, pp. 73-75

[101] SEC(2011)358, p24

[102] SEC(2011)358, pp. 25-26, and see also SEC(2009)1212, p74

Businesses locate in urban areas to have easy accessibility to services and resources. Congestion reduces this accessibility and increases costs, thereby reducing the attractiveness of the location and the business opportunities. Furthermore, increasing integration of the value chains and cooperation among European enterprises can be reinforced by the smooth functioning of transport infrastructure and services in urban areas. Some cities are important transport and logistics hubs and sub-optimal functioning of their urban transport systems can also negatively affect the competitiveness of enterprises located outside of them, even abroad.

57. Urban transport has a large influence on the achievement of EU-wide goals, such as on resource efficiency and reduction of oil dependency. Urban transport accounts for around 23% of transport emissions[103] and there is a lot of untapped potential at urban level to improve the efficiency in this respect. Besides, the problem of CO_2 emissions from road traffic in urban areas is critical for the EU climate change policy and has a clear transnational dimension. Some of the new technologies aiming at reduction of oil dependency (e.g. electric vehicles) are most economically justified in urban areas, so their deployment could not be successful without focus on measures and incentives at urban level.

58. Finally, urban traffic results in around 40 million people across the EU being exposed to noise levels above 50 decibel during the night[104]. This is in contrast to the EU goals in this field. Thus, the measures aimed at increasing road safety in the EU need to address the fact that with the increasing traffic volumes, the risk of serious road traffic accidents could rise in EU urban areas. Although currently road safety figures are improving the EU targets have not yet been met.

59. It is therefore important for the achievement of those EU-wide goals that urban areas have access to the necessary tools that will contribute to the achievement of those goals.

EU action can bring value added by providing a more coordinated policy framework to the European cities for their integrated urban mobility planning, thus making their actions more effective. The current initiatives at the local and Member States level have led to mixed results. Local authorities, which are the most competent to address the identified problems, slowly discover the benefits of an integrated approach to urban mobility planning but often do not cover all elements crucial from the EU perspective in their policies. The Member States also give different prioritisation and incentives to cities to address urban mobility challenges, what also contributes to suboptimal and insufficient efforts in urban areas.

60. Considering its overreaching position, the EU can give a clear political message (whether through recommendations or legislation) that should translate into stronger political will at national, regional and local level. Thanks to its scale, action at EU level also has the potential to leverage greater results and magnify the efforts in domains such as dissemination of information and knowledge, expansion of the knowledge base, capacity building, practical guidance and support to authorities, networking, research, and exchanges of best practice in the area of promoting integrated urban mobility approaches. This will avoid duplication of work and fragmentation of resources and allow decision-makers to benefit from the broadest, most diverse experience possible. There is also clear added value in action at EU

[103] Current estimates based on the PRIMES-TREMOVE transport model
[104] COM (2011)321

level on information and data collection and monitoring[105]. In the field of urban mobility and 'integrated approaches' the EU already supports various initiatives in the Member States (see section 1.3 Existing European intiatives).

61. Up until now, action at EU level has focused on the voluntary sharing of best practices and on funding. Progress has been made, but the current approach only benefits cities that are already convinced by the advantages of sustainable urban mobility and are spontaneously seeking support. There is a clear opportunity for a step-change in order to give as many cities as possible an incentive and the tools to implement sustainable urban mobility planning.

As a consequence of this initiative urban mobility policies should be implemented in a more consistent way, be more cost-effective and – especially – be more effective at increasing the well-being of citizens and the effectiveness of businesses. They will also be more fit to meet local, national and EU policy targets and comply with relevant EU legislation. In addition, the coordinated EU action will be more effective in ensuring free flow of goods and people and a seamless mobility along the TEN-T (Article 36 of the revised draft TEN-T Guidelines[106] identifies clear priorities in the development of the urban nodes of the comprehensive network).

This initiative will help to even out geographical imbalances between higher performing Member States such as France and the UK and lower performing Member States, will give Member States more leverage with local actors and will create peer pressure among Member States to act.

62. The current initiative gives a lot of consideration to local circumstances and refrains from imposing arbitrarily specific measures on cities. It will be directed towards supporting national authorities with a framework on an integrated urban mobility approach, in full respect of subsidiarity and of different organisational structures at the local level.

4. OBJECTIVES

4.1. General, specific and operational objectives

63. The general objective of this initiative is *to unlock the full potential of urban areas* to contribute to a more competitive and resource-efficient transport system. This general objective can be translated into a specific objective, which is to *ensure the uptake of an integrated urban mobility approach* by EU urban areas. The specific objective can be translated into two operational objectives:

- To provide EU urban areas with a *policy framework* encompassing all policy issues necessary to ensure an integrated approach to urban mobility, at the latest by 2020.

- To provide EU urban areas with a *governance framework* encompassing all procedures and processes necessary to ensure an integrated approach to urban mobility, at the latest by 2020.

[105] SEC(2011)358, p. 26, and see also SEC(2009)1212, p74-75
[106] http://ec.europa.eu/transport/themes/infrastructure/revision-t_en.htm

The operational objectives have been limited to what could realistically be aimed at with this initiative at EU level. It aims at providing urban areas the tools (a policy framework and a governance framework) that are instrumental in achieving a competitive and resource-efficient transport system. The indirect derived impacts at city level, i.e. the achievement/improvement on certain targets (such as road safety, congestion, noise, CO_2 emissions) have not been retained as operational objectives in line with the subsidiarity principle. As already demonstrated in section 3.1.3, this is also because a clear statistical correlation between an integrated urban mobility approach and these targets at city level cannot be provided. Moreover, common indicators on urban mobility performance are lacking[107]. Consequently no realistic targets/objectives of this kind could be set for the urban areas or for the aggregated EU level. Therefore, it was considered not appropriate to introduce more specific and measurable operational objectives.

4.2. Mapping problems and objectives

Table 3: Linking the identified problem, its drivers and the objectives

<table>
<tr><td>Problem

The EU objectives crucial for a competitive and sustainable transport system - i.e. seamless mobility along the TEN-T, improved road safety, reduced CO2 emissions and noise pollution, and improved air quality - are at risk because of transport developments in urban areas. This consequently negatively affects the well-being of citizens and effectiveness of businesses located in urban areas.</td><td>General objective

To unlock the full potential of urban areas to contribute to a more competitive and resource-efficient transport system</td><td></td></tr>
<tr><td>Problem driver 1

Policy making in many European urban areas often fails to address all policy issues necessary to ensure an integrated approach to urban mobility</td><td rowspan="2">Specific objective

To ensure the uptake of an integrated urban mobility approach by EU urban areas</td><td>Operational objective 1

Provide EU urban areas with and stimulate the uptake of a policy framework encompassing all policy issues necessary to ensure an integrated approach to urban mobility, at the latest by 2020</td></tr>
<tr><td>Problem driver 2

Procedures and processes in many European urban areas are often inadequate to ensure an integrated approach to urban mobility</td><td>Operational objective 2

Provide EU urban areas with and stimulate the uptake of a governance framework encompassing all procedures and processes necessary to ensure an integrated approach to urban mobility, at the latest by 2020</td></tr>
</table>

4.3. Consistency with horizontal objectives of the EU

64. The Europe 2020 strategy, the Single Market Act and the Sustainable Development Strategy have set the scene for the transport sector. The Europe 2020 Strategy, under

[107] As confirmed by the "Study on harmonised collection of European data and statistics in the field of urban transport and mobility (2013 – SADL KU LEUVEN and UITP)"

the Flagship initiative 'A resource efficient Europe', aims at supporting the shift towards a resource efficient and low carbon economy through the reduction of CO_2 emissions, the improvement of energy efficiency, as well as through increased competitiveness. In the strategy the need is stressed to focus also on the urban dimension of transport. The policy objectives set out above work towards the aims of the above-mentioned initiative. These objectives are also consistent with other objectives defined in priority areas of the Europe 2020 strategy such as innovation, high employment, and social and territorial cohesion.

65. The policy objectives listed above will address congestion and pollution within cities, creating opportunities for more efficient urban transport networks, skilled jobs and more markets for smart and clean technologies, which are in line with the ambition to create a stronger, deeper and extended Single Market as set out in the Single Market Act[108].

66. The overall objective of the Sustainable Development Strategy[109] on sustainable transport is "to ensure that our transport systems meet society's economic, social and environmental needs whilst minimising their undesirable impacts on the economy, society and the environment". The related operational objectives are: achieving sustainable levels of transport energy use and reducing transport CO_2 emissions; reducing pollutant emissions from transport to levels that minimise impacts on human health and/or the environment; reducing transport noise both at source and through mitigation measures to ensure overall exposure levels minimise impacts on human health; and increasing road safety by improving road infrastructure, encouraging road users to be more responsible and by making vehicles safer.

5. POLICY OPTIONS

5.1. Description of the retained policy options

67. The public consultation, the expert and stakeholder meetings, independent research, experiences from past initiatives (e.g. CIVITAS, ELTISplus) and own analysis have allowed the Commission services to identify a set of policy options having the potential to reach the identified key EU Transport White Paper objective. The following process was applied for establishing the policy options:

1. STEP 1 AND 2: A set of elements for the policy and governance framework for urban areas (=step 1) tackling problem driver 1 and 2, and possible instruments at EU level (=step 2) have been identified to address the identified problem. Moreover, all items presented in step 1 and 2 are pre-screened and checked for feasibility, and discarded where appropriate.

1. STEP 3: The retained elements for the policy and governance framework and instruments at EU level have been combined into policy options constituting viable and coherent policy alternatives for achieving the overall objective. Where appropriate, certain combinations have been discarded after a first assessment.

[108] COM(2011)206
[109] COM(2005)658

The details of this 3-step process are given in Appendix 12. The results, i.e. the retained policy options, are presented below.

5.1.1. Option 0B: Business as usual scenario (comprehensive policy framework, minimum governance framework)

3. The EU would support a bottom-up approach (the business-as-usual scenario) to promote integrated urban mobility planning. The Commission would continue present activities, such as:

- Funding for development of SUMPs and deployment of Sustainable Urban Mobility measures[110];
- Supporting Research and Development on SUMPs;
- Facilitating the development and sharing of best practice examples; e.g. by providing European urban areas with a platform for exchange and cooperation (e.g. through the website www.mobilityplans.eu);
- Raising awareness on sustainable urban mobility;
- Supporting local capacity building;
- Setting up an urban mobility observatory.

In this approach, the Commission would further stimulate by its activities the uptake of SUMPs, with an emphasis on a comprehensive policy framework and a minimum governance framework. See section 5.1.2 for a description of these policy and governance frameworks.

5.1.2. Option 1B: Non-binding recommendation on SUMPs (comprehensive policy framework, minimum governance framework)

4. The EU would seek to enhance voluntary development and implementation of SUMPs by the competent authorities in the Member States by providing recommendations on this topic. The recommendations will encourage Member States to set up national policy frameworks to encourage the development and implementation of SUMPs in their urban areas.

The recommendations would promote a comprehensive policy framework on SUMPs which encompasses the following elements:

- both freight and passenger transport
- all transport modes
- the following topics: public transport services, non-motorised transport, city logistics, mobility management, integration of transport modes (multi-modality), the road network and motorised transport (including moving and stationary traffic)
- the assessment of the introduction of the following 'promising' instruments: low emission zones and urban pricing (urban road user charging/congestion charging, parking pricing and public transport pricing)
- the assessment of the introduction of clean technologies and alternative fuels
- interoperability and/or consistency in use of instruments across the EU

[110] In the future programming period the European Regional Development Fund and the Cohesion Fund would be able to support financially the development of SUMPs, stemming a thorough analysis of the urban environment, as well as support networking and exchange on urban planning practices to relieve congestion and/or reduce carbon and other pollutant emissions from transport.

With regard to the governance framework for SUMPs, the recommendations would promote the following minimum requirements:

- Contains pledge to sustainability (three dimensions: economic, social and environmental)
- Includes or is built on long-term strategy
- Provides short-term implementation plan (timetable + budget plan; allocation of responsibilities)
- Integrates different relevant policy areas, in particular land-use and transport planning
- Considers all transport to, through and within the urban agglomeration area and coordination between different authority levels
- Includes baseline analysis including performance audit
- Is developed in a participatory approach
- Includes impact assessment on proposed measures
- Is based on integrated planning and implementation
- Is formally adopted
- Identifies objectives and sets targets in line with EU policy objectives
- Foresee mechanisms for monitoring in the MS
- Foresee mechanisms for review in the MS
- Conformity check on requirements in the MS

5.1.3. Option 2A: Mandatory development of SUMPs by Member States-defined urban areas (minimum policy and governance framework)

5. The EU would make mandatory the development and implementation of SUMPs by the competent authorities in the Member States for certain urban areas categories. In option 2A the Member States need to freely define themselves the urban areas (e.g. based on population size) for which they esteem a mandatory development and implementation of SUMPs necessary to reach the goal of this initiative. This mandatory approach would only cover the minimum requirements, both for the policy and the governance framework.

The minimum requirements for the policy framework include:

- both freight and passenger transport
- all transport modes
- the following topics: public transport services, non-motorised transport, city logistics, mobility management, integration of transport modes (multi-modality), the road network and motorised transport (including moving and stationary traffic)

The minimum requirements related to the governance framework are those as identified in section 5.1.2.

6. This mandatory EU level framework would by nature have to take the form of a legal instrument. As to respect the subsidiarity principle and as to take into account the different situation in cities and Member States, a Directive - and not a Regulation – would be the appropriate instrument in this case.

5.1.4. Option 3A: Mandatory development of SUMPs by EU-defined urban areas (minimum policy and governance framework)

7. The EU would make mandatory the development and implementation of SUMPs by the competent authorities in the Member States for certain urban areas categories. In option 3A the EU level defines the urban areas for which a SUMP needs to be developed and implemented (e.g. based on population size).

8. This mandatory approach would only cover the minimum requirements, both for the policy and the governance framework, as described in section 5.1.3 above. For the same reasons as for option 2A, option 3A would take the form of a Directive.

5.1.5. Schematic overview of the retained policy options and implementation

The table below provides a schematic overview of the retained policy options.

Table 4: Retained policy options

(for all options: governance framework: minimum)	**A** **Policy framework MINIMUM**	**B** **Policy framework COMPREHENSIVE**
0) Business as usual: R&D, funding, best practice, campaigns, local capacity building	N/A	**Option 0B**
1) Non-binding recommendation on SUMPs	N/A	**Option 1B**
Make mandatory the development and implementation of SUMPs:		
2) Member States need to define themselves the urban areas (e.g. based on population size) for which a SUMP needs to be developed and implemented	**Option 2A**	**N/A**
3) The EU level defines the urban areas for which a SUMP needs to be developed and implemented (e.g. based on population size)	**Option 3A**	**N/A**

As far as implementation at city level is concerned, the success of introducing a SUMP will to a large extent depend on local circumstances and characteristics. This initiative is striving to maximise the rate and level of success by providing relevant guidelines based on best practice both regarding the scope or content of a SUMP and the process by which it should be developed and implemented. Remaining implementation issues will be dealt with through the information and support tools the EU is offering such as the upcoming European Platform on Sustainable Urban Mobility Plans, and through those the Member States are or will be offering.

5.2. Stakeholders points of view on the retained policy options

9. In 2008 the European Parliament called for the development of an integrated approach to urban mobility, giving a clear stimulus to cities and urban areas to establish SUMPs. The Parliament called for examination how to link these plans to EU co-financing of transport projects in cities over 100,000 inhabitants and to EU legislation, decisions and targets on the reduction of accidents, CO_2 emissions, air pollutants and noise[111]. In 2010 the Council supported the development of SUMPs

[111] European Parliament resolution 9 July 2008 'Towards a new culture of urban mobility' 2008/2041(INI), p4

for cities and metropolitan areas and encouraged the development of incentives for their creation[112]. In 2010 the Economic and Social Committee welcomed Commissions' support for implementing SUMPs[113]. In 2010 the Committee of the Regions supported the development of SUMPs for, at least, the larger cities and believed the Commission should encourage MS to make such plans mandatory for all large urban areas and create suitable incentives for local authorities to draw them up[114].

10. In the Review of the Action Plan on Urban Mobility[115] stakeholders welcome continuation of support by the EU in the exchange of best practice and knowledge, and the development of guidelines to improve awareness, knowledge and the quality of data on SUMPs. Furthermore, stakeholders feel that the integration of various policy sectors within these plans should be strengthened.

11. In the public consultation[116] 91% of the registered participants seem to agree that integrated urban mobility planning is a useful tool to promote coordination at local and regional levels. 86% of the registered participants believe that EU-support for the development of SUMPs would contribute to the broader take up of these plans in urban areas. 74% is of the opinion that best practices on SUMPs should be developed and exchanged at EU level. Moreover, 66% finds that the EU should provide a platform for this. 57% of the respondents support the development of guidelines and recommendations. Furthermore, 58% believes that the EU should give financial support for the development of SUMPs, whereas 57% believes that the EU should fund R&D projects related to urban mobility planning. 29% of the registered respondents, especially those who live and work in urban areas, point to a mandatory framework for SUMPs in EU-cities. Regarding the mandatory approach some participants suggest to establish a threshold of cities with over 100,000 inhabitants. 7% of registered respondents disagree that EU support for integrated urban mobility planning is important, as this infringes the subsidiarity principle. The decision on whether to implement a SUMP or not should be left to the cities themselves, as EU-cities face different types of challenges. The 22% opposed to the option of linking access to EU funding mention the arguments of additional administrative burden and unfair discrimination.

12. At the consultation of experts on SUMPs[117] there was broad agreement that the Commission should put forward a list of topics which a SUMP should consider to address, but no requirements for specific sub-plans and no requirements on specific measures to include, as packages of measures have to be suited to the individual cities characteristics and needs. Furthermore, SUMPs should cover the functional city rather than merely the administrative city.

13. Regarding the level of ambition of SUMPs there was support at the stakeholder consultation[118] for the minimum requirements for the policy framework of cities'

[112] Council Conclusions of 24 June 2010 on the Action Plan on Urban Mobility, p3
[113] European Economic and Social Committee opinion on the Action Plan on Urban Mobility of 27 May 2010, TEN/414, p8
[114] Committee of the Regions opinion on Action Plan on Urban Mobility 27 August 2010, 2010/C 232/05), p1
[115] PANTEIA/NEA (2013), Review of the Action Plan on Urban Mobility
[116] COWI (2013), Results of the public consultation 'The urban dimension of the EU transport policy', pp. 25-32
[117] January 2013, COWI SUMP experts workshop report
[118] COWI, minutes of stakeholder consultation meeting 21 May 2013

policy making, and for the minimum requirements on the governance framework. It was questioned if inclusion of a minimum requirement on certification would be needed because of the lack of justification and the costs involved. It was suggested to include a requirement on political engagement. Furthermore, SUMPs should cover the functional city, and city logistics should be included. Regarding the instruments to be used at EU level strongest support was expressed for the exchange of best practice, financial support for the development of SUMPs, guidance on quality control and for recommendations (options 0 and 1). Regarding a mandatory approach (options 2-3) concern was raised about higher administrative burden and the fact that cities are different and therefore need flexibility in their urban mobility approaches. Stakeholders feel that EU action should be a driver to quickly develop and implement SUMPs, and not be a barrier.

14. In general and because of subsidiarity, Committee of the Regions' members supported a non-legislative approach (options 0 and 1) at their consultation meeting on 13 June 2013. They expressed support for the development of SUMPs in the form of technical assistance for those countries that need guidance. The Covenant of Mayors could play a role in SUMP uptake, as a SUMP delivery mechanism. Regarding conditionality to funding one member mentioned to prefer an incentive approach instead of a stick approach.

6. ANALYSIS OF IMPACTS OF POLICY OPTIONS

15. This section assesses the impact of the policy options on the uptake of SUMPs and analyses how this has an effect on possible economic, social and environmental impacts. The analysis is supported by literature review, case studies, academic research and quantitative figures where possible. The analysis is mainly of a qualitative nature, supported by case studies which illustrate the possible benefits of a SUMP for a certain impact indicator.

16. Given the nature of the policy options to ensure an integrated approach to urban mobility, the lack of available data sets and the difficulty in extrapolating city data to the European level, it has not been possible to carry out a detailed modelling exercise which could have allowed us to present credible, justified estimates of the impacts for all policy options. Moreover, in line with the reasoning in section 3.1.3, a clear statistical correlation between the policy options that influence the uptake of SUMPs and the specific economic, environmental and social impacts could not be proven for several reasons. First of all, urban issues such as congestion and accessibility, road safety, air pollution, CO_2 emissions and noise pollution are influenced by many other factors and policy initiatives. As such, singling out the impact of one influencing factor – a SUMP – would be problematic. Section 3.1.3 provides further reasoning as to why it is difficult to demonstrate a 100% clear linkage between the options and the economic, social and environmental impacts. However, based on anecdotal evidence and the view of experts, this linkage can nevertheless be substantiated. For these reasons a qualitative analysis is presented below, presenting quantitative data for illustration purpose only where possible and grounded.

6.1. Effect of the policy options on the uptake of SUMPs

This section addresses how the different retained options deliver on the specific objective of ensuring the uptake of an integrated urban mobility approach by EU urban areas, through the operational objectives that address the problem drivers i.e. 1) providing EU urban areas with a policy framework and 2) providing them with a governance framework.

This assessment is based on how the policy options relate to the underlining barriers or sub-problems for the uptake of SUMPs. The barriers, as identified in chapter 3.1 are a lack of funds, both for planning and implementation of the measures, a lack of planning culture and tradition for integration and coordination, a lack of knowledge of the concept and the benefits of SUMPs, and a lack of political will (COWI 2013).

In the business as usual scenario it is unlikely that these barriers will be tackled significantly (see section 3.4). The key benefit of recommendations (option 1B) compared to the business as usual scenario is to help cities overcome the barriers of knowledge and planning traditions in the short run. In the long run good experience on sustainable urban mobility plans improves political will, and leads to more funding. Indeed, evidence from the UK shows that a Local Transport Plan (LTP) leads local authorities to give more priority to sustainable urban mobility then before, also in terms of spending (see 6.3.6). Option 1B will however only have limited effects on the lack of political will. A mandatory approach (option 2A and 3A) also addresses the barriers of knowledge, planning culture in the short run, but in addition it addresses also the lack of political will by imposing a legal obligation. Therefore option 2A and 3A are expected to lead to a faster uptake of SUMPs compared to the voluntary approach and to the business as usual scenario. Moreover, the impact on funding would be more evident in the short run and also in the long run, based on the above mentioned UK evidence with LTP's.

A schematic summary of the above described effects of the various options on the barriers for the uptake of SUMPs is given in table 5.

Table 5: Summary of assessments of effect of options on uptake of SUMPs

Option	Lack of political will	Lack of knowledge	Planning tradition	Lack of funding
0: Business as Usual	0	0	0	0
1B: Recommendations	0/+	++	+	0/+
2A: Mandatory, cities covered decided at Member State level	++	++	++	+
3A: Mandatory, cities covered decided at EU level	+++	++	++	+

("+" refers to the intensity of a positive correlation, "0" refers to a neutral correlation)

Source: own assessment based on COWI (2013)

A translation of this assessment into the uptake of the benchmark integrated urban mobility approach (according to the ranking in table 1), a SUMP, is demonstrated in table 6 below. As such, the scoring of cities implementing full SUMPs emerges. The estimations as presented are to be interpreted as a possible evolution in the future, representing an expert view, based on extensive literature review and consultation with experts and stakeholders. Compared to the business as usual scenario, the mandatory approach (options 2A and option 3A) is assumed to lead to a much higher uptake of full SUMPs. The voluntary approach (option 1B) leads to a more moderate increase in uptake of full SUMPs, depending on the local situation and incentives in place, such as national/regional funding opportunities for SUMPs and/or

their measures or local politicians who compete with each other with liveable cities in order to attract inhabitants. Compared to the voluntary framework, it can be expected that the mandatory approach scores better also on the quality of the SUMPS, as certain minimum standards on the policy and governance framework would need to be respected.

Within the mandatory approach, it could be reasonably argued that the uptake of SUMPs would be slightly higher for option 3A than for option 2A. This is because the EU definition of cities to implement SUMPs is more likely to have a wider coverage[119]. The EU is more likely to ask more urban areas to have a SUMP because the larger scope will better deliver on the objectives. It could be assumed that Member States would cover a smaller share of the urban areas, as their commitment to the EU-wide goals could be less strong.

Table 6: Uptake by cities of the benchmark integrated urban mobility approach (IUMA = SUMP)[120]

Uptake of an integrated urban mobility approach		17.	No/limited IUMA	18.	Low/Medium IUMA	19.	Medium/High IUMA	20.	High/Complete IUMA = SUMP
21.	0: Business as Usual	22.	Few cities	23.	Some cities	24.	Some cities	25.	None cities
26.	1B: Recommendations	27.	Few cities	28.	Some cities	29.	Some cities	30.	Few cities
31.	2A: Mandatory, cities covered decided at Member State level	32.	No cities	33.	Few cities	34.	Some cities	35.	Many cities

[119] It could for example be assumed that Member States would choose to only apply the mandatory framework to TEN-T urban nodes on their territory, but that if decided at EU level a larger scope of application would be chosen, e.g. population size above 250,000, in line with the Air Quality Directive. Under these assumptions the uptake of SUMPs would be higher in option 3A than in option 2A.

[120] Interpretation table: if more cities (e.g. "many cities" in the last column) implement the high/complete IUMA (=SUMP), the uptake of SUMPs is high. If a "few" or "some" cities have no/limited or low/medium IUMA, the uptake of SUMPs is low. Moreover, as for option 2A "some cities" do have a medium/high IUMA, and as for option 3A only "few cities" have this, it can be deducted from the table that option 3A will have more cities covered under the "high/complete IUMA = SUMP" than option 2A.

36.	3A: Mandatory, cities covered decided at EU level	37.	No cities	38.	Few cities	39.	Few cities	40.	Many cities

Source: own assessment based on COWI (2013),
see tables 1, 2 and appendix 4 for more information on the classification of the different categories

As far as implementation at city level is concerned, the success of introducing a SUMP will to a large extent depend on local circumstances and characteristics. This initiative is striving to maximise the rate and level of success by providing relevant guidelines based on best practice both regarding the scope or content of a SUMP and the process by which it should be developed and implemented. Remaining implementation issues will be dealt with through the information and support tools the EU is offering such as the upcoming European Platform on Sustainable Urban Mobility Plans, and through those the Member States are or will be offering.

6.2. Link between the uptake of SUMPs and the economic, social and environmental impacts of this initiative

As concluded in the previous section, it is estimated that option 1B, 2A and 3A will positively influence the uptake of the benchmark SUMP in the EU. Whereas for option 1B the effect is moderate, option 2A and even more option 3A will lead to a high uptake of SUMPS by European cities. It can be assumed that the more cities implement a full SUMP, the higher the potential environmental/social/economic impacts will be. In this respect, it can be said that option 3A will have the largest potential impacts, closely followed by option 2A. Option 1B, and even more option 0B, will have more moderate effects. However, the fact that option 1B covers the comprehensive policy framework of SUMPs while the mandatory options only cover the minimum policy framework, will partially shift this balance.

For options 2A and 3A the total impact will depend on the definition of urban areas to be covered by the mandatory SUMP. Depending on which thresholds[121] will be chosen by the national (option 2A) or EU level (option 3A), the uptake of SUMPs will be lower or higher or, thereby also influencing the economic, social and environmental impacts of this initiative.

The following two case studies illustrate potential effects of packages of measures within SUMPs on urban mobility. Both case studies show that alternative packages of measures have different profiles of effect tailor made to circumstances in different cities:

Case study 1: estimation of the effects of SUMPs on urban mobility challenges

[121] E.g. as mentioned before, possible thresholds of urban agglomerations could be: urban agglomerations with a population size of (a) > 100,000 inhabitants, (b) > 250,000 inhabitants or (c) >1,000,000 inhabitants and for all capitals (TEN-T urban nodes).

Owing to the fact that the problems related to urban mobility are always specific to cities, it is very challenging to estimate a magnitude of the aggregated impacts of SUMPs for any group of cities at EU level. The implementation of a SUMP could have different effects for urban agglomerations of similar size due to different starting points. Furthermore, the real impact of a SUMP depends on its correct implementation. Consequently, in this case study the magnitude of possible impacts of SUMPs is assessed by analysing the situation in selected urban agglomerations. In the absence of full SUMPs, this analysis could be done by looking at the impacts of specific measures which one would consider to be intrinsic to a full SUMP.

This approach can be applied to the Creutzig et al (2012) study which has assessed alternative scenarios in four European cities and used model simulations to estimate the potential impacts on key parameters[122]. The comprehensive scenario from this research corresponds in the level of ambition to a full SUMP and could be treated as an illustration of the possible effects of SUMP measures on the mobility and environmental external costs. The table below provides an illustration of the potential effects of a SUMP on the external costs of air pollution, accidents, noise, congestion and the level of GHG emissions.

Creutzig et al's (2012) comprehensive scenario assumed to deliver full effects of a SUMP

% change compared to developments under current trends and policies, in 2040	External costs of air pollution	External costs of accidents	External costs of noise	External costs of congestion	GHG (tCO2 eq)
Barcelona	-59.10%	-58.10%	-33.60%	-62.10%	-40.00%
Freiburg	-37.30%	-36.80%	-15.90%	-32.90%	-36.40%
Sofia	-59.70%	-59.40%	-32.10%	-58.70%	-46.70%
Malmo	-74.60%	-74.90%	-35.50%	-65.20%	-70.00%

Source: COWI (2013) report after Creutzig et al (2012)

For example, in Barcelona the external costs of air pollution would decrease by about 59% by 2040 due to the adoption of a SUMP relative to developments under current trends and policies. Relatively similar effects on the external costs of air pollution are estimated for Sofia (about 60% reduction) while the decrease in the external costs is lower in Freiburg (-37%) and higher in Malmo (-75%). Quite similar potential reductions in external costs of air pollution, accidents, noise, congestion and the level of GHG are observed in Barcelona and Sofia relative to developments under current trends and policies. An explanation may be the similar transport volumes per capita in these two cities (28.7 vkm/cap/day in Barcelona versus 29.2 vkm/cap/day in Sofia) despite some higher modal share of motorized individual transport in Sofia relative to Barcelona (34% in Sofia versus 24% in Barcelona).

Although the table above cannot be used to approximate the effects in other European cities, it still illustrates that a significant possible improvement could be achieved by implementing the relevant measures identified in a SUMP.

Case study 2: estimation of the macro- economic effects of alternative packages of mobility measures

The Fraunhofer/Infras study (2013) [123] consideres the effects of five alternative mobility concepts on e.g. health, environment, and macro-economic effects such as GDP, employment and investments. The table below provides a summary of the results. The assessment was carried out by applying different types of transport and economic models. Although the assessment covers Germany as a whole, a lot of the measures and benefits are linked to the urban agglomerations, and are in line with measures of a SUMP. As such, the mobility concepts M1 to M4 described below may serve as an illustration of the possible impact of a SUMP. These mobility concepts

[122] COWI (2013), Study to support an Impact Assessment on the UMP, act. 31 SUMPs, p.154-156
[123] Fraunhofer/Infras (2013), Economic aspects of non-technical measures to reduce traffic emissions report No. (UBA-FB) 001728, pp. 4-5, 16-17

however only address measures to reduce traffic emissions. Therefore, as a SUMP covers a broader range of measures (e.g. accessibility) the potential impact of a SUMP could be higher in magnitude.

The M1 scenario describes measures to promote modal shift to non-motorised transport, M2 to increase the use of local public transport, M3 to shorten the average distances travelled by car and M4 to promote more efficient private car use. The M5 scenario with measures to promote a modal shift to rail freight transport looks at the inter-urban situationand is therefore less appropriate for alignment with a SUMP, which focus lies on the urban area.

As indicated in the table below, the overall macro-economic effects on GDP and employment of the different mobility concepts are not large, but all but one have positive impacts on GDP and on the level of employment. This takes into account that the measures reducing car use have negative impacts on the car manufacturing industry and lead to declining investments in road construction. However this is more than balanced by the effect of the additional infrastructure investments to promote a modal shift towards non-motorised transport and public transport.

Effects of the mobility concepts on GDP, employment and investments

Variable	Year	M1	M2	M3	M4	M5
GDP	2020	+0.19%	+0.24%	+0.35%	-0.02%	+0.02%
	2030	+1.11%	+1.56%	+2.23%	-0.18%	+0.02%
Employment	2020	+0.14%	+0.21%	+0.35%	-0.02%	+0.04%
	2030	+1.37%	+1.76%	+2.49%	-0.16%	-0.08%
Employment transport	2020	+3.34%	+4.10%	+3.88%	-0.34%	+0.25%
	2030	+4.14%	+5.29%	+11.74%	-0.38%	+0.60%
Investments	2020	+1.67%	+2.31%	+3.33%	-0.24%	+0.16%
	2030	+5.45%	+7.03%	+9.09%	-0.99%	-0.13%
Investments transport	2020	+3.38%	+5.17%	+16.32%	-0.13%	+0.45%
	2030	+2.65%	+5.27%	+25.09%	-0.18%	-3.96%
Investments transport infrastructure	2020	+3.38%	+5.60%	+22.55%	-0.06%	+0.64%
	2030	+3.67%	+7.48%	+37.27%	-0.19%	-9.55%

Source: Own illustration based on ASTRA-D model

Source: COWI (2013) report after Fraunhofer/Infras (2013)

Moreover, in the Fraunhofer/Infras study (2013) the investments costs linked to the mobility concepts have been estimated and compared to the potential gain in external costs to society. In all cases it was concluded that the net benefit is positive: the different mobility concepts do represent value for money with positive net effects on society as a whole.

In the following sections (6.3 to 6.5), the possible economic, environmental and social impacts of this initiative will be qualitatively described. They will be illustrated by case studies mainly from urban areas in France and the UK, demonstrating the potential benefits of SUMPs. The case studies from France and the UK are based on a mandatory approach (for both countries corresponding to policy option 2A, as they have national legislation on SUMPs in place and decide themselves which urban areas should develop one). As these countries do not have full SUMPs (according to table 1) in place, the impact of a full SUMP could even be higher. A similar level of impacts of a SUMP in an urban area could also be realised on an individual basis through the application of recommendations (policy option 1B), although in general the uptake of SUMPs is expected to be less than with a mandatory approach. The business as usual scenario (policy option 0) will have less impact than the case studies shown as the barrier of knowledge has not been addressed as effectively in comparison with the other options.

6.3. Economic impacts

6.3.1. Impact on congestion and the free movement of people and goods

41. People and businesses locate in urban areas to have easy accessibility to jobs, services and resources. Congestion reduces this accessibility and therefore also the attractiveness and business opportunities of the location. The development and implementation of a SUMP, including closer coordination between land-use and transport planning, good access to and increased efficiency of public transport and the use of intelligent transport systems, will result in a decrease in (the growth of) congestion. Travel times will become more predictable and fewer passenger-hours and tonne-hours will be lost, allowing households, the public sector and businesses to save time and costs. The following case studies of France and the UK, and the specific experience of West England in chapter 3.1.3, illustrate this benefit:

Case study 3: the effects of the Local Transport Plans (LTP) on congestion in the UK

The analysis of the impacts of the first round of LTPs (2001/02-2005/06 in the UK showed that a reduction in traffic volume had been reported in some city centres, despite the overall trend of increased traffic[124]. In Manchester an overall reduction in congestion on 15 key routes (3.3 % improvement in person journey times on key routes in 2008/09) has been achieved in line with meeting the LTP2 target of a 0% increase target in congestion over these routes by the end of the LTP2 period (2006/07-2010/11).[125] This has been achieved through investments in the bus network and improvement of its punctuality, the creation of a third platform at the the airport rail station, opening of park and ride facilities and advancements in school travel plans. Also the experience of East Sussex showed that the implementation of the LTP led to a level of congestion being contained and even reduced. This was achieved by sensible demand management and balanced transport and land use planning[126]. Similarly, the assessment of the implementation of the measures of the LTP in West Midlands, which set a target of limiting congestion on nineteen major routes, indicated reduced journey times of over 8%, reliability improvements of up to 40% and bus journey time reductions and reliability improvements of up to 21% and 30% (during the LTP 2006-2011)[127].

Case study 4: the effects of the Plans de Déplacements Urbains (PDU's) on congestion in France

The evidence from the evaluation of certain PDUs in France shows a positive impact on congestion. In Nantes it was possible to shift the traffic from the congested centre to the peripheries[128]. In Bordeaux some positive results of the PDU aiming at better management of car travels could be concluded. The observations showed a fall in traffic from the main ring to the city (as well in the opposite direction) by around 15% between 2000 and 2008, while the traffic among the main arteries in the city fell by 25%[129].

Given that the benchmark SUMP goes even further in the ambition than the UK LTP or the French PDU, one can assume that the impact of SUMPs on congestion can be even more positive, especially in the areas that have not introduced any actions in this area.

The improvement potential depends on the level of uptake of SUMPs in cities where the congestion costs are the most pertinent. Given that congestion generates costs in almost all cities, it can be assumed that the wider the uptake of SUMPs the higher the impact. Consequently, **option 3A** would lead to the highest reduction of congestion costs, followed by **option 2A, option 1B** and **option 0**.

[124] Atkins, Long Term Process and Impact Evaluation of the Local Transport Plan Policy, 2007, p3-12
[125] Greater Manchester LTP2 Progress Report, 20118, p3
[126] LTP2 progress: Letter from Government Office for the South East, 2009
[127] West Midlands LTP - Final Delivery Report 2011, 12 March 2012, p.81.
[128] Évaluation du PDU2000-2010, Nantes Métropole, 2009, p10
[129] a'urba (2009), Observatoire des effets du plan des déplacements urbains - décembre 2009, Observatoire de la communauté urbaine de Bordeaux, p28

6.3.2. Impact on the TEN-T (Trans-European transport network)

The large urban areas are also the main nodes of the core and comprehensive TEN-T. Thus, congestion problems in the urban nodes are also important for the performance of transport corridors. Most of the trips start and finish in cities and often these stretches are the most problematic ones. Besides, road transport, for which most of the European-wide network is realised, is expected to grow, but will be hampered mainly by congestion problems around major nodes. Given that traffic in cities is closely interlinked with traffic on cities' rings and bypasses, SUMPs will also affect the adjacent transport network.

Reduction of traffic congestion through SUMPs in urban areas will be positive for the TEN-T logistics, by improving, for instance, access to motorways, better linkages with main transport hubs (ports, airports) located in urban areas or better organisation of city logistics in general. As SUMPs also look at the ways of improving the attractiveness of cities, they would also focus on proper incorporation of city transport system into the regional, national and international transport network.

Nonetheless, there is also a potential negative impact of SUMPs on the TEN-T. Integrated urban mobility planning might diverge traffic from the city centres to the bypasses and rings outside of cities. These are usually already heavily congested routes and increased congestion on them might be negative for the performance of TEN-T corridors passing next to the urban areas. However, as SUMPs do also promote public transport and non-motorised transport, this effect could be mitigated.

Consequently, the overall impact of SUMPs on TEN-T is not straightforward, but one can expect that benefits will outweight substantially the costs. Improved access to transport hubs is key for international multimodal transport and smooth transit via urban nodes in the TEN-T network. Moreover, transport corridors around the cities are in many cases also part of the larger urban agglomeration areas and consequently are often part of the integrated urban mobility approach. Thus, the risk of shifting congestion from city centres to the outskirts will in many cases be taken into consideration in a SUMP and be lower than if no integrated approach was applied.

Considering the overall positive impact of SUMPs, the wider the uptake the more positive impact on TEN-T can be assumed. This means that **option 3A** would lead to the highest benefits for the TEN-T, followed by **option 2A, option 1B** and **option 0B**.

Case study 5: incorporating TEN-T issues into the urban mobility planning in Vienna[130]

The Transport Master Plan Vienna 2003 tried to address specifically Vienna's role within Europe as a TEN-T node. The plan acknowledged that in order to strengthen the regional economic basis and further develop export competence, the accessibility from outside and within the Vienna region must be assured. This resulted in linking city planning with European and national transport policies and the harmonisation of spatial planning and traffic development in the Vienna region.

To further develop the Vienna's capacity as a TEN-T node the plan envisaged improvements for the necessary commercial traffic (delivery journeys, stopping and parking places) and giving it priority over private car journeys. The development of the TEN-T was also to be stimulated by a range of measures aiming at improvement of the infrastructure in the Vienna region. This included expansion of the railway lines and establishment of high-throughput goods terminals. The strengthening of the "logistics competence" of Vienna as

[130] Vienna City Administration, *Transport Master Plan Vienna 2003,* Abridged Version, November 2003

a commercial location became a central negotiation aspect of the city's transport and economic policies. The area of city logistics, which should basically function as part of the private economy, was intended to be strengthened by Vienna by reducing obstructions to traffic and ensuring logistics locations by the urban planning policies.

The plan also identified that an essential prerequisite for the development of Vienna as an attractive location was the optimum incorporation in particular of rail station and terminal facilities into the TEN-T. Thus absolute priority was given to the expansion of the TEN-T to include rail connections to Vienna airport – Eisenstadt – Sopron and the rail destinations Paris – Munich – Vienna – Budapest and Berlin – Prague – Vienna – Trieste. The most important aspects of the road network were the regional line S1, the integration of the A5 and the incorporation of the A6 – Kittsee/Bratislava link road – into the TEN-T.

Together with the planned highway extensions, Vienna was also to become an attractive transit and transfer point for passenger travel (long-distance travel, personal public transport). For this purpose a need for a central bus station for international bus connections was emphasized. Regarding frequency, the range of services to the centres of the regional capitals and long-distance services to EU entry stations was to be substantially improved.

6.3.3. Impact on modal shift

42. Introduction of SUMPs will have a positive effect on the modal shift as they promote walking and cycling as well as public transport. The main change in the modal split would be away from the motorised transport. Making SUMPs mandatory (**options 2A and 3A**) would ensure that all aspects related to stimulate the modal shift are taken into account and consequently, are expected to have a bigger overall effect than the voluntary approach with recommendations (**option 1B**) or business as usual (**option 0**). On the other hand, inclusion of the specific measures on transport pricing (**option 1B**) could have additional impact if these measures were introduced, by making passenger car transport a less financially attractive alternative. Again, the wider the coverage of urban areas imposed by the policy options, the bigger their impact on overall modal shift, i.e. **option 3A** is expected to have the highest impact. The following case study of the French city of Nantes and the evaluation of French PDUs in chapter 3.1.3., illustrate this benefit.

Case study 6: the effects of the Plans de Déplacements Urbains (PDUs) on modal shift in France

The experience of PDUs in France showed that introduction of integrated planning in French cities had a visible contribution to the reduction of the modal share of cars. For instance, in Nantes in the period 2002-2008 the number of journeys increased, but the share of cars in transport fell by 4.6 percentage points and increased for walking, public transport and cycling (by 3.4, 1.1 and 0.1 percentage points respectively)[131]. In Nantes modal shift was promoted through measures such as an increased availability of high quality public transport services, with higher frequencies, integrated ticketing, and better accessibility for people with reduced mobility, and through the creation of additional bike infrastructure and shared bike services[132].

[131] Évaluation du PDU2000-2010, Nantes Métropole, 2009, p. 16 (Auran – Nantes Métropole)
[132] Évaluation du PDU2000-2010, Nantes Métropole, 2009, pp. 6-9

The evaluation report for the Paris PDU has even made an attempt to quantify the positive impact of the PDU on the modal shift. The comparisons were made for two scenarios – maintaining the status quo i.e. no changes beyond the measures adopted up to 2010 and implementing all the actions of the PDU for l'Ile-de-France area. The projections show a clear shift from cars and motorcycles to public transport and walking and cycling, accommodating the entire increase in the number of journeys.

Comparison of the evolution of the number of journeys per mode according to two scenarios between 2006 and 2020 (journey during a working day)

	Transports collectifs	Voiture et deux-roues motorisés	Modes actifs	Total
Scénario du statu quo	+ 6 %	+ 8 %	+ 4 %	+ 7 %
Scénario PDUIF	+ 20 %	– 2 %	+ 10 %	+ 7 %

Source : modélisation STIF

Source: revised PDUIF 2012[133] (modélisation STIF)

6.3.4. Impact on research & innovation, economic development and competitiveness of EU industry

43. As a consequence of the development and implementation of SUMPs, businesses opportunities for developing innovative transport and mobility services will be created. Innovations in services and procedures could be developed. More new firms would be established (entrepreneurship) and more jobs created.

Developing a SUMP framework at the EU level could give Europe leadership in the integrated urban mobility planning know-how and thereby strengthen the competitive position of the EU industry. As explained in chapter 1.3 the urban mobility challenges of EU cities are present in almost all urban areas around the globe and the solutions proposed in the EU cities will also be applicable to cities in other regions of the world. SUMPs provide a useful framework that requires innovation and research as tools for developing solutions for urban mobility challenges. If the EU is successful in tackling urban mobility challenges, the acquired know-how and technologies could be further exported and companies leading the innovation in transport mobility solutions could expand to the foreign markets. The following case study on export of EU expertise on planning illustrates this benefit.

Case study 7: export EU expertise[134]

In 2007, the New York City Government issued a plan for how to make transport more sustainable. The plan included actions in a wide range of mobility, safety and environmental and urban life aspects. One of the key elements was the promotion of non-motorised traffic and to support the development of that aspect. In the end, the New York City Government contracted a Danish architectural and urban planning consultant. This company's experience from a number of European cities in combination with an innovative approach on urban life surveys was stated as the motivation for hiring it to support the development of the urban mobility strategy in New York. The company worked among others in Brighton, London and Norwich (UK), Apeldoorn and

[133] Stif (2012), Plan de déplacements urbains de l'Ile-de-France, http://www.stif.org/IMG/pdf/PDUIF_RIF_2012.pdf, pp. 174-177

[134] COWI (2013) after World Class Streets: remaking Ney York city's public realm (available at: http://www.nyc.gov/html/dot/downloads/pdf/WCS_Gehl_08_print.pdf) and http://www.gehlarchitects.com/index.php?id=159110

Rotterdam (NL), Dublin (IE), Gothenburg (SE) and Copenhagen (DK) on sustainable urban mobility aspects as part of urban planning projects. For example, in Norwich the company was involved in land use planning including sustainable mobility in the design of the new urban development. Stakeholder consultation and local community involvement was part of the planning and design process. The Danish company has also conducted similar work for other cities outside of the EU. For example, it supported Mexico City in developing a bicycle mobility strategy.

Moreover, the SUMP framework can bring additional positive results to the competitiveness of the EU industry, as one of the underlying objectives of SUMPs is to improve efficiency and cost-effectiveness of transportation of persons and goods (see section 6.3.5). This leads to benefits for companies in form of lower transportation costs, fewer delays and better logistics. This is positive for companies providing transportation and logistics services, as well as for those firms that rely in their business activities on transportation of goods or people.

For many companies heavy congestion has made urban areas more difficult to operate in, when they rely on transport services. Consequently, the business opportunities have to be offset by the high costs related to congestion. The fact that SUMPs also pay attention to city logistics is vital for many companies. Besides, by improving passenger mobility the labour supply could also get extended, as people from further areas would be able to commute to working places in various points of urban areas. All these factors improve the competitive position of the companies located in these urban areas, by reducing real and opportunity costs related to sub-optimal functioning of the urban transportation system.

With the wider uptake of SUMPs in the EU, the research and innovation activities to tackle mobility challenges will increase, the acquired know-how and technologies could be further exported and companies leading the innovation in transport mobility solutions could expand to the foreign markets leading to more economic growth and job creation. By making the SUMP framework mandatory under **option 2A and 3A** the push for research and innovation activity will be even more imminent and substantial. In case of **option 1B** and **option 0B** the impacts would be substantially lower, due to the fact that the demand for new technologies in urban transportation could not be ensured even if wider scope would be recommended.

Nonetheless, some companies could be negatively affected if their business model would require adaptation due to the new requirements related to a SUMP and its measures e.g. a restricted access for Heavy Duty Vehicles (HDV) in certain urban areas would raise adaptation costs for enterprises using these vehicles in cities.

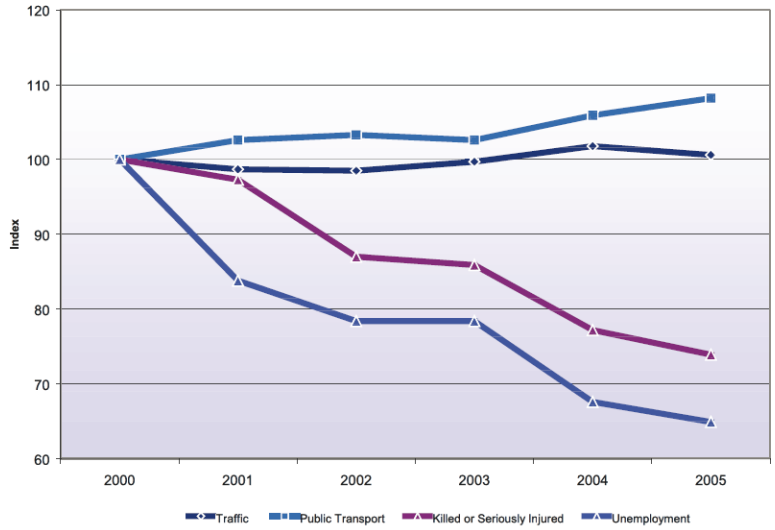
The case study of the UK area of Greater Nottingham illustrates the benefit of a SUMP on economic growth and competitiveness:

Case study 8: the effects of the Local Transport Plans (LTP) for Greater Nottingham 2001/2 – 2005/6 on economic development [135]

The delivery report LTP 2001/2 – 2005/6 of Greater Nottingham of July 2006 describes the sustained economic growth between 2001-2006 by a reduction of the number of people registered as unemployed, see the figure below. The Greater Nottingham economy is the biggest commercial centre in the East Midlands. The key drivers for economic success are enterprise and innovation, employment, learning and skills, and the creation of a climate for investment. According to the report *"The LTP has contributed towards the creation of a climate for investment. The influence of the LTP is demonstrated in the reduction of congestion leading to improved competitiveness through e.g. the implementation of measures that contribute to modal shift such as more use of public transport, an improved access to employment by a special bus service to the airport as economic centre,*

[135] Local Transport Plan for Greater Nottingham 2001/2-2005/6, delivery report 31 July 2006, Nottingham City Council pp. 21, 22, 56,77

and encouraging economic growth through a network of pedestrian routes". Some main indicators are displayed in the graph below, e.g. unemployment and traffic.



6.3.5. Impact on Small and Medium Enterprises (SMEs)

The overall impact of SUMPs on SMEs is expected to be positive as the costs of running business in cities, related mainly to congestion, would decrease. SUMPs could also make cities more attractive and offer new business opportunities for SMEs by improving accessibility to certain city areas, reducing the external costs of transport activities and better spatial development.

As an example, many small logistic service providers that deliver parcels in Europe depend on "the performance and affordability of the delivery system as a key driver of the sustainability of their business models, and in particular of their ability to serve their customers. As SMEs are the driving forces of innovation and growth in Europe, improving the overall delivery system for goods ordered online in Europe can be expected to yield very significant results in terms of growth and jobs"[136].

However, specific SMEs can be affected in various ways by introduction of SUMPs. Those SMEs which are dependent on urban transportation systems will be affected to the extent their business relies on a specific type of transportation services. These changes can be both positive, if the improvements in urban transportation benefit the business models of some SMEs (e.g. providing home delivery service becomes faster and cheaper due to reduced congestion), or negative if the changes required by a SUMP and its measures are costly or difficult to implement (e.g. extra charges or permits are required to enter a specific time window in the city centre).

City logistics companies are the most likely ones to be affected, but again they can both benefit or bear additional costs. If access regulation measures will be applied within a SUMP to conventional vans and HDV's in a specific city, this leads to costs of changing the fleet, adapting the schedules and delivery routes, and/or administrative costs due to permits. The benefits of a SUMP could be lower congestion and also new business opportunities coming from a new approach to city logistics such as bike services, support for electric vehicles or

[136] COM/2012/0698 final (2012), Green Paper An integrated parcel delivery market for the growth of e-commerce in the EU, pp. 2-3

more efficient planning. A large logistics depot might be moved to the outskirts and smaller and more flexible companies could be better positioned to provide doorstep deliveries.

Consequently, even if it is difficult to quantify the overall impact of SUMPs on SMEs, the benefits should outweigh the costs, due to reduced congestion and related costs, and improved accessibility and attractiveness of cities. Since the general impact on SMEs would be positive, the option covering larger number of urban areas would have higher impact i.e. **option 3A**, followed by **option 2A**, **option 1B** and **option 0B.**

6.3.6. Administrative burden and cost savings

44. Administrative burden and costs

45. Local, regional and national authorities are affected due to higher administrative costs for developing and implementing a SUMP in comparison with traditional transport and infrastructure plans. Table 7 and 8 below show estimates of extra staffing required per year to develop and manage LTP's in the UK and total costs estimates of the development of French PDU's[137]. In France costs appear to increase with the city size, probably due to higher complexity of coordination and stakeholder management. The tables should be seen as examples of cost levels associated with developing a SUMP.

46. Furthermore, there are costs of the actual implementation of the measures defined by a SUMP. In the first round of LTP's (2001-2006) over £26 billion were invested in local transport. An LTP leads local authorities to give more priority to sustainable urban mobility then before, also in terms of spending[138]. Moreover, the administrative costs could increase in case of cities with no tradition or know-how in integrated planning. There, building capacities, trainings and changing the administrative procedures could add substantially to the total costs of developing a SUMP.

Table 7: Extra staffing required to develop and manage Local Transport Plans in England[139]

Study	Minimum extra staffing	Type of authority
Atkins (2007)	5	Rural county, population 756,000
	4	Urban unitary, population 182,000
	12	Mixed rural/urban unitary, no information on population.

Source: COWI (2013) based on Atkins (2007)

Table 8: Costs of developing a SUMP[140]

[137] These costs are a one-time amount and do not include monitoring and revision of the PDU neither costs of implementation of the measures

[138] COWI (2013), Study to support Impact Assessment on the UMP, act. 31 SUMPs, based on Atkins (2007), p. 82-84

[139] COWI's estimates based on Atkins (2007) performing 12 case studies of English local authorities who have developed LTP's, COWI (2013), Study to support an Impact Assessment on the UMP, act. 31 SUMPs, p168

	Minimum cost, Euro,	Maximum cost, Euro,
<100,000 population	59,500	300,000
100,000 – 200,000 population	80,000	550,000
>200,000 population	90,836	668,654
<450,000 population without public transport in	200,000	700,000
>450,000 with public transport in segregated alignment	185,000	Not available

Source: COWI (2013) based on Gart (2009)

The administrative costs are expected to be the highest for the option requiring mandatory SUMPs on the basis of the EU decision (**option 3A**), because some cities would need to develop measures that have not necessarily been in place before. **Option 2A** could be expected to have lower administrative costs, if the countries take the cost of implementation into account when setting their population threshold for the cities required to develop a SUMP. The administrative costs resulting from **option 1B** would be the lowest as the uptake of SUMPs in this option will be the lowest. Moreover, as the voluntary approach leaves the cities more freedom in choosing the appropriate framework, fitted to the local circumstances, also on the governance side of a SUMP, stakeholders argue that there could be a reduced administrative burden stemming from possibly redundant legal requirements, without losing out on effectiveness.

47. Other administrative burden

The development and implementation of SUMPs could lead to additional administrative burden, e.g. for logistic service providers that deliver goods on a regular or daily basis in different inner cities. For example, access regulations measures will lead to additional permits to enter the vehicle time window or the low emission zone in a specific city, leading to more administrative costs[141]. As the specific measures taken within a SUMP will be tailor made to the local situation it is difficult to quantify this additional burden.

48. Cost savings

49. On the other hand, local, regional and national authorities will save costs due to the development and implementation of a more coordinated, effective and efficient combination of measures within a SUMP. The case study below gives an illustration of possible cost savings:

Case study 9: Value for money of the Local Transport Plans (LTP)[142]

The report on the first round of LTPs recognises that quantifying the value for money of integrated transport schemes has proven difficult within the constraints of the data available. However, results from the first round on LTP's indicate that the benefits[143] of integrated transport schemes are likely to be significant relative to the costs and offering "value for money". Some examples were given in the study. The research suggests that "*every £1 spent on well-designed soft measures could bring about £10 of benefit in reduced congestion alone with further potential gains from environmental improvements and other effects, provided that the tendency of induced traffic to erode such benefit is controlled*". Moreover, the study shows that "*7,230 casualty reduction schemes were*

[140] Total costs estimates of developing a PDU made by GART (2009) on the basis of 84 interviews with French cities who have developed a PDU, COWI (2013), Study to support an Impact Assessment on the UMP, act. 31 SUMPS, p169

[141] COWI (2013), Study to support an Impact Assessment on the UMP, act. 32 on Access Regulations, p82

[142] Atkins in association with PWC and Warwick Business School (2007), for the Department of Transport, Long Term Process and Impact Evaluation of the Local Transport Plan Policy, p10-2 to 10-3

[143] The benefits taken into account in the study were accidents and casualty savings, journey time savings, vehicle operating costs, and emission savings.

delivered across 57,282 authorities, at a cost of £195 million. These schemes reduced the number of personal injury accidents by 21%, based on a comparison of data for three years prior and post scheme implementation. The cost per accident saved across these authorities is £23,000, but ranges from £2,000 to £184,000 within individual authorities. In contrast the average value of casualty prevention is £45,000 per person, suggesting an overall Benefit : Cost ratio of 2". However, in the study it is emphasised that the results have to be treated with extreme care as the model used is based on a crude understanding of the specific outcomes which can be expected from individual integrated transport schemes.

6.3.7. Territorial impact

SUMPs improve the functioning of urban transportation and consequently improve the connectivity of urban centres with other parts of the region and connectivity between the regions. The regional impact of SUMPs will be most substantial for predominantly urban[144] and intermediate regions[145] dependent on an urban centre. Using other typology, the territorial impact of SUMPs will be the highest in metro regions[146]. Depending on the coverage of the city sizes by a SUMP framework, the impact could be limited to predominantly capital city regions or second-tier metro regions. Thus the territorial impact depends largely on the number of cities where SUMPs will be implemented, i.e. it would be the highest for **option 3A**, than **option 2A,** followed by **option1B** and **option 0**. In general, the territorial impact of SUMPs is positive by improving the functionality of urban areas and their connectivity to nearby rural areas. However, the quantification of this impact is very challenging and no anecdotal evidence exists on the impact of SUMPs on the economic performance of a specific region. O**ption 1B** could be more effective than **options 2A** and **3A**, as the comprehensive policy requirements specifically address measures on transport pricing, which have a potential to reduce congestion and improve modal shirt.

6.4. Social impacts

6.4.1. Impact on road safety

50. Taking measures within a SUMP to increase road safety will reduce the high costs of traffic accidents on society as well as on individuals. Road accident costs (such as material damage, hospital and emergency services costs, loss of workforce and loss of quality-adjusted life years, insurance costs, costs related to disabilities and rehabilitation) make up one of the largest shares of the costs of transport. Saving lives and reducing serious injuries is a cost-efficient investment, whereas the costs of status quo in EU total today for the serious traffic accidents amount to around 2% of EU GDP[147].

51. The case study of the UK area of Greater Nottingham and Manchester illustrate the benefit of improving road safety through the implementation of an LTP (see case study 10 below). Policy options **1B, 2A** and **3A** will result in a higher impact on road safety than option **0B** as the level of uptake of SUMPs will be higher, even more in the mandatory than in the voluntary approach. Regarding the policy framework the differences between options **1B, 2A** and **3A** will be small on road safety, as the comprehensive requirements in option **1B** do not specifically address road safety measures.

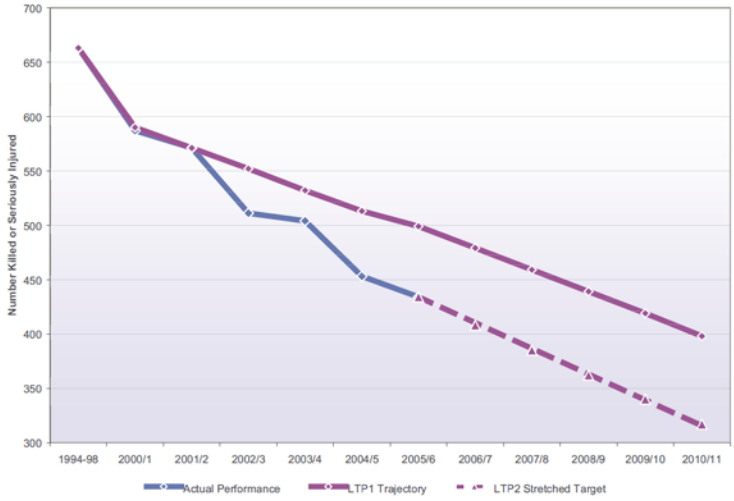
[144] Share of population living in rural areas below 20%
[145] Share of population in rural areas between 20-50%)
[146] Regions in which at least 50% of the regional population lives inside larger urban zones (major cities and their surrounding travel-to-work areas)
[147] WHO (2004), World report on road traffic injury prevention"

Case study 10: the effects of the Local Transport Plans (LTP) on in the UK on road safety[148][149]

Manchester achieved a reduction of the numbers of people killed or seriously injured (KSI) by 23% on the '94-'98 average and a reduction of accidents by 48% from 2000-03 to 2005-07, despite the already very low KSI casualty rate per head of population as a starting point. This has been achieved by measures within the LTP such as campaigns, speed awareness driver courses and incorporation of road safety in school travel plans. Enforcement of speed limits is important to keep these results.

An interesting key success of the Greater Nottingham LTP is the improvement of road safety as one of the four key achievements of the plan. Road casualties in terms of numbers of people killed or seriously injured have reduced by 35%, meaning the authorities are ahead of the schedule of meeting the national target. This success has been achieved through the implementation of a comprehensive package of road safety measures such as pedestrian friendly streets and reduced traffic speeds, campaigns and education activities on the relation between speed and casualties, and a move towards the use of more innovative casualty reduction strategies such as digital speed cameras and safer routes to school schemes. The figure below presenting actual and projected figures on the road safety indicator concerning the numbers of people KSI in Greater Nottingham illustrates this trend.

Figure 4.4: Number of KSIs - Actual and Projected Figures



6.4.2. Impact on health

The implementation of a SUMP and its measures, such as access restriction zones and speed limits, will have an impact on emissions of air pollutants. Improved air quality will lead to less people with respiratory diseases and weak hart conditions suffering from air pollution and therefore to reduced health costs. For more information see chapter 6.5.1 and relevant case studies.

Measures to promote a modal shift to walking and cycling will contribute to a more active life style and reduce levels of obesity. Measures to promote a modal shift to public transport will contribute to improved accessibility. The following case study of Manchester illustrates the benefit on accessibility of public transport:

Case study 11: the effects of the Local Transport Plan of Manchester (LTP) on accessibility of public transport (including for people with reduced mobility)[150]

[148] Local Transport Plan for Greater Nottingham 2001/2-2005/6, delivery report 31 July 2006, Nottingham City Council pp. 21, 22, 38, 68, 69, 77
[149] Greater Manchester LTP2 Progress Report, 20118, p6
[150] Greater Manchester LTP2 Progress Report, 20118, p5

In the first two years of the LTP2 period (2006/07-2010/11) Manchester realised an increase in the percentage of accessible buses from 64% in 2006/07 to 71% in 2007/08. Furthermore an increase in the percentage of accessible bus stops was realised from 53% in 2006/07 to 79% in 2007/08. This was achieved by e.g. major access and upgrade of facilities at the central station, service improvements in busses, Sunday services, pedestrian friendly schemes and extension and improvement of demand responsive services, e.g. by improvement of booking and scheduling services through ITS,

Taking measures within a SUMP, such as speed limits or isolation measures, will lead to reduced noise exposure leading to reduced health costs (as noise exposure increases the risk of cardio-vasculair diseases). Case study 12 of Strasbourg illustrates this benefit.

Policy options **1B, 2A and 3A** will result in a higher impact on air and noise pollution reduction than option **0B** as the level of uptake of SUMPs will be higher, even more in the mandatory than in the voluntary approach. Regarding the policy framework the differences between option **1B** on the one hand, and options **2A and 3A** on the other hand will be bigger, as the comprehensive requirements in option **1B** specifically address measures on clean technology, alternative fuels and access restriction schemes. However, the comprehensive scope will only be implemented on a voluntary basis.

Case study 12: the effects of the "Plan de Déplacements Urbains (PDU) de Strasbourg" on noise pollution[151]

The environmental evaluation of the revised PDU de Strasbourg (started in December 2008) has estimated the impact of this PDU on noise emissions with a time horizon 2015. The WHO night noise guidelines for Europe describe levels above 55 decibel during the night as increasingly dangerous to public health. In Strasbourg 5% of the population (about 23.000 persons) live near the motorway A35 where the average night noise level is above the 55 decibel limit. In order to reduce the noise pollution various measures have been incorporated in the PDU, such as dynamic traffic management and speed limits, 30 km zones, traffic reduction on certain axes, rerouting of HGVs away from the city centre, realisation of two new ring roads to relieve the city centre and isolation measures. All these measures have an estimated effect of 50% reduction of traffic leading to a significant reduction of the noise level of -2dBA.

6.4.3. Impact on employment and social inclusion.

52. Taking measures within a SUMP to improve accessibility to economic centres by investments in public transport networks will reduce congestion and pollution due to less commuting by car, and create more job opportunities for individuals. Social inclusion of citizens living in peri-urban areas will be improved by providing better access to public transport, making potential destinations for economic activities closer to their houses. Social inclusion of citizens who do not have a car will also improve by providing more alternative transport modes. By providing access to services and opportunities people's quality of life will be improved. The following case study of Ile-de-France illustrates this benefit.

53. Policy options **1B, 2A** and **3A** will result in a higher impact on employment and social inclusion than option **0B** as the level of uptake of SUMPs will be higher, even more in the mandatory than in the voluntary approach. Regarding the policy framework the differences between option **1B** on the one hand, and options **2A** and **3A** on the other hand will be bigger, as the comprehensive requirements in option **1B** specifically address measures, e.g. on clean technology and alternative fuels, that

[151] Roland Ribi & associes, PTV France, Interface Transport (2012), Plan de déplacement Urbaine de la Communauté Urbaine de Strasbourg, évaluation environnementale
http://media.strasbourg.eu/alfresco/d/d/workspace/SpacesStore/1581b03a-70f8-475d-a6e5-19227569e6d8/Annexe4-EvaluationEnvironmtale.pdf

could create research, innovation and business opportunities for developing innovative transport and mobility services. However, the comprehensive scope will only be implemented on a voluntary basis.

Case study 13: the effects of the "Plan de Déplacements Urbains d'Ile-de-France (PDUIF)" on accessibility to economic centres and employment in L'Ile-De-France[152]

L'Ile-de-France, one of the 27 administrative regions of France covering the metropolitan area of Paris, has from 2007 onwards revised its "Plan de Déplacements Urbains d'Ile-de-France (PDUIF)" 2000. The revised PDUIF 2012 contains model estimations of impact on modal shift and use of public transport, and of improved access to jobs and to economic centres in the region through public transport. Where in the reference scenario of the PDUIF evaluation the development of the number of journeys on workdays by public transport between 2006 and 2020 is estimated at +6%, in the revised PDUIF scenario it is estimated at +20%. The number of journeys on workdays by active modes between 2006 and 2020 is estimated at +4%, and in the revised PDUIF scenario it is estimated at +10%. In contrast, the number of journeys on workdays by car between 2006 and 2020 is estimated at +8% in the reference scenario, and in the revised PDUIF scenario it is estimated at -2%. In 2010 multiple areas with job opportunities are situated away from public transport networks in Ile-de-France, Due to new infrastructure foreseen in the revised PDUIF 2012 this situation will improve by 2020. In the inner ring of Paris in 2006 63% of jobs were located at walking distance of public transport networks, whereas in 2020 80% of jobs will be located at walking distance. For the bigger ring of Paris in 2006 27% of jobs were located at walking distance from public transport networks, whereas in 2020 36% will be located at walking distance.

6.4.4. Impact on civil society

The participatory approach used within a sustainable urban mobility planning process will strengthen civil society. The improvement of social dialogue is an important benefit of SUMPs in the Member States who have last joined the EU[153].

Case study 14: involving citizens in mobility issues in Zagreb[154]

The Eltis urban mobility portal presents the following case study from Zagreb: *"In Zagreb, discussions on mobility issues were previously mostly limited to professionals without involving the public. However a new scheme, developed within the CIVITAS ELAN project, was designed to change this through the following aims: to raise citizens' interest and understanding of mobility issues, to encourage them to actively contribute to the improvement of local mobility conditions and to teach them how to best communicate with the authorities. A further aim was to establish a public dialogue on mobility issues and to convince authorities, other mobility actors and planners that involving citizens in the decision making process offers great advantages. As well as continuous communication with different media, the project utilized various measures for information dissemination to effectively reach the target groups of citizens and stakeholders. The project showed the benefits of continual communication among different stakeholders, the value of consultation when looking for concrete mobility solutions and the necessity for efficient coordination of all mobility actors."*

6.5. Environmental impacts

6.5.1. Impact on air quality

54. The implementation of a SUMP and its measures, such as access restriction zones and speed limits, will have an impact on emissions of air pollutants. Improved air quality will lead to reduced environmental damage and reduced health costs.

55. Policy options **1B, 2A** and **3A** will result in a higher impact on air pollution than option **0B** as the level of uptake of a full SUMP will be higher, even more in the

[152] Stif (2012), Plan de déplacements urbains de l'Ile-de-France http://www.stif.org/IMG/pdf/PDUIF_RIF_2012.pdf, pp. 174-177
[153] COWI (January 2013), SUMP expert workshop report
[154] http://www.eltis.org/index.php?id=13&lang1=en&study_id=3780

mandatory than in the voluntary approach. Regarding the policy framework the differences between option **1B** on the one hand, and options **2A** and **3A** on the other hand will be bigger, as the comprehensive requirements in option **1B** specifically address measures on clean technology, alternative fuels and access restriction schemes, which have a high potential in relation to air pollutant reduction. However, the comprehensive scope will only be implemented on a voluntary basis. The following case studies of Ile-de-France and Marseille illustrate the possible benefits of a SUMP:

Case study 15: the effects of the "Plan de Déplacements Urbains d'Ile-de-France (PDUIF)" on air quality in Ile-De-France[155]

L'Ile-de-France, one of the 27 administrative regions of France covering the metropolitan area of Paris, has tried to estimate the possible impact of its "Plan de Déplacements Urbains d'Ile-de-France (PDUIF)" on air quality and greenhouse gas emissions in its region with a time horizon 2020. The study reveals that in the "status quo" scenario, i.e. the scenario without any additional action, emissions affecting the air quality, e.g. NOx, PM2.5 and PM10, would decrease significantly due to the technologic evolution of motorised transport, one of the biggest air polluters in the region. In the scenario of extra action on improving modal shift, and a fortiori in the scenario where all proposed PDUIF measures are implemented, extra reductions could be achieved. The study concludes that at least 1 to 2 % less people would be potentially exposed to NO_2 levels exceeding the legal maximum thresholds. In practice this would result in improved air quality for 30,000 to 40,000 people in Paris and 80,000 to 100,000 people in l'Ile-de France. However, even with these improvements, on still half of the Paris' surface the thresholds for NO_2 and PM2.5 will be exceeded, and about one fifth for PM_{10}.

Case study 16: the effects of the "Plan de Déplacements Urbains (PDU) de Marseille" on air quality[156]

Le rapport environnemental du PDU de Marseille-Provence Metropole 2013-2023 estimates the possible impact of the PDU of Marseille on air quality with a time horizon 2023. For both the "Metropolitan area" (Aubagne, Vitrolles, Pays de Martigues, Pays de Salon de Provence) and for the "Bassin centre" (Marseille, Allauch, Plan de Cuques, une grande partie de Septèmes les Vallons et une petite partie de celles des Pennes-Mirabeau) air polluants (NOx, PM) linked to transport will decrease, even in a scenario where no further policy action is taken. However, in all scenarios examined, the European norms linked to NOx and PM would not be achieved. Nevertheless, for the metropolitan area, it is estimated that with the measures of the PDU, instead of 24% reduction of NOx, a reduction of 32% could be realised with the implementation of the PDU. The same is true for the PM emissions, where in the business as usual scenario a reduction of 18% could be achieved, and in the PDU scenario a reduction of 31%. The results for the "Bassin centre" are similar. Results will be achieved through a reduction of road traffic due to measures such as the promotion of modal shift to public transport, walking and cycling, awareness raising campaigns, parking policies and more efficient city logistics.

6.5.2. Impact on energy consumption and CO_2 emissions in transport, including possible territorial effects

The implementation of a SUMP and its measures, such as the promotion of non-motorised transport modes, alternatives for the car and good access to public transport, are likely to result in a decrease in (the growth of) energy consumption and reduce emissions of CO_2.

Policy options **1B, 2A and 3A** will result in a higher impact on greenhouse gas emissions than option **0B** as the level of uptake of a full SUMP will be higher, even more in the mandatory than in the voluntary approach. Regarding the policy framework the differences between

[155] Airparif (2011), Evaluation des impacts de Plan de Déplacements Urbains d'Ile-de-France sur la qualité de l'air et les emissions de gaz a effet de serre à l'horizon 2020, pp. 25-72 http://www.airparif.asso.fr/_pdf/publications/Rpduif_ges2020_300511.pdf)

[156] Cereg Territoires (2012), Le rapport environnemental du PDU de Marseille-Provence Metropole 2013-2023, pp. 73-78, (http://www.marseille-provence.com/assets/plugins/tinymce/jscripts/tiny_mce/plugins/filemanager/files/telechargement/transport/Enquete-publique-PDU/Eval-PDU-MPM_VF_2023_V4.pdf)

option **1B** on the one hand, and options **2A and 3A** on the other hand will be bigger, as the comprehensive requirements in option **1B** specifically address measures on clean technology, alternative fuels and access restriction schemes, which have a high potential in relation to greenhouse gas emissions reduction. However, the comprehensive scope will only be implemented on a voluntary basis.

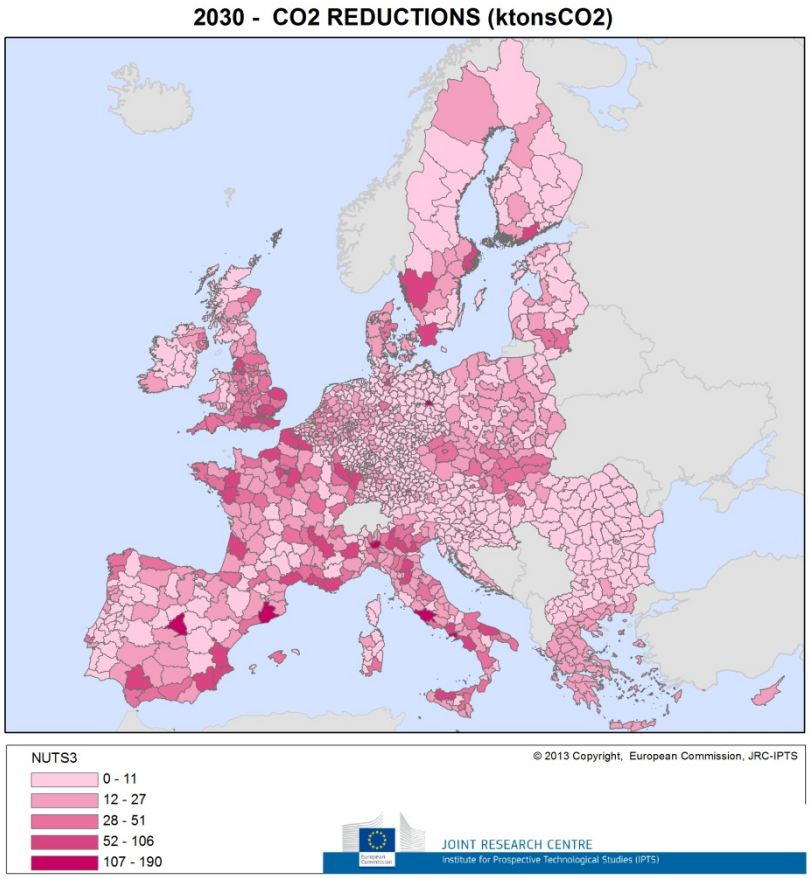
56. Below, an extract is presented from a Joint Research Centre (JRC) report[157]. The results of the JRC report could be regarded as an illustration of possible territorial impacts of a SUMP on CO_2 emissions reduction potentials. The JRC carried out an assessment of impacts at EU level, with focus on the territorial dimension. Different types of urban profiles were identified for NUTS3 regions in Europe. These profiles were used to differentiate potential impacts of various policy measures within a SUMP by NUTS3 region, accounting for the wide range of different types of cities in Europe. A scoring system, drawing on several studies[158], was used for assessing the impacts of policy measures within a SUMP[159,160]. For more information on the list of identified measures and on the expert scoring method used in the JRC report see annexes 6 and 7. The CO_2 emissions reduction potential for each type of policy measure within a SUMP is reported relative to projections under current trends and policies for 2030.

57. The overall impacts of the policy measures within a SUMP are evaluated for different city profiles in NUTS3 regions. When considering all potential policy measures within a SUMP the assessment shows that by 2030 the CO_2 emission reduction potential at EU level is in a range of 7% to 8.8%, relative to projections under current trends and policies[161].

Case study 17: territorial impact of SUMPs by JRC

The JRC assessed the impacts of a list of identified policy measures within a SUMP for the defined NUTS 3 profiles on potential CO_2 emissions reduction, see the figure below[162].

[157] JRC technical report (2013), Quantifying the effects of SUMPs
[158] KONSULT, TRANSPORD, VTPI, EC-Freight and EPOMM
[159] The scoring systems are based on current expert knowledge about policy impacts. Therefore, the results provided do not represent model estimates.
[160] The results for the overall package, provided at EU level, were derived without accounting for the overlapping effects between the measures.
[161] JRC technical report (2013), Quantifying the effects of SUMPs, pp. 14 and 68. These figures should be regarded as an upper bound and reflecting the potential range of reductions of the full list of identified measures, considering that overlapping effects between the measures have not been taken into account.
[162] JRC technical report (2013), Quantifying the effects of SUMPs, pp. 13 and 67. These figures should be regarded as an upper bound and reflecting the potential range of reductions, considering that overlapping effects between the measures have not been taken into account.



Moreover, case studies from Strasbourg, Ile de France and Marseille further illustrate the potential benefits of a SUMP:

Case study 18: the effects of the "Plan de Déplacements Urbains (PDU) de Marseille" on GHG emissions[163]

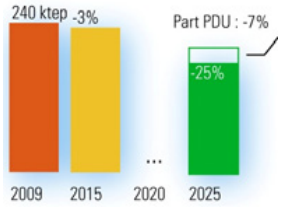
"Le rapport environnemental du PDU de Marseille-Provence Metropole 2013-2023" has estimated the impact of the PDU of Marseille on greenhouse gas emissions with a time horizon 2023. For both the "Metropolitan area" (Aubagne, Vitrolles, Pays de Martigues, Pays de Salon de Provence) and for the "Bassin centre" ("Marseille, Allauch, Plan de Cuques, une grande partie de Septèmes les Vallons et une petite partie de celles des Pennes-Mirabeau") total GHG emissions will decrease, even in a scenario where no further policy action is taken, due to the technologic evolution of motorised transport. However, the full potential of technological improvement, e.g. the development of electric cars and the time needed to change the whole car fleet (about 25 years), can only be realised on the long term. In the "Metropolitan area", total GHG emissions would go down with 11% if no further action is taken. However, if the PDU 2013-2023 will be implemented, GHG emissions could go down with 22%, representing an additional 11% gain. In the "Bassin centre", total GHG emissions would go down with 11% if no further action is taken. However, if the PDU 2013-2023 will be implemented, GHG emissions could go down with 21%, representing an additional 10% gain. These gains can be realised through the implementation of measures in the PDU to promote modal shift to public transport and non-motorised modes (to reduce road traffic), and e.g. parking policies and more efficient city logistics distribution.

Case study 19: the effects of the "Plan de Déplacements Urbains (PDU) de la Communauté Urbaine de Strasbourg" on energy consumption in road transport[164]

[163] Cereg Territoires (2012), Le rapport environnemental du PDU de Marseille-Provence Metropole 2013-2023, pp. 82-85, (http://www.marseille-provence.com/assets/plugins/tinymce/jscripts/tiny_mce/plugins/filemanager/files/telechargement/transport/Enquete-publique-PDU/Eval-PDU-MPM_VF_2023_V4.pdf)

The urban agglomeration of Strasbourg has estimated the impact of its PDU on the energy consumption in transport (leading to an impact on CO_2 emissions). In relation to the figures for 2009, and compared to the business as usual situation (the situation in which there would be no additional action), the PDU measures will enable an additional reduction of 7% of energy consumption in transport by 2025 (see the graph below). In the business as usual scenario energy consumption in transport would already substantially go down due to technological progress of motorised transport which increases its energy efficiency and introduces cleaner cars, e.g. hybrids. The PDU measures would create additional positive effects thanks to the reduced mileage of total car trips and a modal shift to public transport and non-motorised transport modes.

Evolution of energy consumption in transport in the Strasbourg agglomeration:



Case study 20: the effects of the "Plan de Déplacements Urbains d'Ile-de-France (PDUIF)" on CO_2 in Ile-De-France[165]

The PDUIF study as mentioned in the case study above concluded that in the "status quo" scenario, i.e. the scenario without any additional action, CO_2 emissions would decrease by 12%, compared to the 2005 figures due to the technologic evolution of motorised transport which will offset the potential increase of local transport. Taking into account the measures as proposed in the PDUIF, it is estimated that an extra 8% reduction in CO_2 emissions could be achieved, bringing the total reduction to 20%.

6.5.3. Impact on noise pollution

Taking measures within a SUMP, such as speed limits or isolation measures, will lead to reduced noise exposure leading to reduced health costs. For more information see chapter 6.4.2 and relevant case study of Strasbourg.

Policy options **1B, 2A** and **3A** will result in a higher impact on noise pollution than option **0B** as the level of uptake of a full SUMP will be higher, even more in the mandatory than in the voluntary approach. Regarding the policy framework the differences between option **1B** on the one hand, and options **2A** and **3A** on the other hand will be bigger, as the comprehensive requirements in option **1B** specifically address measures on clean technology, alternative fuels and access restriction schemes, which have a high potential in relation to noise reduction. However, the comprehensive scope will only be implemented on a voluntary basis.

6.5.4. Impact on other environmental indicators (e.g. biodiversity, water quality, soil quality, renewable sources, waste management

Taking measures within a SUMP, such as reduction of (heavy) road traffic, speed limits, a promotion of modal shift and more efficient city logistics will lead to reduced environmental damage, such as of water and soil quality, and better preservation of biodiversity (e.g. through less particles of tyres, less spill of oil, less air pollution).

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[164] Roland Ribi & associes, PTV France, Interface Transport (2012), Plan de déplacement Urbaine de la Communauté Urbaine de Strasbourg, Annexe 4 évaluation environnementale (http://www.strasbourg.eu/environnement-equalite-de-vie/deplacements/grandes-orientations)

[165] Airparif (2011), Evaluation des impacts de Plan de Déplacements Urbains d'Ile-de-France sur la qualité de l'air et les emissions de gaz a effet de serre à l'horizon 2020, pp. 76-77 (http://www.airparif.asso.fr/_pdf/publications/Rpduif_ges2020_300511.pdf)

Policy options **1B, 2A** and **3A** will result in a higher impact on air pollution, biodiversity, water and soil quality than option **0B** as the level of uptake of a full SUMP will be higher, even more in the mandatory than in the voluntary approach. Regarding the policy framework the differences between option **1B** on the one hand, and options **2A** and **3A** on the other hand will be bigger, as the comprehensive requirements in option **1B** specifically address measures on clean technology, alternative fuels and access restriction schemes, which have a high potential in relation to air pollution and road traffic reduction with a positive impact on biodiversity, water and soil quality. However, the comprehensive scope will only be implemented on a voluntary basis.

Case study 21: the effects of the Plan de Déplacements Urbains d'Ile-de-France (PDUIF) on other environmental indicators[166]

The revised PDUIF 2012 concluded that the impacts on the other environmental indicators of the PDUIF with a time horizon 2020 are generally positive. Some negative consequences are foreseen, e.g. on biodiversity, water resources, fragmentation of land and less open space, due to the creation of infrastructure. However these effects are limited as most of the new infrastructure is foreseen in urbanised zones on existing roads.

6.6. Impacts on affected stakeholders

58. Local and regional authorities will benefit from reduced congestion, reduced environmental pollution, less accidents and better accessibility of/within cities. This leads to more liveable and attractive cities for people and businesses to live and work in, contributing to job creation and economic growth. Overall this will lead to costs savings for the society as a whole with relatively limited additional administrative burden.

59. Local, regional and national authorities, transport operators and users, and businesses will benefit from reduced congestion and a better flow of goods and people leading to better accessibility of/within cities, more predictable and shorter travel times and costs savings due to gained time and efficiencies.

60. Businesses will have more opportunities to develop innovative transport and mobility technologies and services, and better 'economies of scale' and export opportunities.

61. Tax payers will benefit due to the development and implementation of better coordinated and targeted combination of urban mobility measures leading to overall cost savings.

62. EU citizens in general will benefit due to a positive impact on their health of reduced air pollution, reduced urban traffic noise levels, reduced traffic accidents in urban areas, and a more active lifestyle.

6.7. Summary of the aggregated economic, environmental and social impacts

In sections 6.3 to 6.5 the economic, social and environmental impacts of the policy options have been described and illustrated. Most impacts, and especially the aggregate impact, are expected to be positive. This is reflected in table 9 below. On the basis of the analysis in section 6.1 and 6.2 it has been assumed that options 2A and 3A ("++" or "- -") will have a more pronounced effect than option 1B ("+" or "-"). Option 2A and 3A have been scored

[166] Stif (2012), Plan de déplacements urbains de l'Ile-de-France http://www.stif.org/IMG/pdf/PDUIF_RIF_2012.pdf, pp. 181

equally in this schematic summary, as section 6.2 states that option 3A will have the largest potential impacts, however likely to be closely followed by option 2A.

Table 9: Summary of the aggregate economic, environmental and social impacts

Impact compared to the baseline (=option 0B)	option 1B	option 2A	option 3A
Economic impacts	**+**	**++**	**++**
Reduced congestion and free movement of people and goods	+	++	++
Innovation and research/external dimension	+	++	++
Territorial impact	+	++	++
Modal shift (a "+" means a shift to non-motorised and public transport)	+	++	++
Competitiveness EU industry	+	++	++
SMEs	+	++	++
Administrative costs (a "-" means an increase in adminstrative costs)	-	- -	- -
Cost savings (a "+" means an increase in cost savings)	+	++	++
Social impacts	**+**	**++**	**++**
Road safety	+	++	++
Health	+	++	++
Employment and social inclusion	+	++	++
Civil society	+	++	++
Environmental impacts	**+**	**++**	**++**
Air quality	+	++	++
Reduced energy consumption and greenhouse gas emissions from transport (a "+" means less energy consumption and greenhouse gas emissions)	+	++	++
Reduced noise pollution (a "+" means less noise pollution)	+	++	++
Other environnemental indicators (e.g. biodiversity, water quality, soil quality, renewable sources, waste mangement)	+	++	++

("+" refers to the intensity of a positive correlation, "-" refers to a negative correlation)

7. COMPARISON OF THE POLICY OPTIONS

7.1. Effectiveness

In comparison to the baseline scenario (option 0B), all other policy options will more effectively help to unlock the potential of urban areas to improve the well-being of citizens and the effectiveness of businesses and to contribute to a more competitive and resource-efficient transport system, as they all stimulate the uptake of SUMPs for which the added value in relation to those objectives has been demonstrated in previous sections. However, as indicated before (see sections 6.1 and 6.2), the effects of the mandatory policy options (2A and 3A) will be higher than for option 1 B, which would introduce non-binding recommendations on SUMPs. This is because it is assumed that the uptake of SUMPs will be higher for the former.

Certain elements could shift this balance in favour of non-binding recommendations (option 1B), especially if seen at city level, and not at an aggregate EU level. First of all, the voluntary option 1B covers the comprehensive requirements for the policy framework of SUMPs, whereas the mandatory options only cover the minimum requirements for the policy framework of a SUMP and could therefore be less effective if seen from a single city point of view. Moreover, in the voluntary option the guidance given at cities for the development and implementation of a SUMP could be more detailed and thus more effective than when taking recourse to a legal instrument. Also, the buy-in of all stakeholder categories is likely to be higher under the voluntary option. In this respect it could be argued that non-binding

recommendations on SUMPs could be more effective than a mandatory legal framework if a single city develops and implements a SUMP. However, in general, the uptake of SUMPs will be higher in the mandatory options and this scale effect at EU level will outweigh the comparative advantage of non-binding recommendations at a single city level.

For the mandatory options, policy option 3A could be slightly more effective than policy option 2A as it is assumed that the scope of application of SUMPs would be slightly higher under option 3A than for 2A. This is because the EU definition of cities to implement SUMPs is more likely to have a wider coverage. Therefore, policy option 3A is likely to be more effective than option 2A.

7.2. Efficiency

All policy options are efficient: they bring value (effectiveness) for their money (costs) (see section 6.3.7). No matter whether a SUMP is implemented based on a mandatory approach or on a voluntary basis, the development and implementation costs will be similar, relative to the estimated benefits. The difference between minimum (option 2A and 3A) or comprehensive requirements (option 1B) for the policy framework of a SUMP will not significantly influence this balance, as the higher absolute costs for the comprehensive approach should be outweighed by its increased effectiveness. However, as the voluntary approach leaves the cities more freedom in choosing the appropriate framework, fitted to the local circumstances, also on the governance side of a SUMP, stakeholders argue that there could be a reduced administrative burden stemming from possibly redundant legal requirements, without losing out on effectiveness. Therefore, policy option 1B is likely to be more efficient than policy option 2A and 3A.

7.3. Coherence

All the options are coherent with the overarching objectives of EU policy. As explained in section 4.3, all policy options are in line with the Europe 2020 strategy, the Single Market Act, the White Paper on Transport and the Sustainable Development Strategy. All policy options bring about net positive economic, social and environmental gains. As such, the policy options are not expected to represent a trade-off between the economic, social and environmental field. All policy options advocate the uptake of SUMPs. As the ultimate goal of a SUMP is an integrated approach to urban mobility in order to ensure a competitive and a sustainable transport system, it is inherent to a SUMP that the three criteria for sustainability (economic, social and environmental aspects) are taken into account when implementing a SUMP at regional/city level.

Certain implementing measures in a SUMP could imply a certain trade-off between economic, social and environmental impacts. For example, the introduction of urban road user charges with a view of lowering urban emissions could have a negative impact on the financial situation of citizens, and could for lower income categories even decrease the accessibility of the urban area. However, this could be counterbalanced by measures promoting a more reliable and affordable public transport system or with appropriate park and ride strategies. A SUMP would ensure that all these aspects are taken into account, in order to ensure a net positive economic, environmental and social impact of the entire package of implementing measures. Despite this possible trade-off between implementing measures of a SUMP, a SUMP as a whole should offset this trade-off and counterbalance possible negative effects of individual implementing measures.

Moreover, policy option 2A and 3A will ensure a coherent framework on SUMPs as there will be an obligation on certain cities to implement the reference SUMP framework. In option 1B this reference SUMP framework is only there as guidance and cities will not be obliged to implement all components. As such, option 1B risks to bring about a less coherent development and implementation of SUMPs throughout the EU. Therefore, it can be concluded that although all policy options are coherent, policy option 2A and 3A are slightly more coherent than policy option 1B.

7.4. Stakeholder support

As already touched upon in section 5.2, stakeholders have been consulted on the various policy options. 86% of all stakeholders answering to the online public consultation are in favour of EU-support for the development of SUMPs. Stakeholders as such clearly indicate the added value of EU action. The respondents to the public consultation are to a large extent in favour of EU support measures in relation to option 0. 74% is of the opinion that best practices on SUMPs should be developed and exchanged at EU level. Moreover, 66% finds that the EU should provide a platform for this. 58% believes that the EU should give financial support for the development of SUMPs, whereas 57% believes that the EU should fund R&D projects related to urban mobility planning. 57% of the respondents support option 1B on the development of guidelines and recommendations. However, only 29% of the registered respondents point to a mandatory framework for SUMPs in EU cities (options 2 and 3).

63. Regarding the level of ambition of SUMPs there was support at the stakeholder consultation meeting for the minimum requirements for the policy framework of cities' policy making, and for the minimum requirements on the governance framework (option A). Regarding a mandatory approach (options 2A and 3A) concern was raised about higher administrative burden and the fact that cities are different and therefore need flexibility in their urban mobility approaches. A two-step approach was suggested by starting first with a non-mandatory approach and become more restrictive over time. A consultation with Committee of the Regions' members revealed that they also support a non-legislative approach (options 0 and 1).

7.5. Summary on the comparison of policy packages

A summary of the comparison of options is given in table 10. As explained in section 7.1 to section 7.4 the following conclusions can be drawn. All policy options are effective, but policy option 2A and 3A (++/+++) are more effective than policy option 1B (+). All policy options are efficient as they represent value for money. However, policy option 1B (+ / ++) is likely to be more efficient that option 2A and 3A (+). Furthermore, all policy options are coherent. However, policy option 2A and 3A (++) are likely to be more coherent that option 1B (+). Lastly, it is clear that option 1B (++) is supported by a vast majority of stakeholders, whereas option 2A and 3A are heavily contested (- -) by the stakeholders.

Table 10: Effectiveness, efficiency and coherence of the policy packages (PPs), compared to the baseline scenario (option 0B)

OPTION	Option 1B	Option 2A	Option 3A
Effectiveness	+	++	++ / +++
Efficiency	+/++	+	+
Coherence	+	++	++
Stakeholder support	++	- -	- -

("+" refers to the intensity of a positive correlation, "-" refers to a negative correlation)

7.6. Conclusions and preferred policy option

Based on the analysis of impacts and the comparison of the options it is concluded that the preferred policy option is **option 1B (non-binding recommendations on SUMPs with comprehensive requirements for the policy framework of a SUMP)**. This because it is effective in reaching the objective of this initiative, is slightly more efficient than the other policy options, is coherent and because it is the only option which in addition to the baseline scenario is supported by a majority of the stakeholders. From the consultation process it is clear that at this point in time option 2A and 3A (the "mandatory" options) are not supported by stakeholders and neither by experts.

The advantages of non-binding recommendations over a legal approach are multiple. A much more detailed guidance can be given to cities, resulting in more flexibility and enhanced effectiveness. Moreover, the buy-in of all stakeholder categories is likely to be higher under the voluntary option. Given the large diversity on urban mobility approaches at Member State level and given the current limited availability of comparable data and statistics, non-binding recommendations on the development and implementation of SUMPs are therefore the optimal way forward at this point in time. At a later stage, based on the reinforced monitoring and evaluation arrangements (see section 8), e.g. the development of common indicators on urban mobility performance, the necessity for further action on integrated urban mobility at EU level can be explored.

8. MONITORING AND EVALUATION

The Commission services will monitor the implementation and effectiveness of this initiative through a set of instruments. The Commission services will monitor inter alia the number of national frameworks on SUMPs in place and the number of urban areas covered by it. Moreover, it will monitor the number of urban areas developing and implementing a SUMP. Data will be gathered in close consultation with Member States and stakeholders, e.g. through the future European Platform on Sustainable Urban Mobility Plans, in line with current EU activities[167]. The future European Platform on Sustainable Urban Mobility Plans will act as a virtual knowledge and competence centre, consolidating relevant experiences and information across the EU, including the sharing of relevant data and statistics and the elaboration of common indicators on urban mobility performance with a view to setting-up a common urban mobility scoreboard. Based on this, monitoring indicators for the implementation by Member States and local authorities could be developed.

The Commission services will evaluate by 2020 the uptake of integrated urban mobility approaches in the European Union, inter alia based on the monitoring arrangements described above. If possible, based on improved data collection in the field of urban mobility and the elaboration of a common urban mobility scoreboard, the impacts at city level on the result indicators can be identified (e.g. impact on air quality, noise, CO2, road safety, congestion). Based on these elements, the Commission services shall assess the need for further action on integrated urban mobility.

[167] See baseline scenario in chapter 5.1

APPENDIX 1: ASSESSMENT OF THE APPLICATION OF THE MINIMUM CONSULTATION STANDARDS

Aim and content of the consultation process

64. The White Paper "Roadmap to a Single European Transport Area – Towards a Competitive and Resource Efficient Transport System"[168] announces that the Commission will "examine the possibility of a European support framework for a progressive implementation of Urban Mobility Plans in European cities, establish procedures and financial support mechanisms at European level for preparing Urban Mobility Audits, as well as Urban Mobility Plans, and set up a European Urban Mobility Scoreboard based on common targets, and examine the possibility of a mandatory approach for cities of a certain size, according to national standards based on EU guidelines". It is also proposed to "link regional development and cohesion funds to cities and regions that have submitted a current, and independently validated Urban Mobility Performance and Sustainability Audit certificate".

65. The aim of the consultation was to gather the views of the EU citizens and stakeholders on this initiative.

66. The consultation process has been structured as follows:

(1) Stakeholder consultation as part of the study "Review of the Action Plan on Urban Mobility" MOVE C1/319-1/2011;

(2) Public consultation on "The urban dimension of EU transport policy";

(3) Consultation of representatives of the Member States;

(4) Targeted experts' and stakeholders' consultation under "COWI (2013), Study to support an Impact Assessment on Urban Mobility Package 2013";

(5) A Euro barometer citizen survey into 'Attitudes of European towards urban mobility';

(6) Consultation of Committee of the Regions' members.

67. The General Principles and Minimum Standards for Consultation of Interested Parties by the Commission were respected in the elaboration and presentation of the consultation questionnaire.

Publication

68. All reports have been published on the Commission website at the following addresses: (to be completed when available)

[168] COM(2011)144 final

Time limits for participation

69. An on-line stakeholder consultation as part of the study "Panteia/NEA (2013), Review of the Action Plan on Urban Mobility" MOVE C1/319-1/2011 was published on 18 June 2012. The questionnaire was available on-line until 7 September 2012, respecting the minimum consultation standard period of at least twelve weeks.

70. A public on-line consultation on "The urban dimension of EU transport policy" was published on 17 September 2012. The questionnaire was available on-line until 17 December 2012, respecting the minimum consultation standard period of at least twelve weeks.

71. The consultation of representatives of Member States took place in December 2012.

72. The consultation of experts and stakeholders under the "COWI (2013), Study to support an Impact Assessment on Urban Mobility Package 2013" took place between January and May 2013.

73. The Euro barometer citizen survey took place between 24 May and 9 June 2013.

74. The consultation of the Committee of the Regions' members took place on 13 June 2013.

Acknowledgement and feedback

75. As to the on-line stakeholder consultation as part of the study "Panteia/NEA (2013), Review of the Action Plan on Urban Mobility" MOVE C1/319-1/2011, Panteia/NEA requested and obtained the approval of all stakeholders before publishing the relevant contributions in the final report.

76. As to the public consultation on "The urban dimension of EU transport policy", stakeholders were informed on-line that their contributions would be handled by a consultant and used by the Commission services, and a summary of the consultation's results would be published on the Commission's website.

APPENDIX 2: RESULTS OF CONSULTATION WITH INTERESTED PARTIES

The consultations on the urban dimension of EU transport policy, including Sustainable Urban Mobility Plans, carried out in 2012 and the first half of 2013 with stakeholders and experts from national, regional and local public authorities, companies, transport operators; academia, civil society (associations or NGOs) and the public, have arrived at the conclusion that that integrated urban mobility planning is a useful tool to fostering coordination at local and regional level. Furthermore, a vast majority believes that EU-support for the development of Sustainable Urban Mobility Plans would contribute to the broader take up of SUMPs in urban areas.

Furthermore, the majority of respondents:

- Supports further EU action to stimulate the development and implementation of SUMPs in the MS.
- In general believes that EU support should be based on a non-legislative approach.
- Considers that support mechanisms (such as the exchange of best practice and providing a platform for that, technical assistance, financial support for the development of SUMPS, supporting R&D projects on SUMPS and guidance through recommendations) should be set-up to promote the development and implementation of SUMPS.
- Considers that SUMPs should pay sufficient attention to city logistics.
- Raise concern about a possible lack of quality control on SUMPs
- Believe that benchmarking of cities could be useful to raise awareness among politicians and support EU support to elaborate common indicators on urban mobility performance

Stakeholders' consultation concerning the review of the Action Plan on Urban Mobility

An on-line stakeholder consultation took place between 18 June 2012 and 7 September 2012, as part of the study "Panteia/NEA (2013), Review of the Action Plan on Urban Mobility" MOVE C1/319-1/2011. In total 116 responses were received, including 62 respondents providing contributions on the first action of the Action Plan related to Sustainable Urban Mobility Plans. 20 of the specific replies on integrated urban mobility planning came from professional organisations, academia and research, 19 of the replies came from representatives of local and regional authorities and city networks, 11 replies came from NGOs, and 12 replies came from member states representatives, transport operators, workers and consumers organisations.

The report is available at: (to be completed when available).

The main findings from the consultation regarding the take-up of Sustainable Urban Mobility Plans are as follows[169]:

- The EC provided guidance material, promoted best practice exchange and supported educational activities for urban mobility professionals. Through these activities the

[169] Panteia/NEA (2013), Review of the Action Plan on Urban Mobility

relevant action of the Action Plan on Urban Mobility has been implemented and local authorities are supported in developing Sustainable Urban Mobility Plans.

- Freight transport in Sustainable Urban Mobility Plans has so far not really been addressed.
- The ELTISplus guidelines aimed at developing and implementing a Sustainable Urban Mobility Plan provide a good understanding of what such a plan should be. However, no official document to date offers an exhaustive definition of a Sustainable Urban Mobility Plan.
- Some stakeholders support to link regional development and cohesion funds to cities and regions that have submitted a current, independently validated Urban Mobility Performance and Sustainability Audit Certificate.
- The encouragement of Member States to provide platforms that would foster the development of sustainable urban mobility policies has not been (fully) reached.
- An urban mobility dimension in the Covenant of Mayors has been introduced. However, more cooperation between the interrelated topics of Sustainable Energy Action Plans and Sustainable Urban Mobility Plans is necessary.

Public consultation on the urban dimension of EU transport policy

An on-line public consultation on the urban dimension of EU transport policy has run between 17 September and 17 December 2012. 206 respondents took part in the consultation: 195 replied to the questionnaire and are included in the statistics, the other 11 sent position papers. The topics addressed in the public consultation were Sustainable Urban Mobility Plans, access restriction and urban pricing schemes, EU financial support for urban transport projects, urban logistics and other issues.

Most of the replies came from respondents who participated in personal capacity (88), while the second highest number of replies (58) came from respondents representing civil society (associations or NGOs). These two groups together represent about ¾ of the total 195 records. Local and regional public authorities provided 24 reactions and companies provided another 14. Hardly any respondents came from national public authorities and academia.

Most of the respondents are based in Germany (21.5%), Belgium (14.4%), where many European policy stakeholder organisations have their offices, and Italy (11.2%). These three Member States together represent almost half of the respondents. Spain and France follow with respectively 11% and 10%. Close to 51% of the contributions came from respondents who live and work in an urban area where an access restriction scheme has been introduced or is considered.

The report[170] is available at: http://ec.europa.eu/transport/themes/urban/studies/doc/2013-a032862-urban-mobility-public-consultation-report.pdf

The main findings are the following:

1) A vast majority of respondents (87%) think that there is a lack of coordination between authorities and other actors and that integrated urban mobility planning could be an answer to tackle this issue.

[170] COWI (2013), Results of the public consultation 'The urban dimension of the EU transport policy'

In particular:

- The principal objectives of Sustainable Urban Mobility Plans, as ranked by the respondents, are improving air quality, liveability, leisure, recreation and accessibility;
- Several respondents state that a European vision on sustainable urban mobility planning is needed as part of a coordinated EU approach to achieve a sustainable and efficient EU transport system;
- A specific stakeholder state that "urban areas should provide efficient interconnection points for the TEN-T network";
- Another specific stakeholder comments "it is proven that success stories of integrated mobility plans also have a good integration between authorities and other actors, but this is still lacking in many regions/cities";
- IRU considers that from a commercial road transport operator perspective "urban mobility planning is one of the areas where the demand for more coordination at all decision levels is most urgent. The current patchwork of access restriction and charging schemes in European cities result from the lack of a coordinated and integrated approach to urban mobility at national and EU level";
- 5% of respondents opposed integrated urban mobility planning mainly on the grounds that it foils the subsidiarity principle: "The decision on which policy options to pursue should be left to the cities themselves, as EU-cities face different types of challenges".

2) A vast majority of respondents (91%) agree that integrated urban mobility planning is a useful tool for promoting coordination at local and regional levels.

In particular:

- Respondents underline that there are important factors of urban mobility, such as noise and air pollution, which cannot be appropriately handled at local level or contained within borders. Hence they call for a coordinated EU-led approach;
- Respondents also stress that one size does not necessarily fits all and that EU transport policy instruments should reflect regional differences. They also point out that each Sustainable Urban Mobility Plan needs to be tailored to local circumstances and that there should not be a top-down approach;
- Respondents also underline that political commitment and public participation is required for success and that attention should be paid to technical, procedural and commercial barriers;
- 2% of respondents oppose integrated mobility plans mainly on the ground that they would be a duplication of existing plans and that the diversity of the situations calls for different approaches.

3) A vast majority of respondents (86%) see that EU-support for the development of Sustainable Urban Mobility Plans (SUMPs) would contribute to the broader take-up of SUMP in urban areas.

In particular:

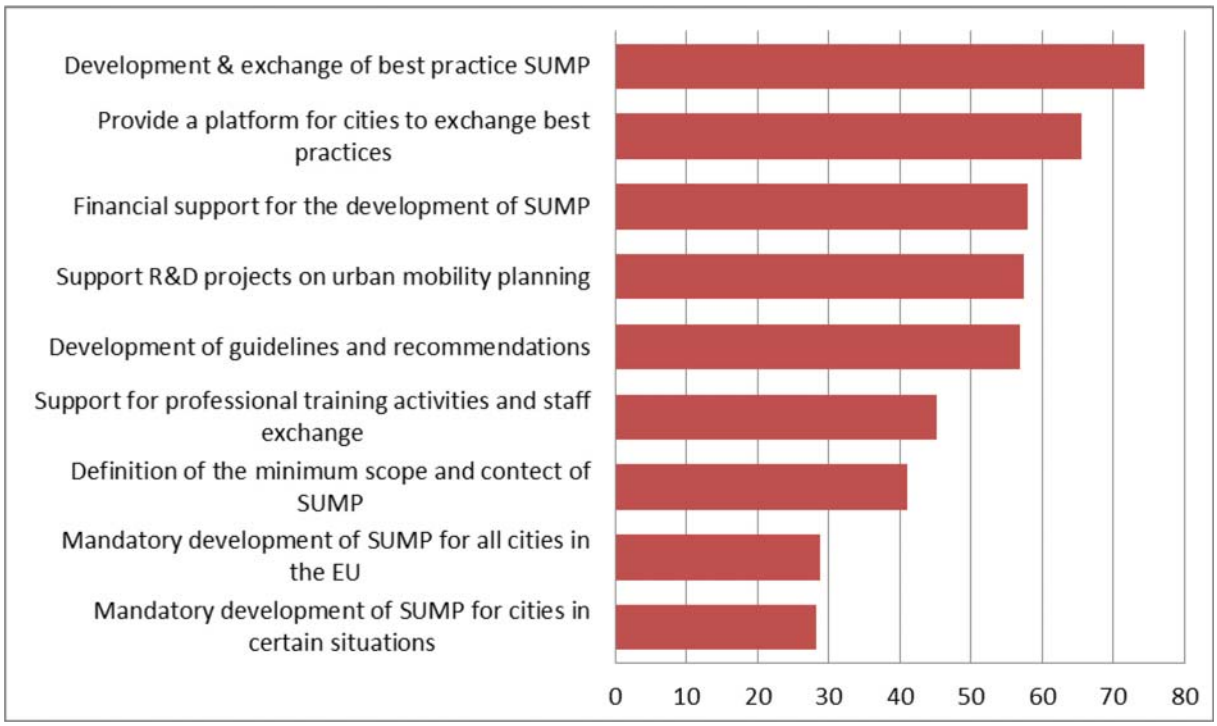
- Some respondents claim that defining binding rules at EU level would help realise SUMPs faster, more efficiently and sustainably;

- Other respondents point out that EU support could be expressed through funding, practical guidance and/or sharing of best practice and oppose a legislative approach which they believe could stifle innovation and may not be suited to specific needs;
- Last, some respondents also underline that benchmarking on EU level could be useful and provide an incentive.

4) The five most popular EU-support schemes respondents would like to see implemented are:The development and exchange of best practice (74%)

- **Providing a platform for cities to exchange best practice (66%)**
- **Financial support for the development of Sustainable Urban Mobility Plans (58%)**
- **Supporting R&D projects on urban mobility planning (57%)**
- **Development of guidelines and recommendations (57%)**

Figure 1: Which support should be provided at EU level to facilitate the development of Sustainable Urban Mobility Plans? (% of respondents)



Source: own calculations based on COWI(2013) stakeholder report

Noteworthy, 29% of the respondents call for mandatory development of SUMPs for *all* cities in the EU.

Interestingly, while some of the schemes, such as the development and exchange of best practice, are amongst the preferred options for all types of respondents, passenger associations are clearly in favour of the mandatory development of SUMPs for all cities and workers associations are in favour of the mandatory development of SUMPs for cities in certain situations. Environmental and safety associations for their part support the definition of the minimum scope and content of SUMPs.

Other tools suggested by respondents include:

- Developing decision support tools such as simulation tools and traffic models;
- Issuing certificates or labels for cities that perform up to certain standards;
- Defining quality parameters that can be used for assessing a SUMP.

5) The seven topics that most respondents think Sustainable Urban Mobility Plans should give the highest weight to are:

- **Walking and cycling (11.4%)**
- **Public transport plan including travel information (11.2%)**
- **Integration of transport and mobility services (7.6%)**
- **Urban logistics (7.6%)**
- **Coherence with urban development and land-use planning (7.1%)**
- **Access restriction schemes (6.8%)**
- **Parking management (6.5%)**

In particular:

- Most respondents say that all the 17 topics a Sustainable Urban Mobility Plan could address, as put forward in the public consultation, could be part of such a plan. However, the choice and combination depend on the local situation and on political priorities;
- Some respondents believe that Sustainable Urban Mobility Plans should pay special attention to safe mobility, particularly to vulnerable road users;
- Other topics not offered in the list but mentioned by respondents as important include: inclusion of the wider functional area beyond city boundaries, stricter speed management, the use of renewable energy in transport and multimodality and commuting.

6) A majority of respondents (67%) are in favour of linking the access to EU funding for urban transport projects to the existence of Sustainable Urban Mobility Plans (SUMPs) in order to provide a safeguard that supported projects are in line with relevant local, national and EU policies.

In particular:

- Some respondents (e.g. Union of Public Transport, France) suggested that the linking should be limited to cities over 100,000 inhabitants, as the elaboration of SUMPs may become too costly and burdensome for small cities. Furthermore, big cities are confronted with more important problems in terms of congestion and pollution;
- Other comments in favour of linking access to funding with the existence of SUMPs include the avoidance of wasting resources and the assurance of greater effectiveness as well as the assurance that SUMPs are compatible with EU policies;
- Those who oppose such a link (22% of respondents) mainly argue that it may lead to discrimination against smaller cities and that it would increase bureaucracy especially

for those cities who already have a SUMP (if they need to adapt the content and/or process).

7) A majority of respondents (67%) state that the current urban transport planning does not give sufficient consideration to urban freight logistics.

In particular:

- Policy actions at EU level suggested by respondents amongst a pre-defined list to make urban freight transport more efficient includes:

  Figure 2: Which support should be provided at EU level to make urban freight transport more efficient?

Policy actions	Number of times actions were ticked (respondents were allowed to tick all that apply)
Development and exchange of best practice	125
Support R&D Projects	99
Development of guidelines and recommendations	97
Provide a platform for stakeholders to exchange best practice	89
Development of standards on ICT applications	88
Legislation (e.g. on interoperability of equipment)	82
No action needed at EU level	12
Other	5

- As far as the development and exchange of best practice is concerned, respondents highlighted that existing initiatives such as ELTIS and CIVITAS provide the right framework to improve urban freight logistics, that there should be more R&D projects and that the links with long-distance freight should also be taken into account;
- In addition, respondents from the logistics sector stress that the following actions would improve urban logistics:
  - increase the number of safe and legal loading facilities, including parking spaces;
  - develop a network of pick-up and drop-off loading points;
  - set up specific arrangements for out-of-peak hour deliveries;
  - allow use of bus and taxi lanes;
- Respondents from the logistics sector also express concern that the legal obligation to have professional drivers for low-emission vans exceeding 3.5t hampers the deployment of such low-emission vans and plead for the removal of this obligation.

High level Conference

A high level conference on urban mobility took place on 17 September 2012. At the conference high level representatives from the Committee of the Regions and the European Parliament raised the importance of a holistic and comprehensive approach for urban mobility. Integrated mobility solutions are fundamental to face local challenges. Integrated strategies and the plans for delivery should be tailor made to local circumstances. Experience in the CIVITAS programme (RENAISSANCE[171]) showed that thanks to an integrated vision of mobility, Sustainable Urban Mobility Plans have been developed in three of the five partner cities. Political feasibility is mentioned as a barrier to implement Sustainable Urban Mobility Plans.

Meeting with Member States

A meeting with Member States was held in Brussels at 12 December 2012 at an early stage in the preparation of an Urban Mobility Package, to help identify priorities and expectations in the Member States in relation to the topics outlined above, and to help identify how to address them in the Package.

Items raised during the discussion on Sustainable Urban Mobility Plans are the following:

- Funding for urban mobility planning relevant to small/medium-sized cities: there is no intention to needlessly burden local authorities with additional obligations; instead guidance and technical support are offered where relevant. The CIVITAS programme has also long focused on small/medium-sized cities. A discussion is welcome regarding the next financial planning to see how much support should go to urban areas, to small/medium-sized cities, and to such areas as climate change.
- The importance of modal shift was raised, especially for families/inter-urban commuters and young drivers. The EC mentioned that one of the aims of the 2011 Transport White Paper is 'to phase out conventionally-fuelled cars by 2030, and for them to be entirely replaced with more sustainable modes by 2050'. This aim is also supported by the urban package.
- Countries with a culture of mobility planning have seen a huge modal shift from private cars to public transport, cycling and walking.
- The specific transport needs of senior citizens were discussed; and concern was raised that a large number of remote villages would become 'deserted' when the younger generation moved to cities.
- Specific concerns were raised regarding the achievement of modal shift by EU Member States that joined in 2004-7, and in particular by lower income groups.
- The importance of reclaiming urban areas for citizens was highlighted, with examples of access restriction schemes, low environment zones, the expansion of public transport, car/bike-sharing schemes, park and ride schemes, and awareness-raising campaigns.
- The EC's sustainable urban mobility campaign was presented by the EC as a complementary campaign to European Mobility Week. It does not vilify car drivers but encourages the public to make the correct transport choice for each trip.

171 CIVITAS RENAISSANCE is a project between five cities aiming to test and develop an integrated package of mobility measures to make historic cities cleaner and safer: Perugia (Italy), Bath (UK), Gorna Oryhavitsa (Bulgaria), Szczecinek (Poland), and Skopje (Macedonia). http://www.civitas.eu/index.php?id=70&proj_id=13

- For further information on SUMP best practice, participants were encouraged by the EC to consult/share the ELTISplus website.

Expert and stakeholder consultation

A dedicated consultation of experts in the field of Sustainable Urban Mobility Plans took place on 29 January 2013. There was broad agreement that the Commission should put forward a list of topics which a SUMP should consider to address, but no requirements for specific sub-plans and no requirements on specific measures to include, as packages of measures have to be suited to the individual cities characteristics and needs. Another point was that SUMPs should cover the functional city rather than merely the administrative city.

The expert consultation provided input on the SUMP developments in the Member States. It appears to be the case that cities are increasingly taking up SUMPs on a voluntary basis, which seems a strong indicator of success. The benefits of SUMPs are better planning processes with shared goals and stakeholder involvement, the coherence, coordination and prioritisation of actions related to cost effectiveness, and the strengthening of civil society. Among significant barriers to the take-up of SUMPs are a lack of funding, lack of awareness of benefits, lack of competences, a lack of coordination, silo thinking, and a lack of political will.

77. A consultation with stakeholders on the 'Urban Mobility Package' took place on 21 May 2013. Regarding the level of ambition of SUMPs stakeholders support the minimum requirements for the policy framework of cities' policy making, as well as the minimum requirements on the governance framework. It was questioned if inclusion of a minimum requirement on certification would be needed because of the lack of justification and the costs involved. It was suggested to include a requirement on political engagement. Furthermore, SUMPs should cover the functional city, and city logistics should be included. There was no support expressed for the comprehensive requirements, which were regarded as overambitious.

Regarding the instruments to be used at EU level strongest support was expressed for the exchange of best practice, financial support for the development of SUMPs, guidance on quality control, and for recommendations (options 0 and 1). Regarding conditionality to funding concern was raised on the possible lack of quality control on SUMPs. Regarding a mandatory approach (options 2-3) concern was raised about higher administrative burden and the fact that cities are different and therefore need flexibility in their urban mobility approaches. A two-step approach was suggested by starting first with a non-mandatory approach and become more restrictive over time. Stakeholders feel that EU action should be a driver to quickly develop and implement SUMPs, and not be a barrier. Regarding possible EU action on benchmarking of urban mobility performance it was said that the EU is not ready yet for a common scoreboard. First work is necessary on common indicators and a common baseline before a scoreboard can be developed.

78. A consultation with Committee of the Regions' members took place on 13 June 2013. Committee of the Regions' members support the development and implementation of integrated urban mobility approaches, such as SUMPs. In general and because of subsidiarity, Committee of the Regions' members support a non-legislative approach to stimulate the development and implementation of SUMPs (options 0 and 1). They

expressed support for the development of SUMPs in the form of technical assistance for those countries that need guidance. Regarding conditionality to funding one member mentioned to prefer an incentive approach instead of the proposed stick approach. The overall EU approach should be to stimulate the uptake of SUMPs in all MS, not to focus on a perfect SUMP in a few MS. Benchmarking of cities on urban mobility performance could be useful to raise awareness among politicians, hereto common indicators would first need to be developed. Mandatory requirements for cities with a well-established mobility system can be seen as counterproductive and burdensome. In the IA territorial impacts, and a costs benefits analysis should be included. The Covenant of Mayors could play a role in SUMP uptake, as a SUMP delivery mechanism. Finally multilevel governance should be reinforced and local and regional authorities should be involved in the decision making process.

Special Euro barometer citizen survey – 'Attitudes of European towards urban mobility'

79. Between 24 May and 9 June 2013 a special Euro barometer citizen survey was conducted into 'Attitudes of European towards urban mobility'. Some 27.680 citizens, making up a representative sample of European citizens over 15 in all of the 28 EU Member States, were asked a series of questions about their attitudes to urban mobility. 46% of Europeans travel in cities every day, with wide variations in the modes of transport used. For example in many MS over 45% of people use public transport several times a week – but in Cyprus only 3% of respondents use public transport daily and 43% of Dutch citizens ride a bike every day where in Malta 93% never ride a bike. A very large majority of all Europeans think that urban air and noise pollution, accidents and congestion are important challenges and nine out of ten Europeans encounter problems when travelling within cities that limit their access to important goods and services. Travelling costs are also considered to be an important problem in a large majority of MS. There is very strong support for improved public transport (better and cheaper) along with improved walking and cycling facilities. 68% think that vehicle access restrictions would improve travel in cities. Importantly 72% think that the situation will stay the same or get worse. A clear majority thinks that city authorities are mainly responsible for taking action to address urban mobility challenges.

Own initiative contributions

Several stakeholders sent relevant position papers on own initiative. These contributions are included in the consultation process as well as in the public consultation report.

APPENDIX 3: THE BASELINE SCENARIO

Business-as-usual developments

Overall description

80. The Commission has carried out an analysis of possible future developments in a scenario at unchanged policies, the so-called baseline scenario or 'Reference scenario'. This 'Reference scenario' was used in the following Impact Assessments (IAs):

(1) the IA accompanying the White Paper - Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system[172];

(2) the IA accompanying A Roadmap for moving to a competitive low carbon economy in 2050[173]; and

(3) the IA accompanying the Energy Roadmap 2050[174].

81. Accordingly, the 'Reference scenario' has been extensively described in:

(1) the IA accompanying the White Paper - Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system, Appendix 3 (pages 130-152). The list of policy measures included in the 'Reference scenario' is provided in Appendix 4: Inventory of policy measures relevant for the transport sector included in the 2050 Reference scenario (pages 153-155);

(2) the IA accompanying A Roadmap for moving to a competitive low carbon economy in 2050;

(3) the IA accompanying the Energy Roadmap 2050, Part A of Annex 1, which describes assumptions, results and sensitivities with respect to the Reference scenario (pages 49-97)[175].

82. The 'Reference scenario' is a projection of developments in the absence of new policies beyond those adopted by March 2010. In order to take into account the most recent developments, such as higher energy prices and additional policies on infrastructure and energy taxation adopted by November 2011, an additional scenario (Scenario 1) has been modelled to serve as a business-as-usual scenario for the present IA. Scenario 1 was used in the IA accompanying the proposal for a Regulation to define the modalities for reaching the 2020 target to reduce CO_2

[172] SEC(2011) 358 final
[173] SEC(2011) 288 final
[174] SEC(2011) 1565/2
[175] Short-term projections for oil, gas and coal prices were slightly revised according to the latest developments in the Reference scenario as compared to the version used in the White Paper - Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system and A Roadmap for moving to a competitive low carbon economy in 2050.

emissions from new passenger cars and the proposal for a Regulation to define the modalities for reaching the 2020 target to reduce CO_2 emissions from new light commercial vehicles[176] and for the IA accompanying the proposal for a Directive on the deployment of alternative fuels infrastructure[177].

83. The starting point for developing Scenario 1 is the 'Reference scenario'. Similarly to the 'Reference scenario', Scenario 1 builds on a modelling framework including the PRIMES energy model and its transport model (PRIMES-TREMOVE)[178], the PROMETHEUS and GEM-E3 models[179].

84. The differences between Scenario 1 and the 'Reference scenario' have been presented in the IA accompanying the proposal for a Regulation to define the modalities for reaching the 2020 target to reduce CO_2 emissions from new passenger cars and the proposal for a Regulation to define the modalities for reaching the 2020 target to reduce CO_2 emissions from new light commercial vehicles (pages 39-50 of the Annex).

85. Main assumptions

86. In light of the references listed above, we will focus on the main assumptions and the most relevant information with respect to the subject of this IA. For the purposes of

[176] SWD(2012) 213/2
[177] SWD(2013) 5/2
[178] The PRIMES-TREMOVE transport model projects the evolution of demand for passengers and freight transport by transport mode and transport mean, based on economic, utility and technology choices of transportation consumers. Operation costs, investment costs, emission costs, taxes and other public policies, utility and congestion influence the choice of transportation modes and means. The model further projects the derived fuel consumption and emissions of pollutants. 9. It is essentially a dynamic system of multi-agent choices under several constraints, which are not necessarily binding simultaneously. The model consists of two main modules, the transport demand allocation module and the technology choice and equipment operation module. The two modules interact with each other and are solved simultaneously. A more detailed model description is available at:
http://www.e3mlab.ntua.gr/e3mlab/PRIMES%20Manual/The_PRIMES_MODEL_2010.pdf
[179] The Prometheus model is a fully stochastic world energy model used for assessing uncertainties and risks associated with the main energy aggregates including uncertainties associated with the impact of policy actions (R&D on specific technologies, Taxes, standards, subsidies and other supports). The model projects endogenously to the future the world energy prices, supply, demand and emissions for 10 World regions. It is a self-contained energy model consisting of a set of stochastic equations. It contains relations and/or exogenous variables for all the main quantities, which are of interest in the context of general energy systems analysis as well as technology dynamics regarding power, road transport and hydrogen production and use technologies. These include demographic and economic activity indicators, energy consumption by main fuel, fuel resources and prices, CO2 emissions, greenhouse gases concentrations, temperature change, technology uptake and two factor learning curves.
The GEM-E3 (World and Europe) model is an applied general equilibrium model, simultaneously representing World regions and European countries, linked through endogenous bilateral trade flows and environmental flows. The European model is including the EU countries, the Accession Countries and Switzerland. The world model version includes 18 regions among which a grouping of European Union states. GEM-E3 aims at covering the interactions between the economy, the energy system and the environment. It is a comprehensive model of the economy, the productive sectors, consumption, price formation of commodities, labour and capital,investment and dynamic growth. The model is dynamic, recursive over time, driven by accumulation of capital and equipment. Technology progress is explicitly represented in the production function, either exogenous or endogenous, depending on R&D expenditure by private and public sector and taking into account spillovers effects. The current GEM-E3 version has been updated to the GTAP7 database (base year 2004).
More detailed model descriptions are available at:
http://147.102.23.135/e3mlab/index.php?option=com_content&view=section&id=8&Itemid=56&lang=en

this IA, Scenario 1 is considered as an illustration of developments under Policy Option 1.

87. The **population and macro-economic assumptions** used in Scenario 1 are common with those used in the 'Reference scenario', and are shown in Table 1.

Table 1: Population and macroeconomic assumptions

Annual growth rates (%)	*2010-2020*	*2020-2030*	*2030-2040*	*2040-2050*
Population	0.29	0.12	0.00	-0.09
GDP	2.21	1.74	1.50	1.45

88. The population projections draw on the EUROPOP2008 convergence scenario[180] from Eurostat, which is also the basis for the 2009 Ageing Report[181]. The key drivers for demographic change are higher life expectancy, low fertility and inward migration.

89. The recent economic crisis is assumed to have long-lasting effects, leading to a permanent loss in GDP. The macro-economic projections show that the recovery from the crisis is not expected to be sufficiently vigorous to compensate for the current GDP losses. In this scenario, growth prospects for 2012 are subdued. However, the economic recovery enables higher productivity gains, leading to somewhat faster growth from 2013 to 2015. After 2015, GDP growth rates mirror those of the 2009 Ageing Report. Hence the pattern of the 'Reference scenario' is consistent with the intermediate scenario 2 "sluggish recovery" presented in the Europe 2020 strategy[182]. The medium and long term growth projections follow the "baseline" scenario of the 2009 Ageing Report.

90. The **assumptions on energy import prices** for the EU-27 in Scenario 1 are common with those used in the 'Reference scenario', and are shown on Table 2.

Table 2: Energy import prices

$'10 per boe (*)	*2010*	*2020*	*2030*	*2040*	*2050*
Oil	85.2	89.0	106.6	116.9	127.6
Gas (NGV)	53.8	62.5	77.1	87.4	99.0
Coal	22.8	28.9	32.8	32.8	33.7

91. Note: (*) $'10 = U.S Dollar in 2010 prices; boe = barrel oil equivalent

[180] EUROpean POPulation Projections, base year 2008

[181] European Commission, DG Economic and Financial Affairs, 2009 Ageing Report: Economic and budgetary projections for the EU-27 Member States (2008-2060). EUROPEAN ECONOMY 2|2009, available at http://ec.europa.eu/economy_finance/publications/publication14992_en.pdf. The "baseline" scenario of this report has been established by the DG Economic and Financial Affairs, the Economic Policy Committee, with the support of Member States experts, and has been endorsed by the ECOFIN Council.

[182] Communication from the Commission: Europe 2020. A strategy for smart, sustainable and inclusive growth. COM(2010)2020, Brussels, 3.3.2010

92. These price assumptions are the result of world energy modelling using the PROMETHEUS stochastic world energy model[183], which derives price trajectories for oil, gas and coal under a conventional wisdom view of the development of the world energy system. This stochastic model is particularly well suited given the great uncertainty regarding future world economic developments and the extent of recoverable resources of fossil fuels. The price development to 2050 is expected to take place in a context of economic recovery and resuming GDP growth without decisive climate action in any world region.

93. Scenario 1 includes all policy measures included in the 'Reference scenario' and adopted by March 2010. The list of these policy measures is provided in the IA accompanying the White Paper on Transport[184], while the additional policy measures, included in Scenario 1 relative to the 'Reference scenario' are provided in Table 3. These are measures adopted by November 2011.

Table 3: Additional policy assumptions relative to the 'Reference scenario'

Area	*Measure*	*How it is reflected in the model*
Efficiency standards	Update of the CO_2 standards for vans according to the adopted regulation[185]	Implementation of CO_2 standards for vans (175 g of CO_2 per kilometre by 2017, phasing in the reduction from 2014, and to reach 147g CO_2/km by 2020).
Pricing and taxation		
Taxation	Energy Taxation Directive (proposal for revision 2011)	Changes to minimum tax rates to reflect the switch from volume-based to energy content-based taxation and the inclusion of a CO_2 tax. Where Member States tax above the minimum level, the current rates are assumed to be kept unchanged. For motor fuels, the relationships between minimum rates are assumed to be mirrored at national level even if the existing rates are higher than the minimum rates. Tax rates are kept constant in real terms.
Internalisation of local externalities	Eurovignette Directive (Directive 2011/76/EU)	Reflected through the introduction of infrastructure charges in Poland (starting with 2011) and the announced introduction of distance based infrastructure charges in Denmark and Belgium (from 2014).

[183] Model description available at: http://www.e3mlab.ntua.gr/e3mlab/PROMETHEUS%20Manual/prometheus_documentation.pdf

[184] Idem footnote 172. The list of measures is provided in Appendix 4: Inventory of policy measures relevant for the transport sector included in the 2050 Reference scenario (pages 153-155)

[185] Regulation (EU) No 510/2011 of the European Parliament and of the Council of 11 May 2011, setting emission performance standards for new light commercial vehicles as part of the Union's integrated approach to reduce CO2 emissions from light-duty vehicles.

Infrastructure	TEN-T guidelines (revision 2011) and Connecting Europe Facility.	Reflected through the increase in the capacity and performance of the network resulting from the elimination of bottlenecks and addition of missing links, and increase in the train length (to 1.5 km) and maximum axle load (to 22.5 tonnes), reflected through decreases in operation costs and time costs and higher load factors for freight.
Internal market	Recast of the first railway package (2010)	Reflected through a reduction of average operating costs for railway undertakings.
Other assumptions		
Energy import prices		Short-term increase to reflect the evolution of prices up to 2010 as in the Energy Roadmap 2050.
Technology assumptions	Developments in national support measures and the intensification of previous action programmes and incentives, such as funding research and technology demonstration (RTD) projects to promote alternative fuels.	Slightly higher penetration of EVs. One private connector per electric vehicle and one public AC connector per 10 vehicles is assumed by 2020. Around 120 existing hydrogen refuelling stations mainly located in Denmark, Germany, the Benelux states and the United Kingdom. Existing and planned LNG/L-CNG stations.

94. Urbanisation has followed a clear trend in the past decades, which is expected to continue: the proportion of the EU population residing in urban areas and intermediate regions is expected to increase by about 5 percentage points by 2030 and an additional 5 percentage points by 2050[186,187]. Economic activity in the EU is far more concentrated than the population. In a knowledge-based economy, knowledge spillovers, which require proximity, become important. Services are also spatially concentrated because they tend to use less land per employee and because of external economies[188]. Services already represent about 72% of the EU gross value added and their share is projected to increase in Scenario 1 to 76% by 2050.

[186] About 41% of the EU population lives in predominantly urban regions, 35% in intermediate regions and 23% in rural regions according to Eurostat NewsRelease 5/12 (March 2012), available at: http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/1-30032012-BP/EN/1-30032012-BP-EN.PDF
The Eurostat urban–rural typology is based on a classification of grid cells of 1 km² as either urban or rural. NUTS 3 regions have been classified into three groups based on the classification of these grid cells:
- predominantly urban region: population in grid cells classified as urban make up more than 80% of the total population;
- intermediate region: population in grid cells classified as urban make up between 50% and 80% of the total population (population in rural cells between 20% and 50%);
- predominantly rural region: population in grid cells classified as rural make up 50% or more of the total population.

[187] United Nations, Department of Economic and Social Affairs/Population Division (2011), World urbanisation prospects - The 2011 revision, http://esa.un.org/unpd/wup/index.htm.

[188] World Bank, World Development Report 2009: Reshaping economic geography.

Therefore, proximity of people and activities as well as the shift towards a knowledge-based and services-oriented economy are major sources of advantages that will continue to drive urbanisation in the EU.

Main results

95. **Overall, at EU level, urban transport activity** is expected to continue growing in line with the economic activity in the long-run, even though the negative effects of the recent economic crisis were visible for 2008-2009. Passenger transport would increase by 27% between 2010 and 2030, and an additional 11% by 2050. Freight transport is projected to grow by 28% by 2030 and an additional 15% between 2030 and 2050. The annual growth in transport activity by mode is provided in Table 4[189].

Table 4: Annual growth in urban transport activity in Scenario 1

EU27 - Annual growth rates (in %)	*2010-2020*	*2020-2030*	*2030-2040*	*2040-2050*
Urban transport activity				
Passenger transport activity in Gpkm	1.5%	0.9%	0.6%	0.4%
Public road transport	1.8%	1.2%	0.4%	0.2%
Passenger cars & LCVs	1.5%	0.8%	0.6%	0.4%
Powered two wheelers	1.5%	1.3%	0.6%	0.4%
Rail & metro-tram	1.3%	1.3%	0.7%	0.5%
Freight transport activity in Gtkm	1.7%	0.8%	0.8%	0.6%
Trucks (HDVs) & LCVs	1.7%	0.8%	0.8%	0.6%

Note: LCV stands for light commercial vehicles and HDV for heavy duty vehicles

Source: PRIMES-TREMOVE transport model, E3Mlab (ICCS) NTUA

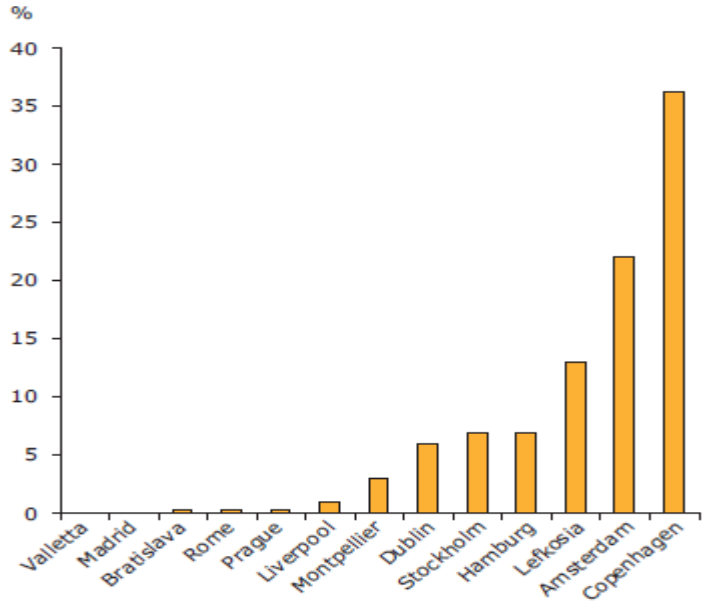
96. Transport demand and modal choice differ widely between European cities, and depend to a large extent on urban design and infrastructure (i.e. the location of facilities necessary on a daily basis and their accessibility by different transport modes influences the travel patterns)[190] but may be also influenced by other factors such as income, family size and structure, employment, speed, culture and behaviour[191].

[189] While there is no fully reliable data on the split of transport activity between urban and inter-urban at EU level, research shows that about 25% of the passenger transport activity expressed in passenger kilometres and about 17% of the freight transport activity expressed in tonne-kilometres takes place in the urban area. Source: PRIMES-TREMOVE transport model.

[190] EEA, 2010. The European environment — state and outlook 2010: urban environment. European Environment Agency, Copenhagen.

[191] Clifton, K., Ewing, R., Knaap, G. and Song, Y., 2008. Quantitative analysis of urban form: a

97.



98.

Source: EEA (2010) based on Urban Audit database (Eurostat, 2010)

99. Urban sprawl is the main challenge for urban transport, as it brings about a greater need for individual transport modes, thereby generating congestion, environmental problems and land take for roads and parking areas. Individual transport by car provides a major share of urban transport in most cities[192]. According to the Urban Audit database[193] the share of journeys to work by car in certain city can be as high as 80% (i.e. Charleroi, Liege, Mülheim a.d.Ruhr, etc.). In Scenario 1 passenger cars transport activity in urban agglomerations is projected to increase by about 39% between 2010 and 2050, at higher rate than in the inter-urban area (about 32% during the same time period). Passenger cars would maintain their dominant role in urban transport.

100. Transport accounts today for over 30% of **final energy consumption** and urban transport provides almost 30% of the transport sector final energy consumption. In the context of growing demand for transport, energy demand by transport in urban agglomerations is projected to decrease by about 7% by 2030 and an additional 8% by 2050.

101. The energy use of passenger cars and LCVs in urban agglomerations would drop by about 18% between 2010 and 2030 mainly due the implementation of the regulations setting emission performance standards for new passenger cars and vans[194], and by an additional 15% by 2050.

102. Figure 1: Evolution of transport activity, energy demand and CO2 emissions of passenger transport in urban agglomerations

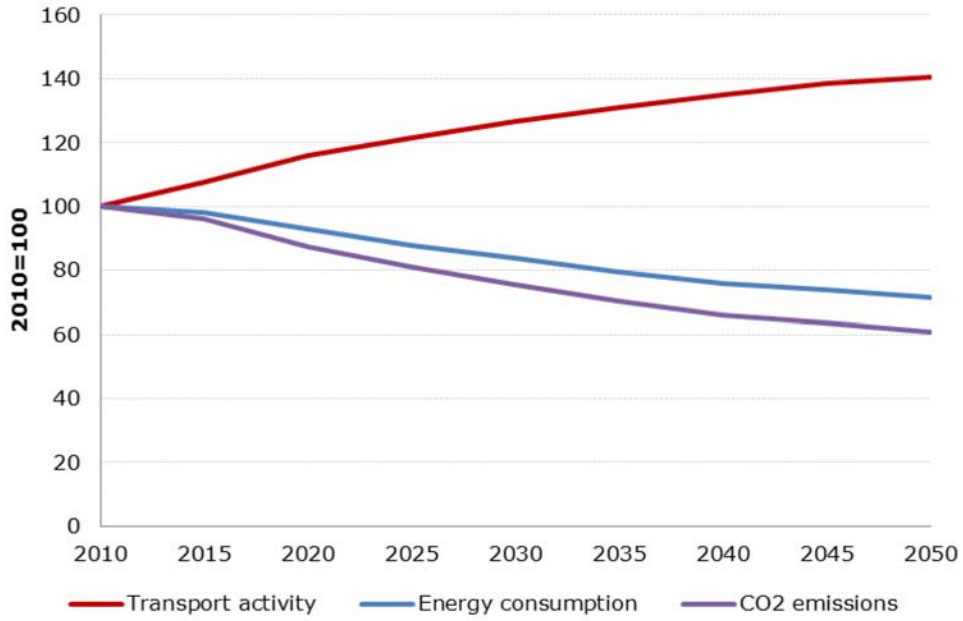
multidisciplinary review. Journal of Urbanism. Vol. 1, No. 1, March 2008

[192] EEA, 2010. The European environment — state and outlook 2010: urban environment. European Environment Agency, Copenhagen.

[193] Source: Eurostat

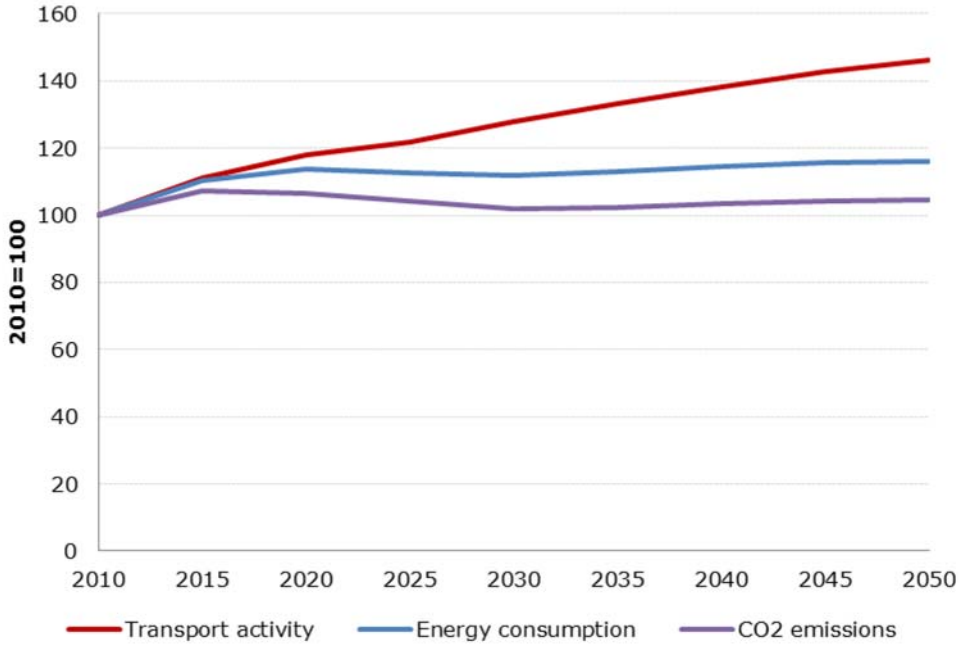
[194] Regulation (EC) 433/2009 and Regulation (EU) 510/2011

103.



104. Source: PRIMES-TREMOVE transport model, E3Mlab (ICCS) NTUA

Figure 2: Evolution of transport activity, energy demand and CO_2 emissions of freight transport in urban agglomerations



Source: PRIMES-TREMOVE transport model, E3Mlab (ICCS) NTUA

105. Energy consumption by heavy duty vehicles (HDVs) and freight LCVs for urban transport is projected to increase by almost 12% between 2010 and 2030, and to

roughly stabilise afterwards, mainly driven by the transport activity growth. HDVs undergo improvements in specific fuel consumption as an effect of increasing fossil fuel prices. Fuel costs represent a relative important share of operational costs and thus HDVs manufacturers have the minimisation of these costs among their main objectives, achieved by improvements in technology related i.e. to vehicle design, vehicle powertrain, etc.

106. In Scenario 1, the EU transport system would remain extremely dependent on the use of fossil fuels. Oil products would still represent 91% of the EU transport sector needs in 2020 and about 88% by 2050. Almost 30% of final demand of oil products in transport originates from urban transport.

107. The use of alternative fuels (LPG, CNG, electricity and hydrogen) is expected to remain limited in Scenario 1. Renewables would represent 10% of total energy consumption in transport by 2020, reflecting the implementation of the Renewables Directive[195]. The highest contribution for achieving the 2020 renewables target would be provided by biofuels which would represent about 8% of transport energy consumption by 2020 and slightly increase their share to 11% by 2050. The overall uptake of electric vehicles (battery and plug-in hybrids) is projected to be limited: 0.5% in 2020, about 4% in 2030 and 14% of the total vehicle stock by 2050. Fuel cells do not make significant inroads. The availability of charging infrastructure acts as a limiting factor, in addition to the technology developments.

108. Overall, total CO_2 emissions from transport would still be 31% higher than their 1990 level by 2020, and 23% higher by 2050 in Scenario 1, owing to the fast rise in the transport emissions during the 1990s. This trend is not compatible with the objective of a low-carbon, competitive economy that would meet the long-term requirements for limiting climate change to 2 °C.

109. At EU level, urban transport is responsible for about 23% of total **CO_2** emissions from transport[196,197]. **CO_2 emissions from urban transport** are projected to be about 16% lower in 2030 and around 25% lower in 2050 relative to 2010, mainly due to the Regulation setting emission performance standards for new passenger cars. About two thirds of the **CO_2** emissions from urban transport come from passenger cars and LCVs and about one third from goods transport vehicles. By 2050, goods transport vehicles are projected to contribute about 45% of **CO_2** emissions from urban transport. The decrease in CO_2 emissions is higher than the reduction in energy consumption due to the use of biofuels and the uptake of electric vehicles[198].

110. An important share of EU's urban population is exposed to air pollution concentration exceeding the EU air quality limits. Sensitive groups, including people

[195] Regulation (EC) No 443/2009 of the European Parliament and of the Council of 23 April 2009 setting emission performance standards for new passenger cars as part of the Community's integrated approach to reduce CO2 emissions from light-duty vehicles, OJ L 140, 5.6.2009, p1–15.

[196] Total CO2 emissions include international bunkers (aviation and maritime) but exclude combustion emissions from pipeline transportation, ground activities in airports and harbours, and off-road activities.

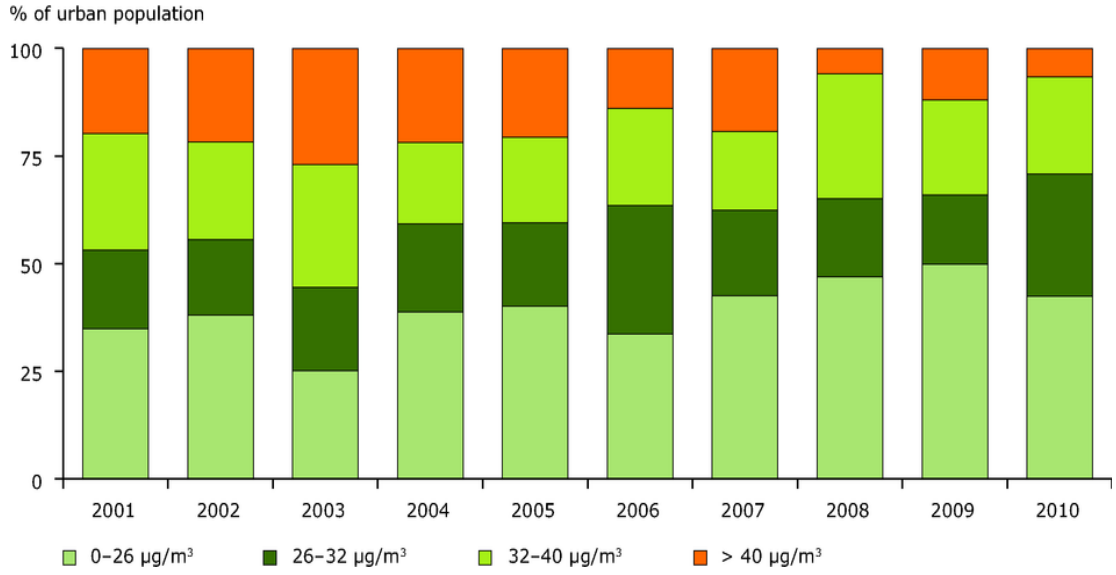
[197] No statistics are available for the share of CO2 emissions from urban transport. The current estimates are based on the PRIMES-TREMOVE transport model.

[198] The modelling results reflect the accounting method set out in Commission Decision (2007/589/EC) establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council for the use of biofuels. In this Decision, biomass is considered as CO_2 neutral.

with respiratory diseases or heart conditions and older adults suffer from air pollutants even at moderate concentrations. In many European urban studies air pollution, especially particulate matter and O3, has been associated with increases in morbidity and mortality. Transport is a main source of PM_{10} and NOx emissions (which contributes to ozone creation) together with industry, commercial and residential sources.

111. About 6-27 % of the urban population in the EU was potentially exposed to ambient nitrogen dioxide (NO_2) concentrations above the EU limit value set for the protection of human health (40 microgram NO_2/m^3 annual mean) between 2001-2010. A decreasing trend has been observed over this period, including for 2009-2010 (see Figure 3). Even a higher share, about 18-41 % of the urban population in the EU was potentially exposed to ambient concentrations of particulate matter (PM_{10}) in excess of the EU limit value set for the protection of human health (50 microgram/m^3 daily mean not to be exceeded more than 35 days a calendar year) between 2001-2010 (see Figure 4)[199] and there is no apparent trend over this period.

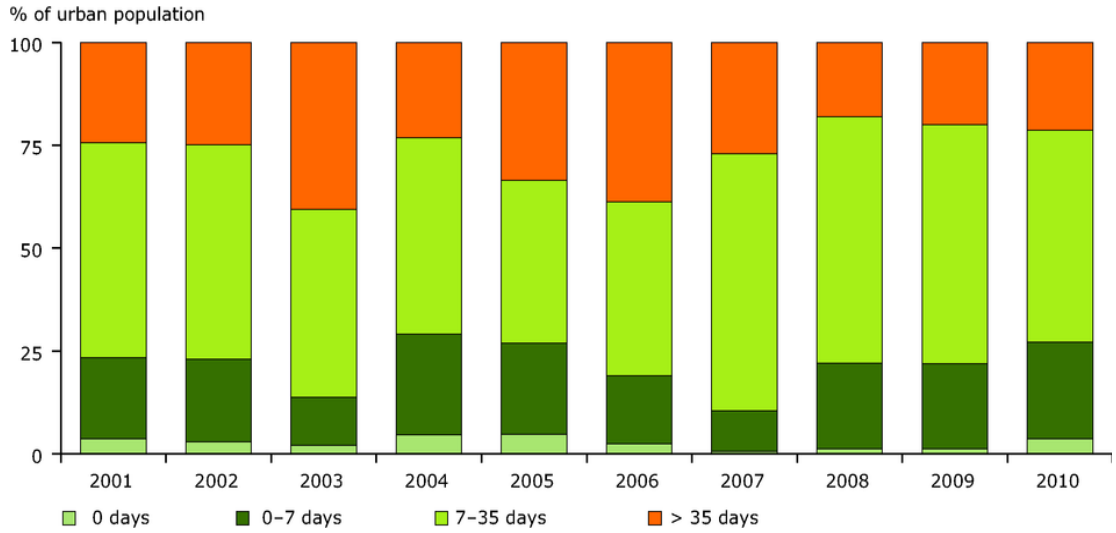
Figure 3: Percentage of population exposed to NO2 annual concentrations in urban agglomerations, 2001-2010 (EU27)



[199] EEA, 2012. Air quality in Europe — 2012 report

Source: EEA (2012) - exceedance of air quality limit values in urban agglomerations (Indicator CSI 004)

Figure 4: Percentage of urban population resident in areas for days per year with PM10 concentration exceeding daily limit value, 2001-2010 (EU27)



Source: EEA (2012) - exceedance of air quality limit values in urban agglomerations (Indicator CSI 004)

112. The reductions in the permissible EURO standards emission limits for type approval of new cars and heavy duty vehicles have resulted in important declines in NOx and PM emissions from transport over the last ten years (39% decrease in NOx emissions between 2001 and 2010, 28 % for PM10 and 40 % for PM2.5) despite the large increase in the number of vehicles and total traffic activity[200]. The EURO 6 emission limits which come into force from 31 December 2013 for the registrations and sale of new types of heavy duty vehicles and 1 January 2015 for the registration and sale of new types of cars are expected to drive further reductions. NO_x emissions and particulate matter attributed to urban transport are projected to drop by 70% between 2010 and 2050 in Scenario 1. As a result, external costs related to air pollutants would also decrease by about 70% by 2050 assuming a full implementation of current EURO standards.

113. About half of the citizens in the EU-15 are estimated to live in areas which do not ensure acoustical comfort for residents: 40% of the population is exposed to road traffic noise exceeding 55 dB(A) during daytime, and 20% to levels exceeding 65 dB(A). At night, more than 30% are exposed to sound levels that disturb sleep (>55 dB(A)). The WHO Night Noise Guidelines for Europe[201] describe levels above 55 dB Lnight as 'increasingly dangerous to public health. However, for the primary prevention of sub-clinical adverse health effects related to night noise, the guidelines recommend that the population should not be exposed to night noise levels greater than 40 dB Lnight outside. This can thus be considered a health-based limit. The target of 55 dB Lnight outside is not a health-based limit, being equivalent to the lowest observed adverse effect level, and should be considered only as an interim target for situations where the achievement of the guidelines is not feasible in the short run. Existing studies show that noise exposure increases the risk for high blood pressure and heart attacks. Surveys also show that (environmental) noise is a relevant

[200] EEA, 2012. Air quality in Europe — 2012 report
[201] Source: http://www.euro.who.int/__data/assets/pdf_file/0017/43316/E92845.pdf

reason for people moving out of cities into the suburban area (e.g. for every third household moving out of Cologne, noise and air pollution in the city was a crucial reason)[202]. In Scenario 1, increasing traffic volumes in absence of additional policies may exacerbate the existing problems. Noise-related external costs for urban transport are projected to increase by about 26% by 2030 and an additional 8% by 2050.

114. Congestion that is prevalent in areas and in their access routes is the source of large costs in terms of delays and higher fuel consumption. Denser cities are better served by collective modes of transport but the availability of land and public acceptability to construct new infrastructures for public or alternative means of transport remains a great challenge. Urban congestion also negatively impacts on inter-urban and cross-border travel because most freight and passenger transport starts or ends in urban agglomerations. High congestion levels are expected to seriously affect road transport in several Member States by 2030 and beyond in the absence of effective countervailing measures such as road pricing. Urban congestion will mainly depend on car ownership levels which are projected to further increase, urban sprawl and the availability of public transport alternatives[203].

115. Estimating the costs of congestion is not straightforward, because it occurs mostly during certain times of the day, often caused by specific bottlenecks in the network. In Scenario 1, congestion costs are projected to increase by over 65% by 2050. Over the same time horizon, the external cost of accidents associated with urban transport would increase by some 40%.

[202] SILENCE project (Integrated Project co-funded by the European Commission under the 6th Framework Programme for R&D): SILENCE Practitioner Handbook for Local Noise Action Plans, 2008,http://www.silence-ip.org/site/fileadmin/SP_J/Elearning/Planners/SILENCE_Handbook_Local_noise_action_plans.pdf

[203] SEC(2011) 358 final

APPENDIX 4: STATE OF THE ART OF THE CONCEPT FOR AN INTEGRATED URBAN MOBILITY APPROACH IN EUROPE

116. Definition of a benchmark framework for an integrated urban mobility approach and its justification

The benchmark framework in tables 1 and 2 is based on the concept developed by COWI (2013) on the basis of agreed common elements on an integrated urban mobility approach from previous EU initiatives and projects[204], experience from third countries[205] and based on extensive expert and stakeholder consultations. The tables provide a justification of the elements included in the benchmark framework.

[204] E.g. CIVITAS, IEE/STEER and ELTISplus

[205] e.g. Australia published guidelines on SUMPS building on similar policy elements, such as integrated policy areas including land use planning and a participatory approach, seeL http://www.planning.wa.gov.au/dop_pub_pdf/guidelines_integrated_transport_whole.pdf.

Table 1: Benchmark framework of an integrated urban mobility approach - possible elements for a policy framework (content and scope)

Content and scope	Justification
Addresses both freight and passenger transport	To achieve the objective of a competitive and resource efficient transport system both freight and passenger transport needs to be covered. The experience from existing practise suggests that freight distribution is not always covered. The stakeholder meeting has confirmed that freight transport is very often neglected in current planning and should be included.
Addresses all transport modes	It is essential that all transport modes are addressed, as demonstrated by the review of cites by COWI (2013) with integrated approaches, and also clearly confirmed through the consultations.
Public transport	Public transport is important for both increasing accessibility and for realising a shift towards more sustainable transport modes. The stakeholders have ranked this element high. Current practises suggest that public transport is often not sufficiently coordinated.
Non-motorised transport	Non-motorised transport is important for realising a shift towards more sustainable transport modes to achieve sustainability. It is the topic most respondents point to. For bicycle transport integrated measures are in particular important in order to achieve the benefits.[206]
Road transport and infrastructure	Both moving and stationary traffic should be addressed. Road infrastructure is typically included in all existing transport plans and optimising the use of existing infrastructure should be part of an integrated plan. Reallocation of road space to other modes of transport will be addressed to contribute to a shift towards more sustainable transport modes and to reach sustainability.

[206] CIVITAS Guard 2010; *Cluster Report 3: Cycling and Walking;* Deliverable D 2.2

Content and scope	Justification
City logistics	City logistics is included as a specific urban mobility action area in the White Paper. The stakeholders in the public consultation specifically point to the importance of this topic[207] and the need to cover both passenger and freight transport. The stakeholder meeting confirmed that currently city logistics is not getting sufficient attention. The efficiency and pollutant, CO2 and noise emissions of city logistics should be addressed to achieve sustainability.
Mobility management	Mobility management is a more recent instrument to review and possible reduce the overall transport demand by companies. Examples from the city review by COWI (2013) highlight the importance of this element.
Integration of transport modes / Intermodality	The possibility for multimodality – combining car and public transport or cycling and public transport etc. is one of key elements of changing the transport system to a more sustainable one. The integration of transport modes is crucial for achieving the objective of a resource efficient and competitive transport system, as recognised in previous initiatives and by stakeholders. The COWI (2013) city examples and consultations all confirm the importance of this element.

[207] See also the study on city logistics: ECORYS 2013 *Activity 33: Strategy for near Zero-Emission Urban Logistic*.

Table 2: Benchmark framework of an integrated urban mobility approach - possible elements for the governance framework (process and procedure)

Processes and procedures	Justification
Contains pledge to sustainability (environmental, social and economic dimensions)	Sustainability is societal consensus and it needs to be an explicit driving force. To achieve the objective of a competitive and resource efficient transport system the economic, environmental and social dimensions all need to be covered.
Includes or is built on long-term strategy	The transition to a sustainable transport system requires time and therefore a long term perspective is needed, e.g. to achieve CO_2 objectives related to emissions. This has been recognized by experts and included in the ELTISplus recommendations.
Identifies objectives and sets targets in line with EU policy objectives	The long term strategy needs to be made operational by specific and quantified targets. To achieve the overall EU objective, the specific targets needs to be aligned with the EU and relevant national objectives. It was a key part finding that in current SUMPs targets are not always quantified and that is of one main reason creating the risk of not achieving the objectives of a SUMP.
Includes baseline analysis including performance audit	This element should be seen in combination with the next element on impact assessment. Only by considering where the city current is, identify the specific problems and estimate what the impacts of proposed measures will be, it is possible to define a combination of measures that can achieve the objective effectively and efficiently. Against a baseline future progress can be measured.
Includes impact assessment on proposed measures	As above.
Provides short-term implementation plan (timetable + budget plan; allocation of responsibilities)	Implementation is often the weakest element if timetables, budgets and implementation responsibilities are not clearly defined. It has been demonstrated in the COWI (2013) review of cities that often not all measures are implemented.
Integrates different relevant policy areas, in particular land-use and transport planning	This element should be seen in combination with the element below on integrated planning and implementation. Interdepartmental consultation and cooperation should ensure consistency and complementarity between different policies to reach the overall EU objective. E.g. land use and transport are intimately linked and careful land-use planning can reduce the demand for transport. Stakeholders and experts confirm the importance of this element.

Processes and procedures	Justification
Considers all transport to, from, through d within the urban agglomeration area and coordination between different authority levels	It is a key element of the integrated approach that the integrated urban mobility approach does cover the functional city[208] so that commuting is considered in the planning. The legal requirement in France and UK explicitly requires the plans to cover the relevant agglomeration. The need to cover the agglomeration – in fact the functional city – has been confirmed by experts and through the stakeholder meeting. Besides commuting a good connection with the hinterland is important and the link between the long distance TEN-T network and the last mile.
Is developed in a participatory approach	The requirement to develop the integrated urban mobility approach in a transparent and participatory way is based on the need to reflect the stakeholder's needs and to get a high level of acceptance and support of stakeholders to secure effective implementation.
Is based on integrated planning and implementation	The integration covers, in addition to the spatial dimension, the coordination and consultation between transport and environmental authorities and the coordination between authorities responsible for road infrastructure, public transport etc. The integration and coordination between the transport, health and environment authorities is crucial for achieving the "sustainability" of urban mobility. Improvements on safety, on social distribution of accessibility, on the environment can only be achieved through the integrated and coordinated approach. The stakeholder and expert consultation have confirmed the importance of the integrated approach. The assessment of the impacts and benefits of integrated urban mobility approaches in France and England has further demonstrated how the integration has led to more improvements. This is a core element of the integrated urban mobility approach and its importance has been pointed to in COWI (2013) city review where many cities points to traditional sector planning as barrier for improvement.
Is formally adopted	The plan needs to be approved by all the relevant authorities, governing bodies and decision makers in order to implement it. Political adoption is a validated basis for implementation of a plan.

[208] The definition of urban agglomeration/functional city could be based on the harmonised definition of urban agglomerations agreed by OECD and EU. It is a 4 step approach based on among other criteria of population density above 1,500 people/km^2 in the "core" city combined with working catchment areas where more 15% works in the defined core area.

Processes and procedures	Justification
Monitoring of implementation and performance	Successful implementation requires that a process is monitored in order to timely correct where necessary. For a next planning cycle better data on performance with facilitate the development of an effective and efficient plan. Currently there is lack of monitoring of data.
Regular review and update of plans	The sustainable urban mobility plans will need to be regularly reviewed in order to accommodate change in external factors as well as in response to monitored performance.
Conformity check of the plan	The current practice does not always include this element of quality control. It is important that the plans and the processes are checked against the requirements so that all the key elements are included. Given some of deficiencies identified in existing urban mobility approaches this requirement could potentially increase the quality of the plans.

Justification of assessment of uptake of an integrated urban mobility approach in some EU MS

Table 3 provides a justification of the categories on integrated urban mobility approaches and the ranking of cities.

Table 3: Justification of status categories and scoring of cities in EU MS

Status categories	Number of cities scoring
(i) Limited coordination and targeted policy actions Cities that are using traditional transport planning with no or very few of benchmark framework elements **(ii) Low / Medium coordination and targeted policy action** Cities that apply some of the key benchmark characteristics both regarding coordination and targeted policy actions **(iii) Medium / high level of coordination and targeted policy action** Cities that apply many of the benchmark elements regarding coordination and targeted policy actions **(iv) High level of coordination and targeted policy action** Cities that have developed and fully implemented all the benchmark framework elements regarding coordination and targeted policy actions	**(i) None** No cities, or only an insignificant number **(ii) Few** Only few cities **(iii) Some** Between more than a few and up to as many as half of all cities **(iv) Many** From the majority of cities and up to all cities

Table 4 provides a justification of the assessment of the integrated urban mobility approaches in some EU MS.

Table 4: Justification of assessment on an integrated urban mobility approach in EU MS based on COWI (2013) country and city reports[209]

Member State	Basis
Austria	The COWI country assessment suggests some cities have or are developing urban mobility approaches. The review of Vienna and Graz indicates that many elements are included though not all of the environmental aspects. Based on sources such as CIVITAS, ELTISplus and EPOMM it is assumed that there is a mix with some cities being more advanced than others. Hence, cities are categorised as medium/high.
Belgium	The COWI country assessment indicates that most cities have developed integrated approaches and that they include most of the relevant elements. Hence, most cities are categorised as medium/high.
Bulgaria	Some cites have developed integrated approaches as part of preparing the application for EU funding of urban transport projects. The approaches focused on the elements for which funding was requested and they have not been part of participatory approach. The COWI city survey indicates insufficient coordination. Hence, the majority of cities are categorised as low/medium.
Croatia	Based on information from CIVITAS and ELTISplus projects, some cities are in the process of implementing integrated planning approaches. The cities are categorised as mostly low.
Cyprus	Based on information from the CIVITAS and ELTIS projects, there is some progress of implementing integrated urban mobility approaches, but it is in an initial stage. The cities are categorised as limited to low.
Czech Republic	Information from CIVITAS and EPOMM indicates overall insufficient integration and coordination, though some cities have implemented specific sustainable mobility measures. The COWI city survey indicates example of progress but deficiencies in setting quantitative targets and in implementation due to lack of funds. Focus is on improvement of public transport. Hence, the majority of cities are categorised as low to medium.
Denmark	The COWI country assessment indicates that all the included cities have implemented some or many of the key urban mobility approaches elements. Hence, the cities are categorised as medium or medium/high.
Estonia	The COWI country assessment has indicated that there are no integrated urban mobility approaoches applied in Estonia. The capital (only city above population threshold) is a CIVITAS city and has undertaken several mobility measures. Based on these sources, the city is categorised as low.

[209] COWI (2013), Study to support an Impact Assessment on the Urban Mobility Package, Appendices B, C, D

Member State	Basis
Finland	Based on information from CIVITAS, ELTISplus and EPOMM only the capital region has developed an integrated urban mobility approach, while the other cities seem to be in the initial stage of introducing one. One city included in the city survey also indicates insufficient coordination. Hence, the majority of cities is categorised in the low to medium categories.
France	Almost all benchmark elements are included. The COWI city survey indicates differences across cities. The French CERTU evaluation indicates that coordination is not always sufficient. French cities are generally very close to the concept integrated urban mobility approach and the majority of cities are therefore in the category 'medium/high'. The country assessment (see Appendix B) indicates that all city areas have implemented integrated urban mobility plans as it is legally required. The assessment also indicates that almost all benchmark elements are included in plans.
Germany	A study from 2009 indicates that there is large variation in the quality of the integrated urban mobility approaches. City survey and case review suggests that some cities have developed advanced integrated urban mobility approaches. Cities are distributed over the 'no' integrated urban mobility approach to 'medium/high' with the majority in the 'low/medium' category.
Greece	The COWI country assessment indicates that the two largest cities are in progress of making urban mobility approaches, but focus is on infrastructure planning with not all relevant element included. Hence, the cities are categorises as limited or low.
Hungary	The COWI country assessment indicates that most integrated urban mobility approaches are focused on public transport and hence fail on several key elements. The approaches have been developed as part of the ERDF funding application as the Transport Operational Programme included urban transport with a focus on improvement of the public transport systems. The approaches have been developed to support funding applications and hence are focused on assessing the specific project including the funding application. Hence the majority of cities are categorised as low/medium.
Ireland	The COWI country assessment indicates there is a legal required in Ireland for the greater Dublin area to develop a strategic transport plan. It includes most of the required elements and it is assessed as medium/high. The other cities do not have a sustainable urban mobility approach though some sustainable measures have been introduced.

Member State	Basis
Italy	A number of cities have applied an integrated urban mobility approach. It is not mandatory, however required to get national funding for transport infrastructure. This incentive means that most cities have made some developments. However, the COWI assessment is that a limited number of cities have developed more comprehensive approaches and implemented the planned measures. The cities are distributed over the categories with the majority in the low/medium category and some in the medium/high category.
Latvia	Based on CIVISTAS and EPOMM it is assessed that integrated urban mobility approaches are only in an early stage. Only the capital is in the process of developing one. The capital is categorised in the low/medium category.
Lithuania	The COWI city survey has included two cities. One has developed an integrated approach with many of the benchmark elements, while the other is less advanced with a focus on improving public transport. This assessment is further supported by evidence from CIVITAS and EPOMM. The cities are categorised in the limited to low categories and the capital as medium.
Luxembourg	There is integrated transport planning at national level. It considers the different transport modes in an integrated way but does not include specific targets on the environmental aspects. Hence, the categorisation is low/medium.
Malta	The COWI country assessment indicates the capital has developed a strategy with some of urban mobility elements included. It is categorised as low/medium.
The Netherlands	Most Dutch cities have developed integrated urban mobility approaches. It is not mandatory at the city level, but it is required for the 12 provinces and the 7 city regions to have an integrated transport plan. The plans include many of the key elements, but for example quantified targets and objectives are often defined for only some of the issues. The majority of cities are therefore categorised as medium/high.
Poland	Most integrated urban mobility approaches are focused on public transport and hence fail on several key elements. A few cities have developed more comprehensive approaches, e.g. Krakow. The majority of cities are in category 'low/medium'.
Portugal	Based on CIVITAS, ELTISplus and EPOMM, it is assessed that some cities are developing integrated urban mobility approaches while others have done less in terms of integrated planning. One city included in the COWI city survey suggests that key elements are missing and the level of coordination is insufficient. Cities are categorised as low to medium.

Member State	Basis
Romania	Some Romanian cities have started to apply integrated approaches as part of EU funded activities. The COWI city indicates a lack of coordination, also implementation elements are weak. The cities are categorised as limited to low/medium.
Slovakia	The COWI country assessment indicates that the level of applying integrated mobility approaches is low. There is currently a project on development of a sustainable urban mobility plan on going in the capital. A detailed review of that project assesses the level of coordination and integration as low. Overall this suggests that integrated mobility approaches are in an initial stage and hence the cities have been categorised as limited or low.
Slovenia	Based on information from CIVATAS and EPOMM, it is assessed that the capital is in the process of developing an integrated urban mobility approach with most of the key elements included. The other city above the population threshold is indicated not to have an integrated urban mobility approach. Hence, one city is categorised as medium and one as limited.
Spain	Some cities have applied integrated mobility approaches. There are regional differences, e.g. in some regions it is mandatory to have a sustainable urban mobility plan. Generally, it is required in order to receiving funding for public transport projects. Hence, the cities are distributed over the categories from limited/low to medium/high and with the majority in the low/medium category.
Sweden	The COWI country assessment indicates that several Swedish cities have developed or are in process of developing integrated urban mobility approaches which include most of the key elements. Hence the cities are categorised as either low/medium or medium/high.
UK	Almost all UK cities have an LTP[210] which includes most of the elements of the concept integrated urban mobility approach. Not all elements are mandatory. The COWI city review indicates some gaps, e.g. city logistics is not always included, not all targets are quantified and generally most targets are short term targets. The majority of cities are categorised as medium/high.

[210] In the UK there is no common approach. In England LTP's are legally defined through the Transport Act 2000, amended by the Local Transport Act 2008. In London the plan is called a Local Implementation Plan for transport. Different arrangements apply to Wales, Scotland and Northern Ireland. Wales has a well established transport planning framework (Transport Wales Act).

APPENDIX 5: COMPREHENSIVE DEFINITION OF THE SUSTAINABLE URBAN MOBILITY PLANNING CONCEPT

117. Traditional planning compared to an integrated urban mobility approach through a Sustainable Urban Mobility Plan (SUMP)

1. Sustainable Urban Mobility Plans differ from traditional transport plans, while the latter one is mostly defined as a traditional transport and infrastructure based plan and could vary widely among the EU-27.

2. The following table summarises the main differences between SUMPs and traditional transport plans:

Table 1: Comparison of Sustainable Urban Mobility Plans and traditional transport plans[211]

Traditional Transport Plans		Sustainable Urban Mobility Plan
Often short-term perspective without a strategic vision	Strategic level / vision	Including a long-term / strategic vision with a time horizon of 20-30 years
Usually focus on particular city	Geographic scope	Functional city; cooperation of city with neighbouring authorities essential
Limited input from operators and other local partners, not a mandatory characteristic	Level of public involvement	High, citizen and stakeholder involvement an essential characteristic
Not a mandatory consideration	Sustainability	Balancing social equity, environmental quality and economic development
Low, transport and infrastructure focus	Sector integration	Integration of practices and policies between policy sectors (environment, land-use, social inclusion, etc.)
Usually not mandatory to cooperate between authority levels	Institutional cooperation	Integration between authority levels (e.g. district, municipality, agglomeration, region)
Often missing or focussing on broad objectives	Monitoring and evaluation	Focus on the achievement of measurable targets and outcomes (=impacts)
Historic emphasis on road schemes,; infrastructure development	Thematic focus	Decisive shift in favour of measures to encourage public transport, walking and cycling and beyond (quality of public space, land-use, etc.)
Not considered	Cost internalisation	Review of transport costs and benefits also across policy sectors

3.

4. A comprehensive definition of the Sustainable Urban Mobility Planning concept

[211] Rupprecht Consult, ELTISplus State of the Art report on Sustainable Urban Mobility Plans (September 2012), p14

I. Subject Definition:

1. A Sustainable Urban Mobility Plan is a strategic document developed and implemented in compliance with the present common framework by the designated Local Planning Authority.

2. The Plan guides the future development of an urban area's transport system and covers all movements of goods and people to, from, through and within the greater urban area.

3. A Sustainable Urban Mobility Plan shall foster a balanced development of all relevant transport modes, while encouraging a shift towards more sustainable modes.

4. It addresses both transport infrastructure and transport and mobility services.

5. A Sustainable Urban Mobility Plan contributes to an urban development along a sustainable path. It meets local requirements and contributes to the achievement of key EU policy objectives.

6. It is embedded in an overall sustainable development strategy with a long-term perspective (ca. 20-30 years) and includes a plan for short-term delivery.

7. Sustainable Urban Mobility Plan is developed in an integrated, intergovernmental, and cross-sectorial approach by the Local Planning Authority. It is developed and implemented in a participatory approach, in close consultation with the public, businesses, industry and all other relevant stakeholders.

II. Goal and General Objectives

8. Sustainable Urban Mobility Plan has as its central goal improving accessibility of urban agglomerations and providing high-quality and sustainable mobility and transport to, through and within the urban area.

9. In pursuit of this goal, a Sustainable Urban Mobility Plan seeks to contribute to preserving and enhancing an urban transport system which

   (a.) Is accessible and meets the basic mobility needs of all users;

   (b.) Balances and responds to the diverse demands for mobility and transport services by citizens, businesses and industry;

   (c.) Guides a balanced development and better integration of the different transport modes;

   (d.) Meets the requirements of sustainability, balancing the need for economic viability, social equity, and environmental quality;

   (e.) Optimises efficiency and cost effectiveness;

(f.) Makes better use of urban space and of existing transport infrastructure and services;

(g.) Enhances the attractiveness of the urban environment, quality of life, and public health;

(h.) Improves traffic safety and security;

(i.) Reduces air and noise pollution, greenhouse gas emissions, and energy consumption; and

(j.) Contributes to a better overall performance of the trans-European transport network and the Europe's transport system as a whole.

III. Policy framework (scope and content)

10. A Sustainable Urban Mobility Plan shall foster a balanced development of all relevant transport modes, while encouraging a shift towards more sustainable modes. The plan shall put forward an integrated set of technical, infrastructure, policy-based, and soft measures to improve performance and cost-effectiveness with regard to the declared goal and specific objectives. The following **topics** shall be addressed:

(a.) *Public transport:* Sustainable Urban Mobility Plan shall provide a strategy to enhance the quality, security, integration and accessibility of **public transport services**, covering infrastructure, rolling stock, and services.

(b.) *Non-motorised transport:* Sustainable Urban Mobility Plan shall incorporate a plan to raise attractiveness, safety and security of **walking and cycling**. Existing infrastructure shall be assessed and improved where necessary. The development of new infrastructure should be envisaged not only along the itineraries of motorised transport. Dedicated infrastructure should be considered for cyclists and pedestrians to separate them from heavy motorised traffic and to reduce travel distances, where appropriate. Infrastructure measures shall be complemented by other technical, as well as policy-based, and soft measures.

(c.) *Inter-modality:* A Sustainable Urban Mobility Plan shall contribute to a better integration of the different modes, thereby supporting a broader range of mobility and transport patterns. To this end, a Sustainable Urban Mobility Plan shall identify measures aimed specifically at facilitating seamless and **multi-modal mobility and transport**.

(d.) *Road transport (flowing and stationary):* For **the road network and motorised transport**, a Sustainable Urban Mobility Plan shall address moving and stationary traffic. Measures should aim at optimising the use of existing road infrastructure and improving the situation in the identified 'hot-spots' and overall. The potential for reallocating road space to other modes of transport or other, not transport-related, public functions shall be explored.

(e.) *Urban logistics:* A Sustainable Urban Mobility Plan shall present measures aimed at improving the efficiency of urban logistics, including urban freight delivery, while reducing related emissions of CO_2, pollutants and noise.

(f.) *Mobility management:* A Sustainable Urban Mobility Plan shall include action aimed at fostering a change towards more sustainable mobility patterns. Citizens, employers, schools, and other relevant actors shall be engaged.

III. Governance framework (processes and procedures):

10. **Integrated planning and implementation:** The development and implementation of a Sustainable Urban Mobility plan should follow an integrated approach with a high level of inter-governmental and inter-departmental cooperation, coordination and consultation. Relevant venues and procedures shall be established and administered by the Local Planning Authority.

    Integrated planning and implementation encompasses

    (a.) Interdepartmental consultation and cooperation at the local level to ensure consistency and complementarity of a Sustainable Urban Mobility Plan with local policies, strategies and measures in related policy areas (such as transport; land-use and spatial planning; social services; health; education; enforcement and policing, etc.).

    (b.) Close exchange with the relevant authorities (i) at the different levels of administration and government (e.g. district, municipality, agglomeration, region, and MS) and (ii) in neighbouring urban agglomerations. This exchange shall involve in particular those bodies and authorities with responsibility for transport and mobility services and infrastructure inside or leading to the urban area.

    (c.) Familiarity with and due consideration for policy objectives and relevant development and/or transport plans, which are already existing or currently being developed and which impact on the concerned urban area.

11. **Participatory approach:** A Sustainable Urban Mobility Plan shall follow a transparent and participatory approach. The Planning Authority shall establish appropriate venues and procedures for involving the relevant actors - citizens, as well as representatives of civil society and economic actors – in the development and implementation of the plan from the outset and throughout the process to ensure a high level of acceptance and support.

12. **Long-term strategy**: A Sustainable Urban Mobility Plan shall present, or be linked to an existing, long-term strategy for the future development of the urban area and, in this context, for the future development of transport and mobility infrastructure and services.

13. **A delivery plan**: A Sustainable Urban Mobility Plan shall include a delivery plan for short-term implementation of the strategy.

14. **Status analysis and baseline**: A Sustainable Urban Mobility Plan shall provide a comprehensive review of the current situation and the establishment of a baseline, through an 'urban mobility performance audit", against which future progress can be measured. The status analysis shall equally include a review of the current institutional set-up, planning process and delivery mechanisms. It will also include an Impact Assessment on the proposed measures.

15. **Performance indicators**: Suitable indicators shall be identified to describe the current status of the urban transport system from the relevant policy perspectives: quality and accessibility of transport services and infrastructure; land-use and spatial development; safety and security; environment; social inclusion and gender equity; economic development; health; education; etc.) A Sustainable Urban Mobility Plan shall identify 'hotspots' within the urban agglomerations where performance of the present transport system is particular poor with regard to any of above policy perspectives.

16. **Specific objectives**: A Sustainable Urban Mobility Plan shall identify specific performance objectives, which are realistic in view of the current situation in the urban area, as established by the status analysis, and ambitious with regard to the goal and general objectives of a Sustainable Urban Mobility Plan.

17. **Targets**: A Sustainable Urban Mobility Plan shall set measurable targets, which are based on a realistic assessment of the baseline and available resources. These targets shall reflect the specific objectives of a Sustainable Urban Mobility Plan. Targets shall reflect both long-term and intermediate objectives. The Specific Indicators shall be used to set targets and measures progress towards them.

18. **Timetable and budget plan:** The delivery plan shall include a *timetable for implementation as well as a budget plan. Sources for the* requisite funding should be identified. The delivery plan should cover a period of 5-10 years.

19. **Responsibilities and resources:** A Sustainable Urban Mobility Plan shall provide a clear allocation of the responsibilities for the implementation of the policies and measures set out in the plan and identify the required resources for each actor.

20. **Monitoring, review, reporting:** The implementation of a Sustainable Urban Mobility Plan shall be monitored by the competent authority. The progress towards the goal and specific objectives of the plan and meeting the targets shall be assessed regularly on the basis of the selected indicators. To this end, appropriate action shall be taken to ensure timely access to the relevant data and statistics. A monitoring report shall provide the basis for a review of the Sustainable Urban Mobility Plan implementation (every 1-2 years.)

21. **Quality assurance, adoption:** Local planning authorities should ensure appropriate mechanisms to ensure the quality and validate compliance of the Sustainable Urban

Mobility Plan with the requirements of the present framework. A Sustainable Urban Mobility Plan shall be duly adopted through the appropriate procedures and receive formal endorsement from the relevant decision makers at the political level.

APPENDIX 6: ILLUSTRATION OF MEASURES WITHIN THE SUSTAINABLE URBAN MOBILITY PLANNING CONCEPT

5. The possible measures in combination with minimum requirements for the policy framework of a Sustainable Urban Mobility Plan are presented in the following table.

6. Table 1: Measures in combination with minimum requirements on the policy framework of a Sustainable Urban Mobility Plan

Topics minimum requirements for the policy framework of a SUMP	**Measures minimum requirements for the policy framework of a SUMP**
Public transport services	Infrastructure investment and maintenance, including safety, security and accessibility Rolling stock investment and maintenance, including safety, security and accessibility Travel information provision systems Interoperable ticketing and payment systems Public transport frequencies Public transport coverage (line density, stop density, walking distances between stops) Information and marketing campaigns Taxi services Collective taxi transport services
Non-motorised transport	Dedicated walking and cycling infrastructure investment and maintenance Bike sharing schemes Information and marketing campaigns
City logistics and distribution	Freight distribution centres Freight delivery points Improvement of the efficiency of city logistics by the use of ICT Measures to improve the energy efficiency

	and environmental performance of vehicles (fleet renewal, silent trucks) Measures to improve the energy efficiency of the drivers (eco-driving) Use of alternative modes like cycle logistics, freight delivery boats, Internet shopping
Mobility management	Corporate mobility plans (or workplace travel plans) School mobility plans Personalised travel plans Car sharing Carpooling schemes Teleworking Teleconferencing Information and marketing campaigns
Integration of transport modes	Multimodal connection platforms Multimodal travel information provision Park and Ride areas
Road transport (moving and stationary)	Road network investment and maintenance Reallocation of road space to other modes of transport, e.g. dedicated bus lanes Parking management Dynamic traffic management measures Low speed zones Promotion of eco-driving Green procurement by public authorities

7.

8.

9. The possible measures in combination with comprehensive requirements for the policy framework of a Sustainable Urban Mobility Plan are presented in the following table.

10. Table 2: Measures in combination with comprehensive requirements on the policy framework of a Sustainable Urban Mobility Plan

Topics comprehensive requirements for the policy framework of a SUMP	**Measures comprehensive requirements for the policy framework of a SUMP**
Access restriction schemes	Congestion charging zones (area and cordon charging) Low emission zones
Introduction of clean technologies and alternative fuels	Investment in infrastructure for alternative fuels (e.g. electric charging points) Introduction of vehicles on alternative fuels (e.g. natural gas busses, electric vehicles, hydrogen vehicles)
Urban pricing	Road user charging and congestion charging parking pricing public transport pricing
Ensures interoperability and/or consistency in use of instruments across the EU	Not applicable

APPENDIX 7: QUANTIFYING THE EFFECT OF THE SUSTAINABLE URBAN MOBILITY PLANNING CONCEPT ON CO_2 EMISSIONS

The EC Joint Research Centre (JRC) carried out an impact assessment analysis for different territories in Europe[212]. A summary of this analysis can be found below.

Overview

In an effort to counteract negative effects stemming from urban transport activities, many cities in Europe have engaged in planning for the sustainability of urban mobility. As with any change concerning the transport sector, uneasiness about the prospect of having to change the way cities are currently organized -in order to cut down on transport-linked nuisances- has generated a great number of questions on the best way to achieve sustainability in urban transport.

The European Commission is considering proposing a European support framework for the implementation of Sustainable Urban Mobility Plans in their MSes. This consideration is consistent with the 2011 White Paper proposal to increase coordination between transport authorities and transport policy deciders. Consequently, an interest on how different urban measures can be used in order to render transport activities more sustainable has given way to research concerning the impacts and effects that policy measures might have on socio-ecological systems. These studies rely, mainly, on experts' opinions and past experiences in order to develop a common scorecard on how a transport system might react to different measures.

The technical note uses the expert scoring information available in current scientific literature in order to explore the impacts and effects that different urban measures may have in planning for sustainability on a European wide level.

The five steps of the assessment:

1. Identify scientific literature sources for urban transport measure scorings (based on expert knowledge).
2. Create a single template that gathers and normalizes the scores found in the literature concerning impacts and effects of urban transport measures.
3. Assess the average urban profile of cities within NUTS3 zones according to current transport behaviour trends based on:
    - Transport activity
    - Population
    - Employment in NUTS3
    - Commuting rates
    - Rail and Road Accessibility
    - Urbanization rates
    - Density
4. Establish an tailored weighting system for the effects and impacts of urban measures according to the individual profile of each NUTS3
5. Quantify the potential range of effects of policy measures on CO2 emissions -for each NUTS3 zone- using transport demand and CO2 estimation results (MODEL-T, JRC) for the year 2030.

Methodology

[212] JRC technical report (2013), Quantifying the effects of SUMPs

Various studies on urban measure scorings have been carried over the years and each developed a different approach pertaining to the scope of study of each report. As such, the studies consulted in the literature review for this note have different ways of scoring impacts and effects of measures (five different studies where chosen as sources for this note: KONSULT, TRANSPORD, VTPI, EC-Freight and EPOMM –values from these studies in annex). These differences are twofold, firstly different studies have different scoring scales; secondly different studies have different approaches as to how the effects and impacts of measures are scored. Thus, the challenge, for this technical note, consists in its ability to clearly identify the common elements in each study in order to develop a general scoring template that normalizes scores coming from various sources. This normalization is particularly tedious since it needs to be consistent across scoring categories and scoring scales. In order to achieve this normalization, scores on effects and impacts of urban measures from different sources were categorized into a single scoring template where their effects are defined through their ability to:

- avoid unsustainable transport practices,
- shift from unsustainable to sustainable transport modes,
- improve on current behaviour in transport activities.

The categorization of measure effects through the three-pronged A-S-I (for avoid, shift, improve) approach developed by GIZ in 2011, refers directly to urban measures' potential effects on transportation activities by identifying how different measures have different effects on current transport activities.

Furthermore, urban measures effects are not restricted to changes on the structure of urban transportation; they also have impacts on the whole socio-economic system. Consequently, scoring exercises also include information on how different urban measures may have an impact on economic, social and environmental issues. Thus, this note also aimed at including the scoring values coming from experts' opinions on these categories in a single impact matrix using the European Commission's Guidelines on Impact Assessment by identifying impacts on three levels (E-S-E):

- economic,
- social,
- environmental.

In order to be able to determine the potential effects of the different policy measures according to the subject of study, the note carries out an impact assessment concerning different territories in Europe by weighting the experts' scorings accordingly to the current trends in transport behaviour that characterize the different cities in Europe present in NUTS3 regions. The main logic behind the definition of weights is summarized by the idea that: since every city in Europe is different in size, density, population etc., the effects of measures will surely vary from city to city. Therefore, in order to correctly assess how a determined set of measures can have an impact on different European cities, it is necessary to determine how different urban forms and organizational trends may react to the same set of measures. In other words, it is necessary to apply different weights to the possible effects of measures accordingly to the urban characteristics of European cities.

Results

In order to quantify the impacts that different measures might have, according to the profiles and weights, it was necessary to have mobility estimates in 2030 for urban transportation activities. For this, MODEL-T (JRC) mobility estimates and their inherent CO_2 emissions were used.

The 2030 values for CO_2 emissions were used as a reference to calculate the impact that each policy measure might have in CO_2 reductions for different city profiles in NUTS3 regions according to the effects presented in the experts' scorings and to its capacity to, avoid, shift or improve unsustainable practices. As these results are based on scorings pertaining to the potential range of reductions that each individual measure might entail, these results do not take into account overlapping effects. In other words, the effects of measures packaging are not reflected in these results. The following table should be read as the potential range effects for measures. As such, it is important to underline that if all measures where to be implemented as a package, the overlapping effects would entail lower overall results.

Table 1: Potential CO_2 Reductions by Measure

Measure	Potential CO_2 reductions in ktons CO_2
Investment and maintenance, including safety, security and accessibility	713 - 894
Public transport coverage (line density, stop density, walking distances between stops) & public transport frequencies.	917 - 1 150
Interoperable ticketing and payment systems	471 - 591
Travel information provision systems	-
Taxi services (individual and collective)	578 - 724
Dedicated walking and cycling infrastructure investment and maintenance & Bike sharing schemes	781 - 979
Improvement of the efficiency of city logistics by the use of ICT	951 - 1 192

Measures to improve the energy efficiency and environmental performance of vehicles and/or use of alternative modes.	612 - 767
Corporate, school and personalised mobility plans (or workplace travel plans)	680 - 852
Car sharing & carpooling schemes.	442 - 554
Telecommunications	1 019 - 1 278
Multimodal connection platforms	306 - 383
Multimodal travel information provision	849 - 1 065
Park and Ride areas	510 - 639
Reallocation of road space to other modes of transport, e.g. dedicated bus lanes	985 - 1 235
Parking management	781 - 979
Dynamic traffic management measures	408 - 511
Low speed zones	476 - 596
Information and marketing campaigns	629 - 788
Promotion of eco-driving	153 - 192
Congestion charging zones (area and cordon charging)	1 495 - 1 874
Low emission zones	849 - 1 065
Totals	14 605 - 18 306

Furthermore, it was also possible to assess the effects of these policy measures for the defined NUTS3 profiles. As overlapping effects are not taken into account in these results, they reflect the potential range of reductions for measures.

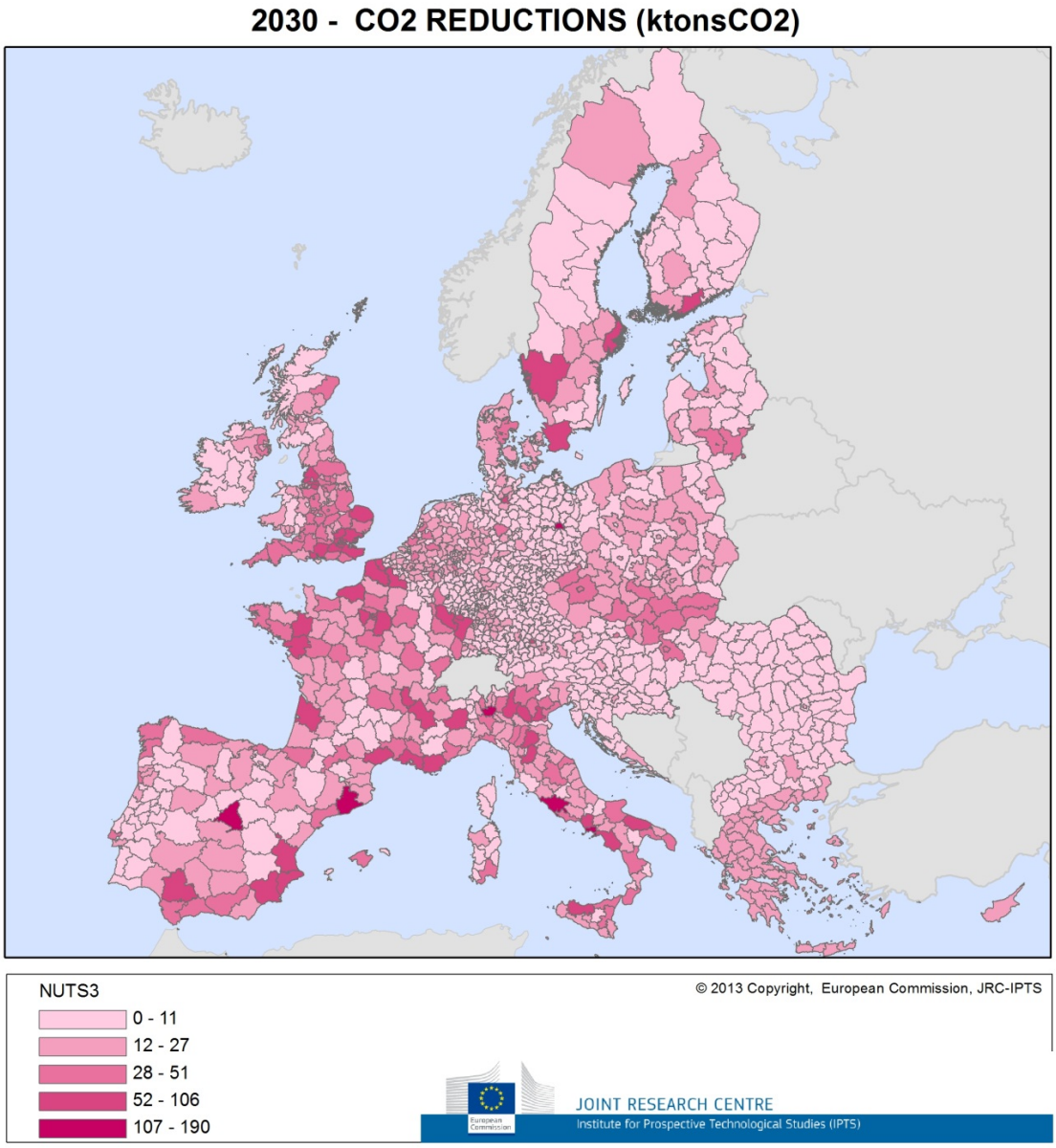


Figure 2: Potential CO_2 Reductions by NUTS3

Accordingly it was possible to aggregate these results –for presentation reasons- and quantify the potential range of reduction that the complete list of identified urban measures could have in each European country, without taking into account measure overlaps.

Table 2: Potential CO_2 Reductions by Country

Country-	Urban Emissions 2010 ktons CO_2	Urban Emissions 2030 ktons CO_2	Potential Reductions 2030 ktons CO_2	Percentage
AT	3 214	2 648	179 - 225	6.8% - 8.5%
BE	7 816	5 921	393 - 493	6.6% - 8.3%
BG	1 485	1 384	100 - 125	7.2% - 9.0%
CY	257	180	15 - 19	8.3% - 10.3%
CZ	3 482	3 686	263 - 330	7.1% - 9.0%
DE	44 488	38 055	2 697 - 3 381	7.1% - 8.9%
DK	2 761	2 153	151 - 189	7.0% - 8.8%
EE	418	507	37 - 47	7.4% - 9.2%
ES	16 275	15 051	1 064 - 1 333	7.1% - 8.9%
FI	2 554	2 350	163 - 204	6.9% - 8.7%
FR	38 249	30 777	2 156 - 2 702	7.0% - 8.8%
GR	2 633	2 850	187 - 234	6.6% - 8.2%
HR	761	1 020	70 - 88	6.9% - 8.6%
HU	2 085	2 365	166 - 208	7.0% - 8.8%
IE	1 252	1 063	67 - 84	6.3% - 7.9%
IT	37 073	31 285	2 250 - 2 821	7.2% - 9.0%
LT	1 251	1 430	100 - 125	7.0% - 8.7%
LU	418	326	27 - 34	8.2% - 10.3%
LV	615	800	52 - 65	6.5% - 8.1%
MT	177	141	9 - 11	6.3% - 8.0%
NL	7 886	6 961	478 - 599	6.9% - 8.6%
PL	6 918	8 934	625 - 784	7.0% - 8.8%

PT	2 756	2 792	186 - 233	6.6% - 8.3%
RO	1 726	2 272	163 - 205	7.2% - 9.0%
SE	5 685	4 335	321 - 403	7.4% - 9.3%
SI	296	284	20 - 25	6.9% - 8.7%
SK	2 162	2 831	201 - 252	7.1% - 8.9%
UK	45 823	36 729	2 465 - 3 090	6.7% - 8.4%
Total	240 515	209 130	14 605 - 18 306	7.0% - 8.8%

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APPENDIX 9: GLOSSARY

33. **APUM:** Action Plan on Urban Mobility

34. **CARE** - Community database on Accidents on the Roads in Europe

35. **CIVITAS:** City-Vitality-Sustainability" or "Cleaner and Better Transport in Cities"

36. **CO_2:** Carbon dioxide

dB: Decibel

37. **DG MOVE:** Directorate-General for Mobility and Transport

EACI: Executive Agency for Competitiveness and Innovation

EC: European Commission

ECMT: European Conference of Ministers of Transport

EEA: European Environment Agency

ELTIS: The Urban Mobility Portal

38. **ELTISplus:** Three year contract (May 2010-May 2013) on Sustainable Urban Mobility Plans set up by the EC and managed by EACI

EP: European Parliament

ESPON: European Observation Network for Territorial Development and Cohesion

39. **EU:** European Union

40. **EU MS**: European Union's Member State

41. **EUROSTAT:** Statistical Office of the European Union

42. **GHG:** Green House Gas

HDV: Heavy Duty Vehicles

IEA: International Energy Agency

IEE/STEER: Intelligent Energy Europe/Energy in Transport

43. **ISG:** Inter-Services Group

ITF: International Transport Forum

ITS: Intelligent Transport Systems

JRC: Joint Research Centre

LTP: Local Transport Plan (UK equivalent for Sustainable Urban Mobility Plan)**NGO**: Non-Governmental OrganisationNO_2**:** Nitrogen dioxide

NO/NOx: Nitrogen oxide

OECD: Organisation for Economic Co-operation and Development

PDU: Plan de Déplacements Urbains (French equivalent for Sustainable Urban Mobility Plan)

PM_{10}: Particulate Matter

R&D: Research and Development

44. **SME:** Small and Medium Enterprise

45. **SUMP**: Sustainable Urban Mobility Plan

46. **SUTP**: Sustainable Urban Transport Plan

TEN-T: Trans-European Network for Transport

TFEU: Treaty on the Functioning of the European Union

UK: United Kingdom

UN: United Nations

WHO: World Health Organisation

APPENDIX 10: INTERNATIONAL ENERGY AGENCY GUIDANCE ON URBAN TRANSPORT SYSTEMS[213]

The International Energy Agency (IEA) - in its "Policy pathway: a tale of renewed cities: a policy guide on how to transform cities by improving energy efficiency in urban transport systems" - emphasises that urgent energy-efficiency policy attention in relation to urban transport systems will be needed to mitigate associated negative noise, air pollution, congestion, climate and economic impacts, all of which can cost countries billions of dollars per year. Transport currently accounts for half of global oil consumption and nearly 20% of world energy use, of which around 40% is used in urban transport alone (IEA, 2011a). The IEA expects urban transport energy consumption to double by 2050, despite ongoing vehicle technology and fuel-economy improvements.

According to IEA/OECD (2013) report the pathway to improving the urban transport systems includes four stages: planning, implementing, monitoring and evaluation. As such, the IEA also argues for an integrated approach to urban mobility. The report provides in-depth case studies for three cities – Belgrade, New York City and Seoul. These case studies demonstrate how common responses can be applied in very different local contexts to achieve transport system improvements. A summary of these case studies can be found below.

Belgrade, New York City & Seoul urban transport system case studies

	Belgrade	*New York City*	*Seoul*
CHALLENGE	• Travel demand growth • Urban land divide • Jobs far from households • Growing car ownership • Aging public transport infrastructure	• Infrastructure at or over capacity • Vehicle congestion • Long commute times	• Poor bus service quality • Noise and air pollution • Travel demand growth • No funding available for continued development of high-capacity metro
PLAN	• Belgrade and Urban Planning Institute developed Master Plan to 2021. • Plan seeks to optimise transport mode connectivity, increase public transport service and safety, decrease traffic volume, better regulate land-use and fund transport projects. • "Smart Plan" was developed under the Master Plan to detail investments in public transport and lay out parking strategies and NMT network development.	PlaNYC 2030 seeks to: improve city transport times; reach a full "state of good repair" for subways, bridges and rail systems; expand transport infrastructure; improve access and service on existing infrastructure; and manage roads more efficiently. • In 2008, New York City (NYC) developed a detailed roadmap called *Sustainable Streets*, committing to 164 objectives.	• Seoul Development Institute (SDI) produced guidance in 2002 on how to modernise the Seoul public transport system through integration of the bus and metro services, restructuring of fare schedules and overhaul of the bus systems. • Using this guidance, the Mayor and Seoul Metropolitan Government reformed, co-ordinated and modernised Seoul transport.

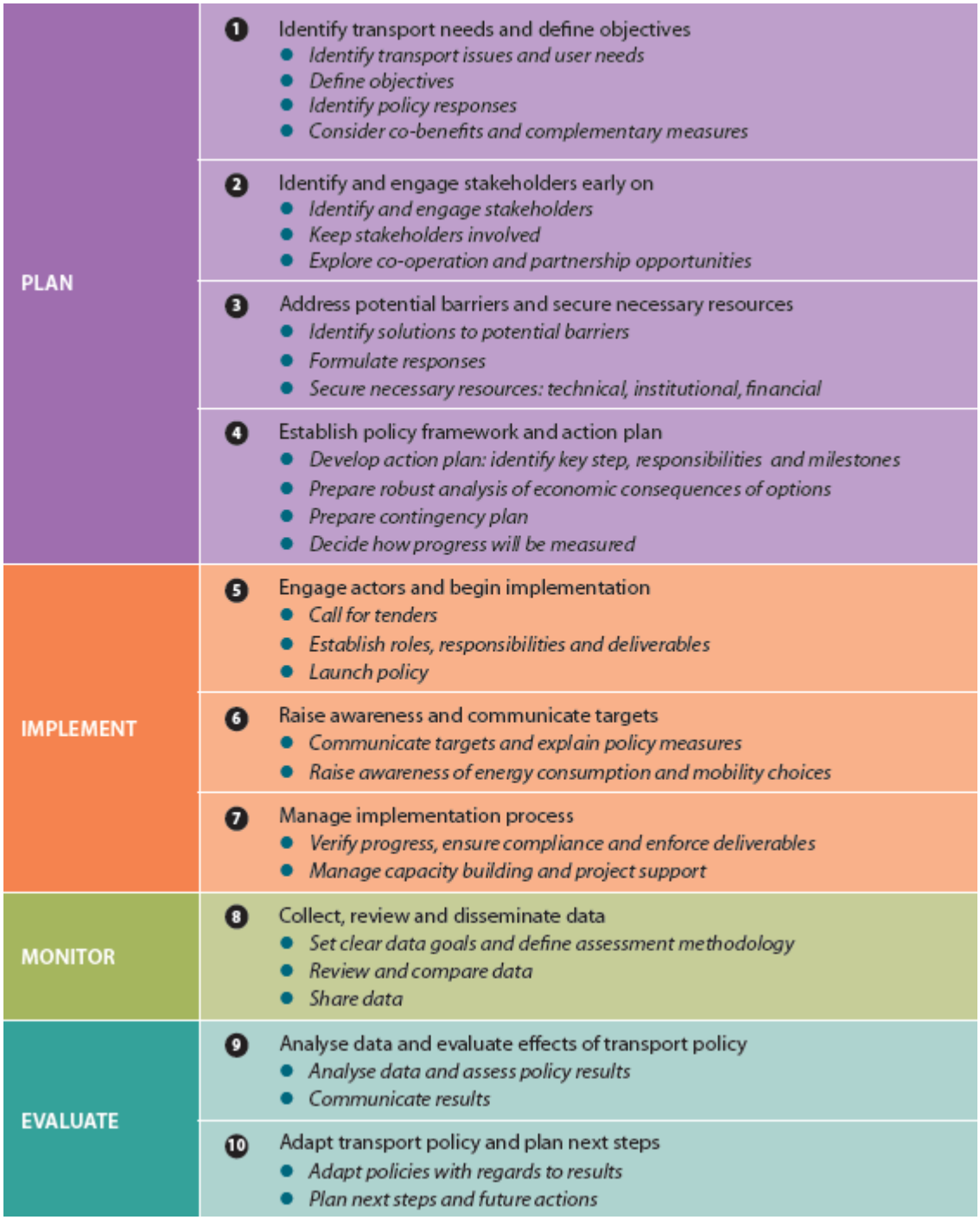
[213] OECD / IEA (2013), Policy pathway: A tale of renewed cities: a policy guide on how to transform cities by improving energy efficiency in urban transport systems (hereafter referred to as OECD/IEA (2013)), available at: http://www.iea.org/publications/freepublications/publication/Renewed_Cities_WEB.pdf

IMPLEMENT	Projects developed under the Smart Plan include: development of the Sava River bridge with a separate tram line; modernisation of tram and bus fleets with over 30 new efficient trams and 400 high-capacity compressed natural gas (CNG) buses; investments in traffic management systems; modernisation of the suburban rail service; implementation of park-and-ride stations; establishment of a pricing scheme for downtown parking.	*Sustainable Streets* initiatives included targeted safety programmes to cut fatalities, the *Green Light for Midtown* plan to reduce traffic congestion in the heart of Manhattan and create people-friendly boulevards, new BRT lines and bus-improvements measures such as Select Bus (BRT) Service and the development of 460 km of new cycling lanes.	Policy responses included reorganisation and regulation of bus services; installation of BRT corridors; co-ordination of bus and metro services; development of integrated public transport fare; parking reforms; increases on fuel taxes; street closures to vehicle traffic; improved pedestrian facilities; increased number of curbside bus lanes; conversion of some of bus fleet to CNG.
MONITOR	Projects are regularly monitored to inform stakeholders about progress.	NYC performs regular studies and analysis of transport activities for its annual *Sustainable Streets Index*.	Data is collected on passenger counts, transfer frequencies, traffic accidents, average bus speeds, etc.
EVALUATE	• Although projects are still being implemented, initial evaluations show: a tripling of ridership within the first six months of refurbishing and increasing frequency of suburban rail lines; 34 km of tramway construction; 52 km of city bicycle paths; 3 "park and bike" spots, where commuters can park their vehicles and rent bicycles; and, a new bridge over the Sava River. • Belgrade is working with the United Nations Development Programme (UNDP) to upgrade the Smart Plan for a next phase of initiatives.	In first year following the release of *Sustainable Streets*, NYC found bus ridership increased, vehicle traffic volumes remained flat, and bicycle travel increased considerably; by 2010, bicycle commuting had more than doubled over 2000 levels. The Select Bus Service carried 30% more weekday riders than the local bus service it replaced, and it cut 11 minutes off route time.	After bus reforms and BRT implementation, bus speeds increased between 33% and 65% from 2003 to 2004; in 2004, daily passenger trips on buses increased 11% over 2003; bus accidents and serious injuries fell by 23% and 43% by mid-2005; and, by 2010, more than 6 100 CNG buses were in use, and the BRT system had grown to 142 km along eight corridors.

Source: OECD/IEA (2013)

Based on the case studies and the experiences from other cities highlighted in the report, the IEA/OECD (2013) report proposes ten critical steps that local and national governments can take to develop, implement and evaluate key urban transport system policies. The IEA/ OECD (2013) report clarifies that these steps aim at supporting the development, financing, implementation and evaluation of policies to improve the energy efficiency of urban transport systems. The report states that the ten steps reflect a wide variety of urban transport policies and projects from around the world and that they draw on proven practices and experiences from practitioners with diverse international experiences in the development and implementation of urban transport projects. Below a schematic overview is given of the IEA policy pathway to improve energy efficiency in urban transport systems.

IEA policy pathway to improve energy efficiency in urban transport systems



Source: IEA/ OECD (2013)

More detailed information on the ten steps can be found in the IEA/ OECD (2013) report. When comparing the IEA "ten step approach" to the EU SUMPs approach as described in the main text and in appendix 4 and 5 of this impact assessment study, common trends can be identified. This demonstrates that the European initiative on SUMPs is in line with the increasing attention the international community and other countries are paying to integrated urban mobility approaches.

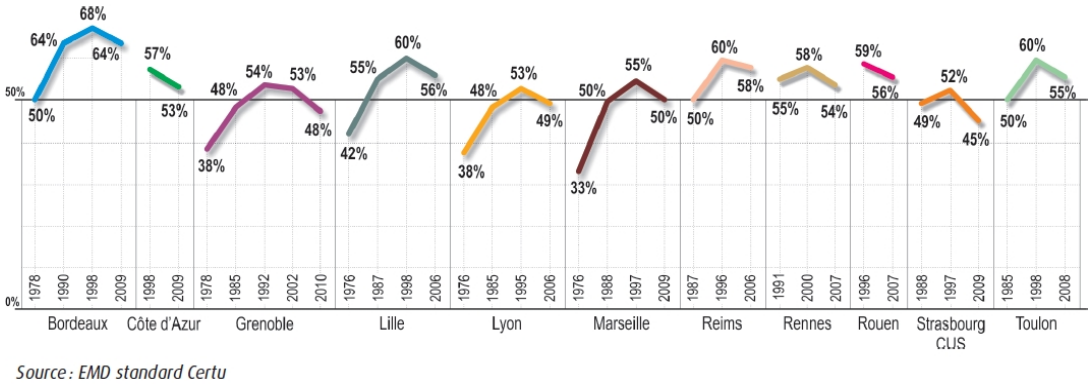
APPENDIX 11: CASE STUDIES FOR THE PROBLEM DEFINITION

In section 3.1.3 the link between the urban mobility challenges endangering the well-being of citizens and effectiveness of businesses & the lack of an integrated urban mobility approach in many European areas was qualitatively explained. This link is further illustrated by the case studies below.

Case study 1: Evaluation of the French "Plans de Déplacements Urbains" (PDUs) [214]

The French evaluation of their urban mobility plans (PDUs) over a period of 30 years shows results in big urban agglomerations, such as less car usage, bikes reappearing in the city and more frequent use of public transport. A change in modal split away from motorised transport contributes to achieving a healthier life environment for the citizens. A graphical illustration of the development in share of cars in total trips in selected French areas is presented in figure 1 below. The early French PDU's had their focus on public transport, and policies with car restraints came later. The changes in modal split must also have been influenced by other factors than the early French PDU's, such as rising fuel prices and the development of e-commerce, as French PDU's only became mandatory for areas of over 100,000 inhabitants by 1996. Legislation on PDU's has become more prescriptive in recent years with an environmental obligation introduced in 2010 to quantify the effect of PDU measures on CO_2 emissions.

Figure 5: Change in the modal share of cars in selected areas in France



Case study 2: Evaluation of UK experience with the Local Transport Plans (LTPs)

Results from the first round LTP's (2001/02-2005/06) in England and Wales indicate that "*the benefits of integrated transport schemes are likely to be significant relative to the costs*" and offering "value for money", being important to achieve a more competitive transport system. For example, "*research estimates on specific transport policy measures indicate that every £1 spent on well-designed soft measures could bring about £10 of benefit in reduced congestion alone, with further potential gains from environmental improvements and other effects*"[215].

The evaluation of the LTPs concludes that "*evidence from various sources suggests that the benefits outweigh the costs of implementing the LTP programmes*"[216].

[214] CERTU (March 2013), fiche no. 27, 30 ans de PDU en France, p. 1 (http://www.certu-catalogue.fr/catalog/product/view/id/1601/?___SID=U&link=2105)

[215] Atkins in association with PWC and Warwick Business School (2007), for the Department of Transport, Long Term Process and Impact Evaluation of the Local Transport Plan Policy, p10-2 to 10-3

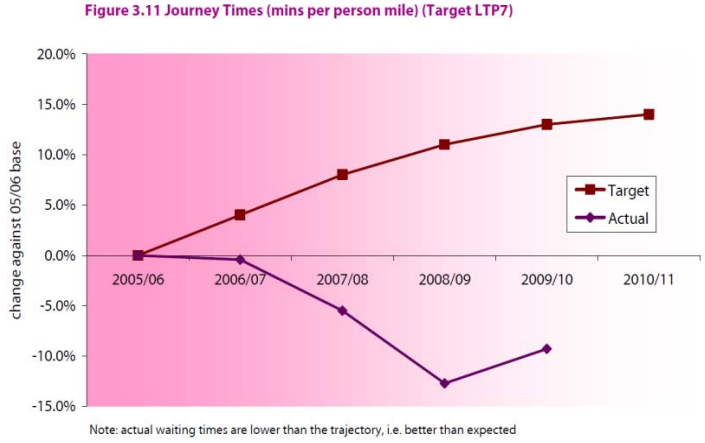
[216] ibidem, p10-1 to 10-2

Moreover, the evaluation from the first round of LTPs demonstrates "*that improvements have been recorded across 8 of the 9 core indicators relating to national priorities. Progress on the two road safety targets broadly reflects LTP targets and collectively authorities are on track to meet the national targets for 2010. However, it is unlikely that the PSA (public service agreement) target for bus and light rail patronage will be met outside London by 2010, and there is insufficient evidence to determine the extent of progress towards the national targets for maintenance. (..) Progress on local targets has generally been good, with 91% of authorities on track at the end of 2004/05 to meet at least 50% of their local targets*[217]".

Case study 3: Evaluation of specific UK experience of West England

47. A specific case study on the assessment of progress of a second round LTP (2006/07-2010/11) in West England (covering the urban agglomeration of Bristol) reveals that through an integrated approach with a combination of measures, such as increased bicycle transport, an increased use of public transport and influencing travel behaviour, the target set for reduction of congestion has been met. This is illustrated by the average travel time per mile, see figure 2 below.

Figure 2: Journey times West England related to LTP target[218]

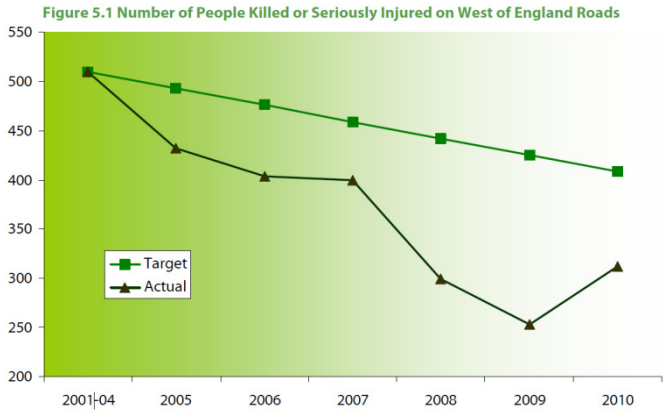


48. Also on traffic safety the implementation of the integrated approach has resulted in achieving the defined targets, see figure 3 below.

217 ibidem
218 COWI (2013), Study to support an Impact Assessment on the UMP, act. 31 SUMPs, based on West of England (2011) 5 years progress review Joint LTP 2006/7-2010/11, p68

Figure 3: Journey times West England related to LTP target[219]

49.

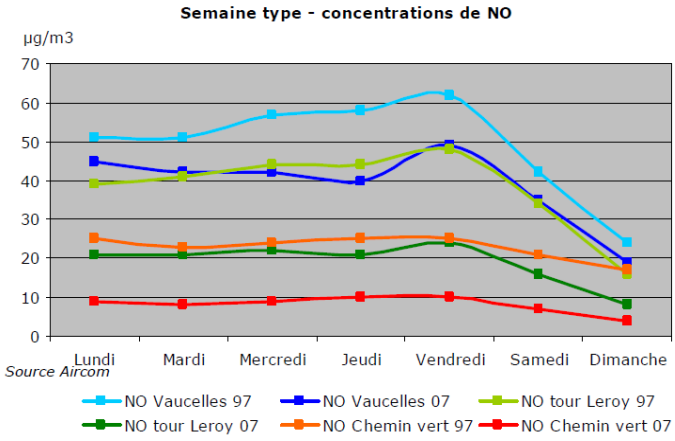


50. Of the total of 21 quantified targets in this LTP 15 were met (three targets were not met and for three others the evidence was not convincing).

Case study 4: Evaluation of specific French experience of Caen[220]

In 2007 the PDU 2001 of the Caen urban agglomeration covering 19 municipalities was evaluated. The evaluation showed that most of the PDU measures were interrelated and dependant of each other for a successful implementation to achieve improvements, e.g. large investments in public transport and supporting actions promoting inter-modality such as ticketing compatibility. Around 60% of the measures had been implemented, leaving room for improvement. The PDU 2001 had a positive impact on modal split, leading to increased walking, with a reduction of the shares of motorised transport and of public transport. Air quality improved with a reduction of NO concentrations, see figure 4 below showing the NO concentration by weekday for 1997 and 2007. The impact on noise pollution was overall positive. Traffic noise reduced in the city centre (most densely populated area), especially where trams were passing and because of a recirculation of traffic. In the periphery traffic noise increased as a consequence, where houses are located further away from the streets[221].

Figure 4: NO concentration reduction Caen agglomeration



[219] ibidem p.
[220] COWI (2013), Study to support an Impact Assessment on the UMP, act. 31 SUMPs, based on AUCAME (2008), évaluation du PDU de l'agglomération de Caen, pp. 71-72
[221] AUCAME (2008) évaluation du PDU de l'agglomération de Caen, pp. 34-35

In the field of road safety strong progress was made with the number of road accidents decreasing by more than 50% and the number of fatalities by 26%, see figure 5 below.

Figure 5: Improvement of road safety Caen agglomeration

	Du 01/01/97 au 31/12/01	Moyenne annuelle Pré-PDU	Du 01/01/02 au 31/12/06	Moyenne annuelle post-PDU	Evolution
Nombre d'accidents	2 750	550	1 260	252	-54%
Nombre de tués	72	14,4	53	10,6	-26%
Nombre de blessés	3 698	739,6	1 670	334	-55%
Nombre d'accidents mortels	68	13,6	51	10,2	-45%
Nombre d'accidents impliquant piétons ou cyclistes	613	122,6	290	58	-53%

Source : DDE du Calvados - Caen la mer, Accidentologie 2002-2006

Case study 5: Evaluation of Vienna experience

In many European cities a policy was chosen to adapt the city to the car. Existing public transport systems were removed to give priority to motorised transport. The city of Vienna can be regarded as a representative example of European cities planning their car-oriented transport[222]. A new urban motorway was built in the 70s to relieve the congested inner streets of Vienna. However, with the number of road accidents declining since the 70s, after opening of the motorway this trend reversed and accident figures reached its old levels again in 1994 due to higher speed of motorised transport. Furthermore, shopping centres opened at the fringes of the city, trips became longer, congestion rose, and air and noise pollution problems got worse. Today, Vienna is the most congested section of Austria and this example is given as an indication of a lack of an integrated approach at that time by "*building a motorway as part of the city structure with disastrous consequences around*"[223].

However, with the development of a transport plan and the implementation of future-oriented measures over the years, large part of the streets in the city centre became pedestrian areas, cycling was promoted and a successful parking policy (that prohibited free parking spaces) was introduced, all leading to compensation of the adverse effects of the motorway and a recovery of the city[224]. The current 20 years Transport Master Plan Vienna 2003, building on the results of previous plans, looks at the broad agglomeration of Vienna as TEN-node, technology metropolis and economic location, covering both urban agglomeration and regional traffic flows[225].

In general, the ECMT/OECD recommends in 2007 to manage urban traffic congestion through an integrated approach. Congestion cannot be managed by only adding road capacity.

[222] Sadhana Vol. 32, Part 4, August 2007, Knoflauher, "Success and failures in urban transport planning in Europe", p294

[223] Sadhana Vol. 32, Part 4, August 2007, Knoflauher, "Success and failures in urban transport planning in Europe", p295

[224] ibidem, pp. 294, 295

[225] Transport Master Plan Vienna 2003, pp. 5-7, http://www.wien.gv.at/stadtentwicklung/shop/broschueren/pdf/mpv2003-kurzfassung-englisch.pdf

"Effective land use planning and appropriated levels of public transport services are essential to deliver high quality access in congested urban agglomerations. A combination of access, parking and road pricing measures is required to achieve the benefits from operational and infrastructural measures to mitigate traffic congestion"[226].

Case study 6: an example from outside the EU: Buenos Aires[227]

More than 13 million people live in the metropolitan area of Buenos Aires, and more than 2 million people commute into the city centre daily. In 2009, 54% of those commuters travelled by private vehicle, amounting to more than 900 000 cars entering the city daily, and traffic was increasing – at roughly 16% per year in 2009. To combat growing motorised traffic and its impacts on the city and its transport system, the city of Buenos Aires developed a Sustainable Mobility Plan in 2009. The plan outlined four transport objectives for the city, including; prioritising public transport, creating healthy mobility, planning for traffic and road safety, and instituting intelligent mobility. To achieve those objectives, the city implemented specific policy responses, such as prioritisation of public transport by redesigning system routes, expanding bus-exclusive lanes, and implementing a BRT system (Metrobús) and cycling-share programme (Mejor en Bici, or Better by Cycling). By 2012, Buenos Aires had constructed 25 km of bus-priority lanes, 12 km of trunk lane for Metrobús and more than 70 km of protected onstreet cycling lanes. The city also installed 21 Mejor en Bici stations with 600 bicycles across the city. The results of the initiatives to date are more than 90 000 daily Metrobús users, resulting in an average travel time savings of 40% for Metrobús passengers. Metrobús has also contributed to improved traffic flow along the BRT corridor, while bus-priority lanes have led to an average travel time savings of 20% for the affected bus lines. Cycling in the city grew 128% in 2011, and Mejor en Bici has an average of 3 500 users per day. Because of the programmes' success, Buenos Aires now is studying the potential to add more than 200 km of new BRT corridors in the city, and it is expanding Mejor en Bici to 100 stations by 2013.

[226] ECMT/OECD (2007) Managing urban traffic congestion, p7
[227] Buenos Aires Ciudad, 2009; Chain, 2011; Dietrich, 2012; ITDP, 2012

APPENDIX 12: IDENTIFICATION OF THE RETAINED POLICY OPTIONS

51. The public consultation, the expert and stakeholder meetings, independent research, experiences from past initiatives (e.g. CIVITAS, ELTISplus) and own analysis have allowed the Commission services to identify a set of policy options having the potential to reach the identified key EU Transport White Paper objective. The following process was applied for establishing the policy options:

52. A set of elements for the **policy and governance framework for urban areas** (=step 1, see below) tackling problem driver 1 and 2, **and possible instruments at EU level** (=step 2, see below) have been identified to address the identified problem. Moreover, all items presented in step 1 and 2 are pre-screened and checked for feasibility, and discarded where appropriate.

2. The retained elements for the policy and governance framework and instruments at EU level have been combined into **policy options** constituting viable and coherent policy alternatives for achieving the overall objective. Where appropriate, certain combinations have been discarded after a first assessment. See step 3 below.

Step 1: Policy and governance framework for urban areas

A) Possible elements for a policy and governance framework for urban areas

The possible **requirements** for the **policy framework** for urban areas' policy making, which address problem driver 1 on policy issues, are presented in the table below. The minimum requirements have been elaborated from a bottom up approach[228], and are in line with the "benchmark" integrated urban mobility approach", as developed in section 3.1.2. The comprehensive requirements have been elaborated from the Transport White Paper urban policies (e.g. initiative 32 on access restriction zones) and the Clean Power for Transport initiative. In terms of geographical scope, the entire urban agglomeration is addressed, including the mobility patterns of commuters and seamless mobility along the TEN-T network. Issues such as road safety, the use of intelligent transport systems (ITS)[229] and mobility for all are horizontally integrated.

[228] The minimum requirements have been elaborated on the basis of the ELTISplus guidelines on SUMPs (September 2011), experiences of relevant EU projects (CIVITAS, IEE/STEER) and in consultation with experts (workshop January 2013) and stakeholders (May 2013).

[229] ITS measures can for example contribute to reduction of congestion, modal shift to public transport and less accidents through real time traffic and travel information, planning and booking, data monitoring and analysis, and traffic & parking management measures.

54. Table 1: Minimum and comprehensive requirements related to the policy framework

Minimum requirements related to the policy framework	Comprehensive requirements related to the policy framework
Addresses both freight and passenger transport	Addresses both freight and passenger transport
Addresses all transport modes	Addresses all transport modes
Addresses the following topics: public transport services, non-motorised transport, city logistics, mobility management, integration of transport modes (multi-modality), the road network and motorised transport (including moving and stationary traffic)	Addresses the following topics: public transport services, non-motorised transport, city logistics, mobility management, integration of transport modes (multi-modality), the road network and motorised transport (including moving and stationary traffic)
	Assess the introduction of the following 'promising' instruments: low emission zones and urban pricing (urban road user charging/congestion charging, parking pricing and public transport pricing)
	Assess the introduction of clean technologies and alternative fuels
	Ensures interoperability and/or consistency in use of instruments across the EU

55. The possible **requirements** and combinations **related to the governance framework** (in terms of processes and procedures) of urban areas' policymaking, which address problem driver 2, are presented in the table below. The minimum requirements have been elaborated from a bottom up approach[230], and are in line with the "benchmark" integrated urban mobility approach", as developed in section 3.1.2. The comprehensive requirements have been elaborated by the Commission services.

[230] The minimum requirements have been elaborated on the basis of the ELTISplus guidelines on SUMPs (September 2011), experiences of relevant EU projects (CIVITAS, IEE/STEER) and in consultation with experts (workshop January 2013) and stakeholders (May 2013).

56. Table 2: Minimum and comprehensive requirements related to the governance framework

Minimum requirements related to the governance framework	Comprehensive requirements related to the governance framework
Contains pledge to sustainability (three dimensions: economic, social and environmental)	Contains pledge to sustainability (three dimensions: economic, social and environmental)
Includes or is built on long-term strategy	Includes or is built on long-term strategy
Provides short-term implementation plan (timetable + budget plan; allocation of responsibilities)	Provides short-term implementation plan (timetable + budget plan; allocation of responsibilities)
Integrates different relevant policy areas, in particular land-use and transport planning	Integrates different relevant policy areas, in particular land-use and transport planning
Considers all transport to, through and within the urban agglomeration area and coordination between different authority levels	Considers all transport to, through and within the urban agglomeration area and coordination between different authority levels
Includes baseline analysis including performance audit	Includes baseline analysis including performance audit
Is developed in a participatory approach	Is developed in a participatory approach
Includes impact assessment on proposed measures	Includes impact assessment on proposed measures
Is based on integrated planning and implementation	Is based on integrated planning and implementation
Is formally adopted	Is formally adopted
Identifies objectives and sets targets in line with EU policy objectives	Identifies objectives and sets targets in line with EU policy objectives, **including mandatory targets on urban mobility performance**
Foresee mechanisms for monitoring **in the MS**	Foresee mechanisms for monitoring **at EU level**
Foresee mechanisms for review **in the MS**	Foresee mechanisms for review **at EU level**
Conformity check on requirements **in the MS**	Conformity check on requirements **at EU level**

57. In line with the view of a large majority of experts and stakeholders, researchers (including ECMT/OECD), and with experience from initiatives such as CIVITAS the most successful urban areas use integrated approaches to tackle multi-sectorial problems in policy making linked to their transport system. In order to improve the related policy and governance framework of their policy making, several European cities have in practice implemented these integrated approaches through Sustainable Urban Mobility Plans (SUMPs). These SUMPs often vary in quality, ambition and effectiveness. **In sections 5,6,7 and 8 of this impact assessment study, the concept of SUMPs[231] is used to describe a true "benchmark" integrated urban mobility approach which encompasses the minimum or comprehensive requirements on**

[231] Appendix 5 provides an extensive definition of a SUMP

policy and governance framework of cities' policy making, as identified in the above tables.

B) Pre-screening of the possible elements for a policy and governance framework

Based on the analysis above, four main categories in relation to the policy and governance framework for urban areas have been defined:

i. Minimum requirements related to the policy framework
ii. Comprehensive requirements related to the policy framework
iii. Minimum requirements related to the governance framework
iv. Comprehensive requirements related to the governance framework

After a pre-screening the **last category, i.e. comprehensive requirements related to the governance framework, has been discarded**. As part of this comprehensive governance framework, mandatory requirements at EU level on monitoring, review and conformity check of a SUMP do not meet the subsidiarity and proportionality principle. The same is true for the mandatory targets set by the EU on urban mobility. First a common tool for measuring urban mobility performance needs to be developed. Moreover, this comprehensive governance framework does not have any support from experts or stakeholders. As a result, only the first three categories are retained for further analysis.

Step 2: Instruments at EU level

58.

59. A) Possible instruments at EU level

60. In this step it is explored what instruments could be used at European level as to ensure that cities will actually take up the policy and governance framework as identified in step 1.

- No EU action: all on-going European actions (see point 0 below: business as usual scenario) in relation to integrated urban mobility are stopped.

61. **- 0: The business-as-usual scenario:** The EU would support a bottom-up approach (the business-as-usual scenario). The Commission would continue present activities, such as:

- Funding for development of SUMPs and deployment of Sustainable Urban Mobility measures[232];
- Supporting Research and Development on SUMPs;
- Facilitating the development and sharing of best practice examples; e.g. by providing European urban areas with a platform for exchange and cooperation (e.g. through the website www.mobilityplans.eu);
- Raising awareness on sustainable urban mobility;
- Supporting local capacity building;
- Urban mobility observatory

[232] In the future programming period the European Regional Development Fund and the Cohesion Fund would be able to support financially the development of SUMPs, stemming a thorough analysis of the urban environment, as well as support networking and exchange on urban planning practices to relieve congestion and/or reduce carbon and other pollutant emissions from transport.

62. These activities can be continued in combination with other instruments mentioned below (1, 2,3,4 and 5).

63. **- 1: Non-binding recommendations on SUMPs**: The EU would seek to enhance voluntary development and implementation of SUMPs by the competent authorities in the Member States by providing recommendations on this topic.

64. **- 2 and 3: A mandatory EU level framework:** The EU would make mandatory the development and implementation of SUMPs by the competent authorities in the Member States for certain urban areas categories[233], leading to the following sub options:

- **2:** Member States need to freely define themselves the urban areas (e.g. based on population size) for which they esteem a mandatory development and implementation of SUMPs necessary to reach the goal of this initiative
- **3:** The EU level defines the urban areas for which a SUMP needs to be developed and implemented (e.g. based on population size).

65. This mandatory EU level framework would by nature have to take the form of a legal instrument. As to respect the subsidiarity principle and as to take into account the different situation in cities and Member States, a Directive - and not a Regulation – would be the appropriate instrument in this case.

- 4: Introduction of an urban mobility scoreboard: the EU would develop an urban mobility scoreboard, including voluntary targets on urban mobility performance, thereby facilitating benchmarking of cities by collecting and publishing sharing of current data.

- 5: Financial conditionality: The EU could create further incentives for the development and implementation of SUMPs by the competent authorities in the Member States by imposing a financial conditionality. This would be done through linking access to cities and regions applying for EU funding (e.g. the structural funds) for urban transport projects to the existence of a SUMP in the urban area concerned[234]. In the next programming period from

[233] Examples of thresholds for urban agglomerations that could be considered are: urban agglomerations with a population size (a) > 100.000 inhabitants, (b) > 250.000 inhabitants or (c) >1.000.000 inhabitants and for all capitals (TEN-T urban nodes). The 100.000 threshold (a) is based on French legislation as a threshold for a mandatory PDU in cities and agglomerations with more than 100.000 inhabitants. The 250.000 threshold (b) is based on Directive 2008/50/EC as a threshold for agglomerations in which air quality plans are required in case of exceeding target or limit values. The threshold related to the TEN-T urban nodes (c) is based on COM(2011)650 final/2, annex II on the urban nodes in the TEN-T guidelines and accompanying planning methodology. The main nodes for passenger and freight traffic of the core network have been established on the basis of the following criteria: capital cities of each EU MS, every MEGA in the ESPON atlas 2006, a conurbation or city cluster exceeding 1 million inhabitants and the main border crossing point of each available mode of transport between each EU MS and its non EU neighbours.
Ideally the mandatory policy options should already differentiate between the categories of cities that should be covered under the different options. However, given the limited availability of comparable data and statistics in the field of urban transport and mobility, such a distinction could not be made in a justifiable, grounded and statistical underpinned manner. In view of this, the exact distinction between the different categories of cities has not been included in the policy options, but will be touched upon in section 6.2 on the analysis of impacts. The limited availability of comparable data and statistics in the field of urban transport and mobility was confirmed by the "Study on harmonised collection of European data and statistics in the field of urban transport and mobility (2013 – SADL KU LEUVEN and UITP)".

[234] In the programming period 2014-2020, the European Regional Development Fund and the Cohesion Fund would be able to support financially the development of SUMPs, stemming a thorough analysis of the urban environment, as well as support networking and exchange on urban planning practices to relieve congestion and/or reduce carbon and other pollutant emissions from transport. As regional and urban policy is implemented

2020 onwards, financial conditionality could be included in the legislative proposals and be made obligatory from the EU level.

B) Pre-screening of the possible instruments at EU level

66. A pre-screening of the possible instruments at EU level has been performed and some instruments are discarded at an early stage based on the criteria of subsidiarity, proportionality and consistency with other EU policies:

- The "**no EU action**" has been discarded, as to stop all present activities by the EU to support the development and implementation of integrated urban mobility approaches by the competent authorities in the Member States is not consistent with other EU policies and targets, such as road safety, TEN-T and environmental policies. Moreover, there is no stakeholders or expert support to stop all EU action in this field.
- The **introduction of an urban mobility scoreboard** has been discarded, as (in line with the views of stakeholders and results of the APUM[235]) first a methodology for collection and sharing of relevant data and common indicators for measuring urban mobility performance would need to be developed before a future scoreboard could be implemented.
- The **financial conditionality** has been discarded as a legislative proposal could only be included in negotiations on a Multiannual Financial Framework (MFF) from 2020 onwards.

As a result, only the business as usual scenario, non-binding recommendations on SUMPs and a mandatory EU level framework on SUMPs are retained as possible instruments at EU level.

Step 3: Identification of retained policy options

67. The policy options are made of possible combinations between the retained elements for the policy and governance framework (=step 1) and retained instruments at EU level (=step 2). More concretely, this results in policy options that are a combination of:

- Minimum or comprehensive requirements related to the policy framework

and

- Business as usual scenario, non-binding recommendations on SUMPs or a mandatory EU level framework on SUMPs

In relation to the governance framework, as discussed in step 1, it will always be the minimum requirements (see table 2) that apply to the policy options, as the comprehensive requirements on the governance framework are discarded from the outset.

The combinations of retained elements have been analysed, and after a first assessment, some combinations could be discarded (see point A below). The retained policy combinations are presented in point B below.

A) Pre-screening of possible policy options

in a decentralised way, this could happen if Member States and regions propose such measures in the Operational Programmes.

[235] Minutes stakeholder meeting 21 May 2013 and APUM action 16, Study on data and statistics

In combination with the business as usual scenario (option 0), and the non-binding recommendations on SUMPs (option 1), only the comprehensive policy framework has been retained (option 0B and 1B). The voluntary character of these EU actions justifies this high ambition level. The combinations of these EU actions with the minimum policy framework have been discarded at a preliminary stage, as given the voluntary character of these actions a comprehensive framework gives more guidance, without imposing any legal obligation.

The combinations of a comprehensive policy framework with a mandatory framework have been discarded because of the lack of experts' and stakeholders' support as well as concerns about subsidiarity, proportionality and feasibility. In the comprehensive requirements for the policy framework urban areas are asked to consider the introduction of access restriction zones while at the same time avoiding a patchwork of different regulations based on different principles and standards, as this could jeopardise the free movement of goods and people. However, no EU common approach on access restriction schemes is available yet, and therefore mandatory requirements on this topic seem not appropriate. Therefore, for the mandatory approach (options 2 to 3) only the minimum requirements for the policy framework (options 2A and 3A) will be analysed given the fact that these options will create legally binding effects and should be in line with the subsidiarity and proportionality principles.

However, in the voluntary approach (business as usual scenario and non-binding recommendations) the combination with the comprehensive requirements is retained. If urban areas consider introducing access restrictions, they should at least consider relevant schemes used in other European cities, to avoid fragmentation of the internal market and improve overall cost effectiveness. In contrast with the mandatory approach there would be no obligation to ensure compatibility with existing schemes.

B) Identification of retained policy options

68. The table below provides a schematic overview of the retained policy options (option 0B, 1B, 2A and 3A), for which the components have already been described in step 1 and 2.

Table 3: Retained policy options

(for all options: governance framework: minimum)	**A** **Policy framework MINIMUM**	**B** **Policy framework COMPREHENSIVE**
0) Business as usual: R&D, funding, best practice, campaigns, local capacity building	N/A	**Option 0B**
1) Non-binding recommendation on SUMPs	N/A	**Option 1B**
Make mandatory the development and implementation of SUMPs:		
2) Member States need to define themselves the urban areas (e.g. based on population size) for which a SUMP needs to be developed and implemented	**Option 2A**	**N/A**
3) The EU level defines the urban areas for which a SUMP needs to be developed and implemented (e.g. based on population size)	**Option 3A**	**N/A**