



# Study on the financing needs in the area of sustainable urban mobility

## Final Report - Executive Summary

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## Executive Summary

### *Scope of study*

Booz & Company were commissioned by the European Commission's Directorate-General for Mobility and Transport (DG MOVE) to assess the financing needs in the area of sustainable urban mobility. The purpose of the study has been to:

- Examine future funding needs for the urban mobility improvements required across the European Union (EU);
- Consider the synergies between sustainable urban mobility and regional policy at the EU level, including the availability of financial instruments to support this;
- Develop and assess possible options for EU financial contributions to urban mobility improvements should EU funds be made available; and
- study the synergies between policies for sustainable urban mobility and regional policy at the EU level, including currently available financial instruments, and to develop and assess possible options for EU financial contributions to the improvements.

For the purposes of this study, sustainable urban mobility is defined as the sustainable movement of people and goods within an urban geography. Sustainability has several dimensions including environmental, economic, social and financial sustainability, and is defined as contributing to cities being able to function in a way that minimises air and noise pollution, contributes towards targets to reduce CO<sub>2</sub> emissions, promotes economic development of the city, enables good levels of mobility for people and goods, and is affordable to users and taxpayers. Sustainable urban mobility is challenged when urban transport is:

- unreliable;
- contributes towards deteriorating air quality standards;
- seen as a safety risk for users, residents and visitors;
- creates delays and bottlenecks for users; and
- becomes difficult to fund to maintain essential service levels and standards.

### *Influences and trends affecting sustainable urban mobility in Europe*

Promotion of sustainable urban mobility is affected by a wide range of factors which affect costs and revenues. Costs of land, labour and geographical factors are key influences on capital costs, whilst operating costs are also affected by labour costs, topography, demand patterns and the structure/governance of the transport sector in different cities. Particularly notable are costs arising from aging capital intensive infrastructure in need of renewal, and changing demand patterns affected by seasonal factors, car ownership levels and growing incomes. In terms of revenues, urban transport expenditure is constrained by public transport fare levels typically being below the cost of operating and renewing capital in such systems. In addition, there is frequently a lack of authority and political will to introduce

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direct pricing of road use, increase fares and parking charges, as well as limits on powers to raise local taxation to address funding gaps.

Overall, the fundamental problem in the promotion of sustainable urban mobility is that many of the solutions to advance this objective do not generate sufficient revenue in themselves to pay for their capital costs or even to pay for all of the operating and maintenance costs for the infrastructure and services needed. As such, advancements in urban transport systems and services may typically require a greater on-going contribution from public funding more generally to sustain their operation and renewal.

There are various trends in European cities in coming years that are likely to put further pressure on urban mobility budgets:

- Forecast increases in urban populations of 5% overall by 2050, with growth particularly concentrated in accession countries (with the highest increase forecast as being 27%);
- Aging populations changing demand patterns (reducing peak demand but increasing demands for more accessible public transport and pedestrian facilities, as well as demands for concessionary fares);
- Growth in overall metropolitan areas (urban sprawl) paralleling increased car ownership particularly in Eastern Europe and the Iberian peninsula;
- Higher incomes resulting in increasing demands for better quality and safer public transport systems, as well as supporting rising car ownership levels in accession countries;
- Growing resistance to increases in fares, taxation and other user charges without commensurate clear increases in services or service quality;
- Severe constraints in national and local budgets arising from the sovereign debt crisis and fiscal restraint over the medium term (with local authority revenue as a proportion of total government expenditure remaining low);
- European and national policies to reduce greenhouse gas emissions demanding capital investment in measures to reduce energy consumption, private car use and improve use of existing infrastructure; and
- Policies to promote alternative fuels and motive power sources through investment in new technologies to reduce dependency on imported fossil fuels.

### *Funding gap*

Having considered six case studies of European cities and available data on transport spending, it is estimated that there will be a significant increase in funding gap requirements for the period 2010-2040.

The estimate is that operational funding needs will double (real average compound growth of 2.8% per annum) for the EU-12 cities modelled, and increase by around 50% (real average compound growth of 1.5% per annum) for the EU-15 cities modelled.

This study estimates that the total operational subsidy requirement for all of the 28 cities modelled is expected to rise from €13.1 billion in 2010 to €24.1 billion in 2040 (in 2010

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values). Of that increase of €11 billion, €9.7 billion is expected to come from the EU-15 cities and €1.3 billion from the EU-12. In other words, it will be the faster growing lower income cities in accession countries that will proportionately generate a higher rate of funding demands for urban mobility, yet those cities will still be at relatively lower levels of per capita funding than that of western European cities.

The study estimates that the expected capital expenditure requirement for all of the 28 cities modelled is expected to rise from €2 billion in 2010 to €4.1 billion in 2040 (in 2010 values). Of that increase of €2.1 billion, €0.2 billion is expected to be required by the EU-12 cities and €1.9 billion from the EU-15.

#### *Sustainable urban mobility and European policy framework*

The *Europe 2020* strategy emphasises smart, sustainable and inclusive growth, focusing on innovation and the flagship initiative “Resource efficient Europe”. This is also consistent with the *2011 Transport White Paper* which prioritises a shift in transport use to cleaner options (which includes active modes such as walking and cycling), a shift to smaller, lighter and more specialised vehicles using alternative fuels, and greater use of technology to increase the efficiency of freight movements.

A shift towards more sustainable urban mobility, by reducing pollution and greenhouse gas emissions, can be substantially achieved by combining best practice management and technologies that can catalyse changes in behaviour in the use of infrastructure, vehicles and services. This corresponds with the goals in the *Action Plan on Urban Mobility* and the *Green Paper Towards a new culture for urban mobility* both of which promote smarter, more accessible and more environmentally friendly urban transport. Together, the EU has a range of complementary strategic policy goals that are about achieving sustainable urban mobility. The more fundamental issues behind them are around the policy instruments needed to achieve those goals, and whether (and to what extent) there is a funding challenge to implement those instruments.

#### *Policy initiatives to deliver sustainable urban mobility*

Some of the demands to improve urban mobility are focused on high profile capital intensive projects that deliver significant improvements to single route or trip users. However, many of the types of projects that can deliver more systematic and sustainable benefits are about transferring best practice techniques of management and operations, including technological innovations, to existing infrastructure and services. Significant gains can be made by improving utilisation, maintenance and operation of existing systems, and by using the latest technologies, management and planning techniques to achieve efficiencies and overall improvements in economic, environmental and social outcomes. For example, the latest bus technologies can achieve ultra-low emissions alongside fuel savings, whilst road pricing can significantly reduce traffic congestion, promote transfer of trips to more sustainable modes and reduce emissions from road use. The introduction of neither low emission buses nor road pricing may be seen as high profile politically popular policies, but sustainable urban mobility would be strongly supported by such policies in some cities.

This would be further supported by a longer term engagement to increase capabilities and capacity in local policy and operational agencies, which can also be extended to promoting the development of capital programmes that are outcome oriented rather than input focussed.

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Whilst there will continue to be considerable investment in capital projects to address bottlenecks and replace legacy infrastructure, a broader strategic approach is likely to develop greater benefits for users that can be sustainable in all senses of the word.

*Options for addressing the funding gap*

A significant part of the funding responsibility for urban mobility is at national, regional and local levels, with national constitutions and laws setting governance, taxation and funding powers. However, within those diverse national frameworks, the EU may be able to provide a useful role in contributing towards addressing the funding gap either directly through financial assistance, or indirectly by enabling local authorities to improve management, procurement and prioritisation to get better use out of existing funds and to find innovative new sources of revenue.

Whilst existing EU instruments do provide some support, none provide a comprehensive mechanism to realise the EU's full potential in promoting sustainable urban mobility:

- The Cohesion Fund supports TEN-T capital projects, but these do not specifically target urban areas to support urban mobility, although some such projects do happen to do so because of geography;
- The CIVITAS programme provides funding and technical support for demonstration, evaluation and implementation of innovative technology led projects, but is focused on promoting innovation rather than addressing specific needs across Europe;
- The JASPERS programme assists cities in managing delivery of already funded urban mobility projects, but such assistance tends not to translate into sustainable improvements in the capability or capacity of public agencies it has supported;
- The JESSICA programme enables cities to access private finance for urban regeneration projects, but is limited to a focus on projects that can generate a commercial return.

Although useful, none of these programmes individually or collectively provides a means to support the promotion of best practice management to reduce costs and generate revenue, or other high value measures that can support sustainable urban transport at relatively low costs, such as active transport modes. In addition, none of the programmes appear to have a mandate to support and promote highly effective, higher risk measures such as road pricing, roll-out of alternative fuel vehicles on a large scale or modern integrated electronic ticketing systems. Finally, there is little support at present to build capability among agencies in assessing and ranking priorities for expenditure, particularly to make trade-offs between expensive large capital projects and smaller capital projects and maintenance expenditure.

The following criteria were developed to allow for options to be developed and assessed for EU action:

- Ability to support sustainable urban mobility;
- Ability to support wider European transport policy objectives;
- Support for high value long term investment to improve outcomes;

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- Provision of an appropriate EU role given the principle of subsidiarity;
  - Ability to support specific regional issues;
  - Likelihood of generating long term benefits;
  - Incentivisation of better integration across sectors and policy areas;
  - Ability to benefiting the widest range of users and communities;
  - Targets cities that have specific economic needs;
  - Incentivises greater use of the private sector; and
  - Flexibility to meet local conditions and promote collaboration.

Two options were developed that could be implemented if additional funds were to be made available by the EU to specifically support sustainable urban mobility. They were assessed according to the criteria listed above:

1. Reinforcement of one of more existing instruments;
2. Creation of a dedicated additional EU financial instrument.

Option 1 would add to existing instruments, a focus of improving the capacity of cities to adopt better approaches to allocate existing funding, and enhance their procurement and asset management processes. This could be reinforced through technical assistance provided in association with those programmes (e.g. JASPERS and CIVITAS). It would help to build a more sustainable improvement in capabilities across cities receiving financial assistance through existing programmes.

Option 2 would involve the creation of a new financial instrument to take a strategic view of how best to address the capabilities, capacities and innovation requirements of local agencies to deliver significant gains in urban mobility outcomes. It would add to the capabilities and project selection processes, as well as support innovative management techniques and technologies within cities. It would also focus on improving utilisation and management of existing networks, and enhancing them where value can be best added. It would emphasise innovative measures to promote small high value projects, such as those supporting active modes, as well as higher risk more complex longer term measures with high benefit, such as road pricing and integrated electronic ticketing systems. The overall objectives would be to improve efficiencies, minimise costs, and develop a holistic, integrated long term approach to sustainable urban mobility by supporting international best practice in infrastructure and service management, project identification and selection, and intelligent transport systems. It would also seek to take the widest approach to supporting cities adopting new innovative sources of funding and finance.

### *Conclusion*

Either option would mean the EU contributing towards a long term improvement in sustainable urban mobility outcomes. However, given the current constrained mandates of existing instruments and programmes (and the lack of commercial return from most urban mobility projects), Option 2 is likely to present the greatest opportunity to uplift capabilities and outcomes for European cities over the longer term. It could enable existing programmes and instruments to be integrated with it and focus not simply on providing funds to meet gaps, but also to enable cities to use existing funding and financing resources better, to

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develop new ones and to address long term trends of rising costs and mismatches of demand for mobility with supply of transport infrastructure and services. It could enable the EU to provide a central role in realising the greatest potential gains in urban transport sustainability across economic, financial, social and environmental outcomes in the long run, and provide a foundation for raising capabilities across cities in Europe.