

Transport for Society

2011 Annual Summit: Background Paper

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TRANSPORT FOR SOCIETY
2011 ANNUAL SUMMIT BACKGROUND PAPER

Introduction

This paper examines the issues to be debated at the 2011 Summit on Transport for Society using a range of sources including in-house research, commissioned research and published work. The main insights from work on the broad range of issues encompassed by the Summit are integrated in this document, prepared by the Secretariat of the International Transport Forum. As such the report is not intended necessarily to reflect the views of individual member governments.

The theme of Transport for Society implies a focus on improving the contribution of transport to individual wellbeing (not just of transport users) and, by extension, to collective wellbeing. This broad remit is addressed in discussions centred around the following questions:

1. What does transport do for people and at what cost?
2. What do users and citizens expect regarding the sector's performance?
3. Comparing answers to questions 1 and 2, what are the main shortcomings?
4. How can the transport environment experienced by users be improved? What remedies are affordable and work?

The paper focuses on the key themes to be discussed at the Summit: sustainable mobility, accessibility, environment and health, safety, security, costs and pricing (including costs of externalities), and urban travel.

1. Setting the stage: what does transport do for people, at what cost, and how can policy help improve performance?

1.1 Transport and society: multi-faceted interactions

Transport affects people's quality of life in multiple and profound ways. On the individual and household level, the availability and pricing of transport systems co-determine access to a wide range of activities, including work, social, medical, educational and recreational opportunities. These activities are both contributions to and manifestations of overall welfare. Transport conditions also affect where goods are produced at what cost and where they are available for consumption at what price. They also have a major impact on where households and firms choose to locate. In very broad terms, the smoother and cheaper transport is, the broader the scope of economic and social opportunity for households and businesses. On the macroscopic level, transport is a necessary – but not sufficient – condition for economic growth, an issue receiving revived attention in the post-crisis socio-economic context.

Transport generates considerable benefits but obviously does not come for free. Networks, vehicles, fuels, and operations require resources, transport takes time, and there are costs through the adverse effects of infrastructure and traffic on the natural environment and on human health. Transport therefore features prominently in discussions on the sustainability of societal and economic development models.

This section provides a broad description of the functions of transport in current societies, how these functions are executed, and what they cost in a broad sense (section 1.2). In line with the user-oriented perspective, this description emphasizes the user (individual or household) point of view, but does not ignore more macroscopic perspectives. In order to facilitate forward-looking discussions, connections between transport and broad socio-economic trends are identified and discussed (section 1.3).

1.2 Gauging the importance of transport

How important is transport? Very important. This section reviews a range of indicators and arguments to substantiate this claim. The indicators and the arguments are imprecise and partial, not only because of measurement problems, but more fundamentally because the multi-faceted nature of transport makes it practically impossible to provide a concise and precise measure of its importance in a single, simple indicator. We take a brief look at transport as represented in national accounts and household expenditure and travel surveys. We also look at social cost measurement and at analyses of the interaction between transport and economic growth, and at employment in the transport sector. This is a non-exhaustive list that is intended to illustrate from which angles the “Transport for Society” debate can be approached. All approaches are partial and not all are equally important to everyone, but understanding where “one comes from” improves the quality of the debate.

1.2.1 A first pass: national accounts (and satellite accounts)

One often-used way of measuring the importance of a sector in mixed economies is to calculate its share in GDP on the basis of national accounts. For example, the share of transport in EU economies is around 8%, a share that shows a falling long run trend probably because of increased productivity, but which has recently begun to increase again, reflecting the increased freight transport intensity of industrial production and distribution.¹ The shortcomings of GDP-based measures are manifold, relating amongst other things to poor correlation with some dimensions of individual well-being and sustainable development. Stiglitz, Sen and Fitoussi discuss this in detail in their 2008 report on the measurement of economic performance and social progress to the President of France.² A particularly important shortcoming for transport is that non-marketed production of transport (i.e. households or firms that produce their own transport services by driving their own cars or trucks – as these services are not purchased on the market they are not recorded in national accounts) is ignored in this measure, while it is obviously important. In addition, transport costs are only partially reflected in markets. Some costs are external, and they need to be accounted for.

National accounts only include transport services rendered to third parties. Transport satellite accounts can remedy this problem by including own-account transport and even transport produced by households.³ Satellite accounts are extensions of the national accounting framework that are intended to provide a more detailed description and allow a more detailed analysis of specific sectors. A transport satellite account would present a more complete picture of transport activity within the national accounting framework by explicitly measuring transport services in all industries, not just the transport industry. Satellite

accounts also present opportunities to link physical data, e.g. ton-kilometres, vehicle stocks, energy use and emission levels, with the monetary accounting of the national accounts. For transport, these physical data could cover freight ton-kilometres, passenger kilometres, employment characteristics or number and type of transport vehicles. The construction and use of transport satellite accounts is not very widespread, and those accounts that do exist are hard to compare because of differences in coverage and definitions. Their further development could provide an invaluable contribution towards more evidence- and analysis-based transport policy. The French satellite accounts indicate that national accounts underestimate transport spending quite strongly.⁴

Apart from a rough indication of what share of our (marketed) economic resources is devoted to transport, the accounts approach is not very informative. An increase in transport's share is neither good nor bad. Its relative constancy over time is of no particular significance either. Transport satellite accounts could provide a more complete (yet still not complete, as time inputs are not measured) picture, but are available in a limited number of cases only.

1.2.2 The household perspective: spending and activity surveys

The importance of transport for households is described relatively accurately in household budget surveys and in household travel or activity surveys. The published material provides good overviews of the role that transport plays in broad socio-economic types of households, and customized analysis of the survey material allows more detailed analysis of how transport behaviour correlates with socio-economic characteristics. The downside is that such surveys are carried out less regularly and are less standardised internationally than for example national accounts. This makes trend and cross-country analysis more difficult. Nevertheless some broad lessons can be drawn from published material:⁵

- About 12% of total household spending in the EU27 went to transport in 2005. In Bulgaria the share was under 5%, and in Norway it approached 20%. The US share was around 18%. Household transport spending is heavily dominated by expenditures on the purchase and use of personal transport equipment, i.e. cars. Travel is not only for commuting, although this is the focus of much transport policy. In fact, commuting does not even constitute the majority of all trips. This diversity of trip purposes implies that attempts to steer private transport choices can have widely different impacts on welfare, depending on the underlying trip purpose. Recognising this heterogeneity can improve the effectiveness of transport policy. A cross-sectional comparison of countries in the same year shows that the share of transport spending rises with per capita GDP. Given that since 1970 there has been substantial income growth in OECD economies and that real prices of key transport inputs (including fuel) have not risen strongly or declined (despite the oil price spikes), this means that the consumption of transport services has risen very strongly over time. A brief glance at aggregate measures of vehicle- or passenger-kilometres for different modes confirms this conclusion.
- A time-series comparison of transport spending shares within countries shows that the shares are relatively constant over time.⁶ How is this consistent with the rising share observed in the cross-section? The answer lies at least partially in the real decline of transport prices over time: lower prices have allowed rising transport service consumption at a relatively stable spending share. This implies, of course, that the share can easily change as underlying price patterns and household choices move in different directions. Just as the average share of transport spending correlates with average macroeconomic income, so do household shares and levels of spending depend strongly on household income. More specifically, the transport spending share of the

5th quintile (the 20% highest spending households) is about 1.8 times higher than that of the 1st quintile, in the EU.⁷ The difference between quintiles tends to be more pronounced as the average income is lower, pointing to declining marginal benefits of transport consumption and/or a bigger share of “mandatory” transport at lower incomes.

The increased spending of higher-income households mainly goes to personal vehicles and their use.⁸ As incomes rise, the share of no-car households declines and that of multi-car household cars increases, even as household size has declined on average over time. This means that more household members have access to a personal car, and this has a big effect on mode choice.⁹ The probability of having access to a car increases as incomes rise and is also correlated with education levels, age (with access greatest for the 45 – 54 age group), household size, and gender, with males enjoying greater access to cars on average.

- These factors immediately suggests that broad social trends in income distribution (rising inequality, see section 1.3) translate into differences in transport consumption. In as far as transport consumption reflects household welfare, inter-household differences are emanations of income inequality and would in that sense not require any particular transport policy. But, as alluded to above, transport opportunities are instrumental in determining individual and household earning capacity and – more broadly – their capacity to participate in welfare-generating activities. Specific transport policies may be justified on this basis in order to arrive at a more equitable distribution of economic and social opportunities.
- The share of transport spending in total spending is 1.5 times smaller for households with a reference person over 60 years old than for the households with a reference person younger than 30. In addition, spending shifts from vehicle purchase and operation to buying transport services. Socio-economic status affects the spending share as well, with markedly lower shares for households where the reference person is unemployed or retired. The self-employed tend to have high transport spending shares.
- The spending surveys show fairly limited variation of transport spending shares with the degree of urbanisation. Denser areas do show somewhat lower shares though, and the composition of spending shifts towards services as density increases. It is plausible that the resolution of the density measure in the spending surveys is too limited to pick up the strong dependence of transport consumption on density, as this occurs mainly at very high density levels (see section 1.3).¹⁰ Travel surveys also suggest that the car ownership rises with income in all but the biggest cities.
- Average individual travel time per day is often observed to amount to about an hour. This has given rise to the “constant travel budget” hypothesis, according to which travel choices adapt to changing travel conditions so that the daily travel time of an hour is more or less maintained.¹¹ But whether daily travel times really are constant is not entirely clear¹², and whether the observed empirical regularity implies a constant time budget under all kinds of circumstances is not obvious either.

Summing up, the survey evidence shows the following.

- Households rely strongly on transport for the deployment of income- and welfare-generating activities. Changes to transport conditions therefore can have major impacts on household welfare, both in terms of their capacity to generate income and in terms of the set of feasible activities that constitute its enjoyment.
- To the extent that transport and other, e.g. location, choices reveal preferences, households display a liking for car-oriented and increasingly transport-intensive

lifestyles. At very high incomes, the car-orientation may give way to a high-speed mode orientation.

Higher incomes lead to more transport. If this remains true, then massive increases in global transport volumes will occur as incomes grow in both developed and rapidly developing economies. If it is no longer true, it will be because of policies that steer the choices of newly rich households away from the emulation of patterns observed in already rich households. Whether such policies are feasible and desirable remains most uncertain.

Transport consumption patterns vary strongly across households, with their incomes and their socio-economic characteristics. The set of activities for which transport is used is also very diverse. This heterogeneity and diversity needs to be taken into account when designing transport policy, simply because the societal benefit of a trip depends on who makes it and what it is made for. For example, increasing the cost of a commuting trip during rush hours may be harmful if it reduces the employment options of low-income households. But if the cost increase is made tax deductible for commuting trips, then it may mainly induce non-workers to change their trip times and be beneficial. Such analysis is not possible if transport is treated as homogenous. Leunig (2011) agrees that it is difficult to know how trips contribute to societal objectives (he emphasizes growth) unless it is known why the trips are made, and points out that poor information on trip motives poses a problem for good policy making.

1.2.3 Social cost accounting

Transport accounts aim to describe systematically the full social costs of transport together with the revenues that the sector generates. Social costs include infrastructure costs, supplier operating costs, user costs and the external costs of accidents, pollution and climate change.¹³ Transport accounts provide for systematic monitoring of the sector's performance in terms of broad goals, including sustainability, financial viability, equity, and budgetary needs, something that the limited information available in national accounts cannot do. Such monitoring supports the measurement of the impacts of policies and transport accounts can help improve policy design, for example in setting better charges for the use of infrastructure. "Better charges" are charges that contribute to reaching transport policy objectives, which may include cost recovery and revenue raising considerations, equity concerns, and efficiency. In as far as efficiency is a goal, charges should be in line with marginal social costs.¹⁴ These costs are not directly described in transport accounts so require additional investigation.

The estimation of the full social costs of transportation is challenging and at this stage qualifies as a research topic rather than an object for routine statistical processing. Transport accounts therefore are not produced systematically. For the European Union, the UNITE project¹⁵ has produced pilot accounts, showing how methodological difficulties and data availability limit the scope of the exercise, but also showing that transport accounts are useful tools for informing debate about the sector's performance and the relative appeal of alternative policy approaches. The UNITE accounts show, for example, that road transport revenues exceed road infrastructure costs in all but one of the 17 European countries studied. They also showed that road transport revenues exceeded the costs of road infrastructure, accidents, pollution, and noise added together in more than half of the countries studied.

While cost recovery, or more generally the impact of transport on public finances, is an issue of obvious policy relevance, it is worth noting that cost recovery as such has very little to do with efficiency. The rail sector, for example, usually does not cover its costs, but given the

high fixed costs that characterise this mode, efficient charges probably should not be expected to lead to cost recovery. Efficient charges reflect marginal social costs, and marginal costs are below average costs when there are economies of scale as tends to be the case when fixed costs are very high. But when the charge is below the average cost, the revenues from charges will not cover costs. As long as there are relatively cheap sources of funding to make up for the shortfall, cost recovery should not be strived for. The advantage of transport accounts is that it clarifies these various considerations, although the accounts ideally need to be supplemented with marginal cost information. The marginal cost estimates described in UNITE confirm the common finding that current transport charges bear little relation to marginal social costs in general, so that efficiency-improving options for transport pricing reform exist.

Apart from the UNITE effort, few transport accounts are available. There are more examples of aggregate full social cost estimates. A major effort has been undertaken in Canada¹⁶, with a detailed discussion of methodological difficulties as well as an international comparison of estimates of accident, congestion, noise, and environmental costs. As is emphasized in the report, it is often difficult to attribute measured country differences to “real” differences or to differences in method. This should lead one to be cautious in making comparisons, but some indications of the importance of broad cost categories can be given. Accident costs appear to amount to 1.5 to 2% of GDP in advanced economies (with low end measurements of 0.5% and a high end value of 4.5%). UNITE puts an average GDP share of 0.5% on *external* accident costs in 17 European countries. For congestion, both the Canadian study and UNITE show wide ranges, with many estimates falling in the 0.5 to 2% range and the UNITE average at 1%. Air pollution costs amount to 0.2 to 0.6% of GDP, and noise costs are of similar magnitude.

In general, charges in the transport sector are not efficient, meaning that improved charges would in principle allow the sector to do more with the same resources, or the same with fewer resources, or a bit of both. There are also possibilities to reduce the amount of waste in practice. The “low hanging fruit” here is the reduction of congestion, in locations where it is severe, through pricing.¹⁷ As the easy options are exhausted, care needs to be taken with policy design to minimise the risk of unintended and undesirable consequences. The confounding of cost recovery and efficiency objectives may jeopardise progress towards a more fair and efficient sector. Furthermore, better pricing improves the efficiency of the existing system, but whether it will trigger a transformation of the system in terms of technologies or modal distribution is far from obvious.¹⁸

1.2.4 Transport and growth

While it is increasingly widely recognised that economic growth – more narrowly, GDP growth – is just one among many policy objectives, it remains a prime target and prime indicator of societal progress. It is therefore important to understand how transport activities contribute to economic growth. Research has focussed mainly on the narrower question of how investment in transport infrastructure contributes to, and is boosted by, economic growth. The issue has received considerable research attention over time¹⁹, and in the post-economic-crisis environment it has gained prominence. Notably, the view that transport investment is a prerequisite for and an important driver of growth and therefore needs to be maintained or increased, is gaining currency. This is sometimes combined with the view that the appraisal techniques of transport investments need an overhaul, with more of an emphasis on growth and employment than in the usual techniques of cost-benefit analysis and multi-criteria analysis.²⁰

Research qualifies the broad claim that transport investment boosts growth, without negating the underlying rationale. Transport infrastructure does contribute to growth, in the sense of allowing the realisation of an existing potential.²¹ But transport infrastructure is not able to create a fabric for growth where other factors are missing, and not all transport investment is equally effective at boosting growth where other factors are present. Where transport capacity or quality of service is a limiting factor for economic expansion, infrastructure investments can have a major impact in releasing growth. Such investments are subject to diminishing marginal returns.

It is the role of appraisal to figure out what investments yield the biggest social return. Economic growth in the long run depends on higher productivity, so the impact of better transport infrastructure on productivity could be accounted for explicitly in appraisal, in combination with other elements of social return, including health and environmental impacts, consumer benefits, etc. Appraisal should take a sufficiently broad geographical view, in order to avoid that transport investments just displace growth from one region to another without any substantial net additions to the growth potential.

While this approach to appraisal is sensible in principle, the difficulty lies in the trade-off between the various elements that constitute the social return of a transport investment. Some will argue that the highest returns are often achieved from "programs that do the most to enhance long-term productivity"²², perhaps on the grounds that more growth makes it easier to reach other goals.

Focussing transport investments on economic growth means focussing on establishing connectivity where it does not exist and on reducing congestion where it is bad. The latter implies a focus on alleviating bottlenecks, and is also the broad guiding principle underlying the UK Eddington Study²³, which in addition emphasizes the importance of using transport investments to facilitate the exploitation of economies of agglomeration. Economies of agglomeration are productivity gains that result from the spatial concentration of production. The productivity gains have various – often not very tangible – sources, including improved opportunities for labour market pooling, increased scope for industry specialization, greater efficiency in knowledge or technology sharing, and improved opportunities for input-output association. To the extent that better transport infrastructure increases the potential to exploit these processes by increasing the accessibility to economic mass (i.e. the same distance can be covered at lower time and or money costs), it contributes to agglomeration and therefore to heightened productivity. There is strong evidence that agglomeration economies are real and sometimes large and it is plausible to think that transport infrastructure and services facilitate their realisation (although subject to diminishing returns), but empirical estimates of how large the effect of marginal improvements in infrastructure are on agglomeration are subject to considerable uncertainty.²⁴ This means no rule of thumb for accounting for agglomeration effects can be devised for factoring into project evaluations, and if agglomeration effects are critical to the value of a project detailed assessment is required.

Congestion relief and increased capacity in bottlenecks may very well mean that transport conditions are improved mainly for business travellers and for freight. Commuters may also be well served at least when a region is competing for workers. Other groups may experience little direct gains from the infrastructure improvement. That transport improvements accrue more to some groups than to others is the consequence of the orientation of an investment plan. A focus on growth is likely to benefit business travellers, freight and commuters most. A different orientation would distribute benefits differently.

There is no universal agreement that the transport project with the biggest social payoff is usually the one that contributes most to economic growth. Some policy makers emphasize the role of transport and transport investment in providing all social groups access to economic and social opportunities. To the extent that such access serves equity and social inclusion aspirations, it needs to be recognised that there may be (not: necessarily are) tradeoffs with growth objectives, so that real policy choices need to be made. At any rate, transport investments need to be decided upon with social returns in mind. This requires appraisal and communication among the policy areas that are relevant to determining the ultimate social return of a transport investment. Current practice is often quite far from that ideal.²⁵ One criticism is that appraisal focuses too much on narrow efficiency objectives and not enough on distributional concerns. While this may be a shortcoming of practice, the method of cost-benefit analysis allows these concerns to be taken on board. A further criticism, however, holds that appraisal focuses too much on mobility and not enough on accessibility, where the latter is what really matters from a user perspective.²⁶

Summing up, the role of transport in boosting economic growth is highlighted in the post financial crisis environment. Transport can but does not necessarily contribute to economic growth. And growth is one among several targets of transport policy. Opinions on the relative importance of various targets differ. Systematic appraisal helps make choices that increase the social returns to transport policy, and therefore needs to be implemented more widely than it is now. The practice of appraisal may need an overhaul as well. The valuation of net economic benefit at the core of project appraisal remains essential, but can be complemented with assessment of the distribution of costs and benefits over the short and longer term and indications of the impact on job markets, growth and accessibility.

1.2.5 Transport and the environment – green growth

Environmental quality and good health are important factors in determining individual well-being. Transport generates many benefits but has adverse consequences on the environment and on human health. These impacts will continue to be the subject of intense public, policy and research attention.

This broad issue has the subject of extensive research efforts, including in preparations for the 2008 Forum on Transport, Energy and Climate Change.²⁷ Recently, the interaction between environmental quality and economic growth has drawn increasing attention, notably in the OECD's Green Growth strategy to which the secretariat is contributing.²⁸

The point of departure of the OECD's Green Growth Strategy is that "going green can be a long-term driver for economic growth", i.e. there are synergies between improving environmental quality and economic growth, and not just tradeoffs. Instead of the traditional view, "investing more in environmental quality as we get wealthier", the view shifts to "getting wealthier through the pursuit of reduced environmental impacts". This view connects well with the ideas developed elsewhere in this document concerning the renewed focus in policy thinking about transport investment on economic growth. Consequently, the reservations mentioned with regard to the general applicability of that view apply here as well.

Transport figures prominently on green growth agendas. The reason is twofold. First, transport has major environmental impacts in terms of greenhouse gas emissions, local air emissions and noise. And managing congestion more effectively is part of the broader agenda for more sustainable development and better use of resources invested in infrastructure. Second, a large part of public expenditure to stimulate green growth is directed at transport sector industries. This concerns most notably alternative vehicles, and

particularly electric cars, a key part of strategies to decarbonise transport. Several countries also financed car scrapping and replacement schemes as a short term response to the 2008 financial crisis. The primary goal here was counter-cyclical stimulus for the car manufacturing industry with, in most cases, a secondary goal of reducing CO2 emissions and fuel consumption through fleet renewal. Some governments also include investment in high speed rail as a central element of longer term green growth policies, aiming at a shift in passenger traffic from cars and short haul aviation to rail.

It is important to note that the relation between transport and health runs not only through emissions of pollutants but also, as is increasingly recognised, through the effect that access to motorised modes has on walking and cycling. Strongly reduced levels of walking and cycling can contribute to health problems, including obesity and a general poor physical condition. To the extent that land-use patterns and traffic management systems have favoured motorised modes, they may have had unduly adverse effects on the incentive to walk and cycle. Walking is a key element of sustainable transport, in particular in urban environments.

1.2.6 Transport and employment

The transport sector is an important employer. In the EU27 in 2005, for example, 8.7 million people worked in transport services (6.9% of persons employed) and 3.2 million worked in transport equipment manufacturing (2.5% of persons employed). On average 12% of workers in transport services are unpaid, i.e. they are working owners or unpaid family members.²⁹

Table 1 provides some detail on the structure of employment in transport services. It illustrates the large diversity of the sector, with some subsectors characterised by a small average firm size (most notably in road transport services) and others by large firms on average (air transport and most notably railways). Keeping in mind that firm sizes are not symmetrically distributed around the mean but instead are skewed towards small firms in road transport (with just a couple of larger firms) and towards large firms in aviation and railways (with relatively few small firms), the typical road transport firm is smaller than the average in the table indicates, whereas the typical air and railway transport firm is larger. Road transport services account for about half of the employment in the services sector. The figures on value added per employee show very large differences. These relate to differences in wages (themselves partly related to labour productivity) but also to differing capital intensity of subsectors. Road transport services are not very capital intensive, which partly explains the small average firm size. The low value added per employee in rail is surprising given the cost structure of this transport mode, but may reflect relatively large employment numbers. The biggest share of value added is produced by the cargo handling and storage sector.

Table 1 **Transport services employment structure, EU-27, 2005**

	Employees	Share of services employment	Enterprises	Value added at factor cost (bn €)	Empl./Enterp.	VA / Employee (€)
Railways	880 700	10.1%	800	31.9	1 101	36 221
Road freight	2 752 700	31.5%	595 700	90.9	4.6	33 022
Other road	1 863 300	21.4%	329 900	50.8	5.6	27 263
Maritime	171 900	2.0%	9 600	23.3	17.9	135 543
Inland waterways	41 600	0.5%	9 000	2.0	4.6	48 077
Air	400 000	4.6%	3 500	27.2	114.3	68 000
Cargo handling and storage	2 127 500	24.4%	107 000	128.4	19.9	60 352
Travel agencies, tour operators, etc.	484 600	5.6%	74 700	19.5	6.5	40 239

Source: Based on Eurostat, 2009, Panorama of Transport – 2009 edition, Table 5.4.

Only 21% of workers in transport services in 2006 were female; in the broader service sector this share is 44%. The share of women is higher in air transport (40%) and cargo handling and other supporting services (32%) and markedly lower in land transport (14%) and water transport (17%). Eurostat data show that female workers' shares are stable over the 2000 to 2009 period, except in aviation where the share rose from 37% to 40% between 2000 and 2005. Data for the US (US Bureau of Labor Statistics) also show a 40% share in air transport, and 15% in trucking. The share of female workers in water transport is higher. It has been around 30% since 1990 but declined to about 25% after the 2008 crisis, possibly indicating a higher vulnerability to economic shocks. In Europe, the transport services workforce is relatively old and is aging quickly when compared to the broader services workforce. Eurostat data show that the share of workers aged 50 to 64 years old rose from 21% in 2000 to 27% in 2009, whereas in the overall service sector the share of this age group was 18% in 2000 and 21% in 2009.

The structure of employment in transport services indicates that conditions for adaptation to new demands and technologies are less than ideal. To the extent that innovation requires an ability to absorb large fixed costs, the dominance of small firms, notably in the road segment, poses difficulties, and in the long run one may expect increased concentration leading to an industry with a small number of large players and a competitive fringe. This has already become the pattern to an extent in a number of member countries. The fringe is characterised by frequent entry and exit and meagre returns, but can be very effective in maintaining competitive pressure. Ease of entry and exit also provides advantages as it allows small firms to respond to emerging needs for customised services. When successful, such new entrants can grow or – probably more likely – be absorbed by larger firms. An older workforce may be less flexible in adopting new skills, and this again limits the capacity of the sector to adapt to new circumstances. There are differences between subsectors of the transport services industry regarding the balance between managerial capacity to reform labour practices and the protection of current workers labour circumstances. Harvey and Turnbull (2010)³⁰ indicate that industrial relations in the aviation industry tend to be difficult

because of some of the industry's characteristics, e.g. the non-storable output and absence of inventory which limit the ability to smooth out cycles, and the pro-cyclicality and large amplitude of demand swings, which imply limited stability and possibly a different perception of economic conditions between workers and management. Furthermore, labor costs are a large share of total costs and more directly controlled by management than fuel, airport and aircraft costs. In a deregulated environment, all this means that workers are confronted directly with the consequences of demand shocks and relations with employers tend to be conflict-ridden. The characteristics of the airline industry are shared to varying degrees by other transport service industries, although in some cases deregulation is less complete and more recent, and this reflects on industry relations. Martin (2008)³¹ points out that deregulation and privatisation may very well disadvantage workers even if it generates benefits overall, and states that an overemphasis of project evaluation on labour as a costly input may have led to insufficient attention to the impact on safety and service quality as well as on workers' livelihoods. The relevance of the latter effect to equity depends very much on a comparison with wage levels and working conditions with similarly skilled workers elsewhere in the economy, as well as on employment alternatives.

1.3 Megatrends

In section 1.2, various approaches to measuring the importance of transport for society were discussed, and some first tentative conclusions drawn. It is clear that transport is a key input into a very wide range of key economic and societal activities, simply because many of these activities require the movement of goods and/or persons over space. Income growth has boosted the demand for transport strongly. Land-use patterns have moved in the direction of more transport intensity. Globalisation, i.e. the spatial fragmentation of production, has made the production and consumption of physical commodities more transport-intensive. Increased agglomeration has boosted the trend towards the local availability of an ever wider range of goods. Public policies have largely accommodated these changes through deregulation and other policies to reduce barriers to the physical movement of goods and people, as well as through the provision of infrastructure that can handle the increasing traffic.

The discussion of Section 1.2 refers mostly to the past. Adopting a forward-looking perspective, this section reviews some major changes to the fabric of society that are expected to occur with a considerable degree of certainty, and that are relevant to the future role that transport and transport policy will play for society. The megatrends are urbanisation, ageing, socio-economic fragmentation, rising inequality in the distribution of welfare, and commoditisation of production.

1.3.1 Urbanisation

According to the UN World Urbanization Prospects report³², urbanization is increasing at an accelerating rate; 29% of the global population lived in urban areas in 1950, rising to 49% in 2005, and expected to rise to 60% in 2030 (see Table 2 for illustrations). Combined with overall population growth, this means that by 2030 nearly 5bn people will live in urban areas. Urbanization is positively correlated with economic development: in 2005, nearly $\frac{3}{4}$ of the population in more developed regions lived in urban areas. In these more developed regions increasing urbanization goes hand in hand with declining rural populations, whereas in less developed regions urbanization increases while rural populations keep growing, a trend only expected to reverse by 2020. As of 2020, global population growth will nearly exclusively be a matter of growth of the urban population in less developed regions. Of particular relevance for the transport sector is that megacities (i.e. cities with at least

10 million inhabitants) are predominantly found in less developed regions: in 2015, 17 of the 22 megacities will be located in developing regions.³³

The UN report points out that, despite the often dismal living conditions of city dwellers in developing regions, cities are hubs for economic and social progress. From the transport side, it is well known that (a) falling transport costs contribute to the spatial concentration of economic activity and in that sense contribute to development, and (b) that good intra-city and inter-city transport facilities are essential in allowing cities to step up or maintain performance.³⁴ Good transport means good infrastructure but also good governance, the latter being particularly important in a sector characterized by negative externalities and technologies and cost structures that tend to reduce competitive pressures.

Transport affects development through its impact on the opportunity cost locating at one place instead of another. At the same time, location patterns are an important driver of transport demand, both for passengers and for freight. Location choices similarly depend on transport costs, in relation to property prices and local amenities, and on preferences. Evidence from advanced economies over the past 50 years indicates that many (but not all) households favor living in relatively low-density urbanized environments, and employers choose to locate out of city centers in response to high central city prices, a location pattern often called sprawl. Sprawl is routinely associated with a range of problems, notably lifestyles that induce excessive car travel and energy consumption. Indeed, survey evidence indicates that lower density development inflates travel costs by increasing average trip lengths and increases car reliance.³⁵ Does this mean that policies to boost residential and employment densities are powerful instruments to manage transport demand? A 2009 NRC Special Report reviews the evidence and explores some scenarios concluding that the potential of anti-sprawl policies is limited for the US, insisting nevertheless that this limited potential should be exploited, by removing excessive constraints (notably land-use and zoning regulations) on development and – ultimately – consumer choice.³⁶

1.3.2 Ageing

The population projections of the UN Department of Economic and Social Affairs' Population Division show that over the next 40 years ageing will be widespread around the world albeit it with varying intensities and speeds in different countries. As one would expect, the share of +65 and +80 age groups is lower in countries with faster growing populations. Table 1 shows data for a selection of countries.

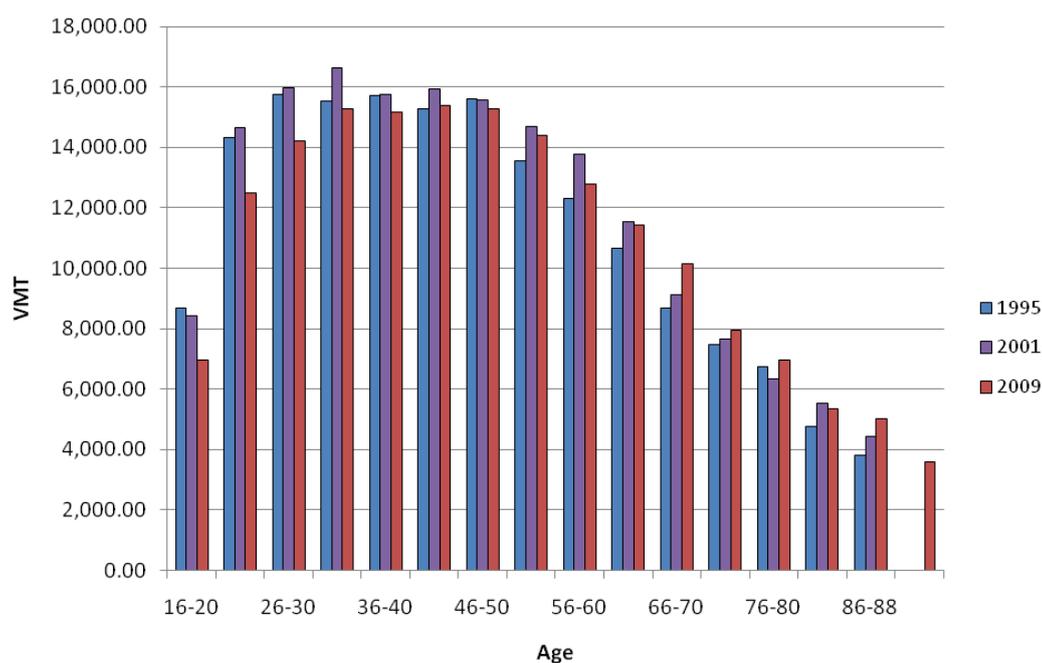
Mobility patterns depend, directly or indirectly, on age. Figure 1 illustrates how the amount of driving first increases and then declines with age. Although more recent cohorts of the elderly drive a bit more, suggesting that the age effect is slightly smaller for recent cohorts, one can expect ageing to lead to a slowdown of the growth of mobility. In combination with stagnating or declining populations and limited income growth, total mobility – and car use in particular – may level off or even decline in some countries in the coming decades.³⁷

Table 2. **Total population index, share of +65 and +80 year olds, and share of urban dwellers in total population, 2000 and 2050**

Total population index (2000 = 100)	2000		2050	
China	100		112	
Germany	100		91	
India	100		155	
Japan	100		75	
UK	100		131	
USA	100		156	
Share of +65 year old; share of +80 year old (%)	2000		2050	
China	6.8	0.9	23.3	7.2
Germany	16.4	3.7	31.5	13.7
India	4.3	0.5	13.7	2.6
Japan	17.4	3.8	39.6	16.7
UK	15.8	4.0	24.1	10.3
USA	12.4	3.3	20.2	7.4
Share of population living in urban areas (%)	2000		2050	
China	36		73	
Germany	73		84	
India	28		54	
Japan	65		88	
UK	79		88	
USA	79		90	

Source: UN Department of Economic and Social Affairs, Population Division; UN World Urbanization Prospects – The 2009 revision, file 2.

Figure 1. **Annual vehicle miles per driver by age, USA, 1995, 2001, 2009**



Ageing will have an impact on mobility patterns to which transport supply will need to adapt. Part of this adaptation will occur through market-mediated responses to changes in demand. But the market very well may not be sufficiently responsive to the mobility needs of a subset of the elderly, namely those with restricted ability to participate in mass-provided and standardised transport services and not able to afford customised solutions. One approach to assisting this growing group is to provide them with the income support needed to buy transport services on the market. But this is not necessarily the universal nor the cheapest solution. Instead, adapting land-use patterns and transport system design to the needs of this fast growing group needs to be considered as an alternative or complementary solution. Frye (2011) points to a gap between the awareness and broad legal and policy frameworks on the one hand, and practice on the other. This is not limited to ageing, but instead reflects that progress toward an accessibility-based transport policy is slow.³⁸ Here too, the limitations of appraisal practice are seen as one source of this lack of progress.

1.3.3 Fragmentation, heterogeneity, inequality and income growth

Societies are increasingly less homogenous in an economic, social, cultural, and ethnic sense. One emerging dimension of polarisation, revealed in a Dutch survey³⁹, is between citizens with a local socio-cultural horizon (47% in the Netherlands at present), a national horizon (38%), and a cosmopolitan horizon (15%). Such differentiation translates into strongly differing aspirations and expectations regarding all kinds of services, including transport services.

Increasing income inequality is another dimension of differentiation and sometimes polarisation. Increasing inequality does not exclude the possibility that incomes are growing for all (at different rates), but there is evidence that incomes at the lower end of the distribution have not grown or have stagnated in recent years. For example, Saez (2010) shows that real average income per year in the US grew by 1.8% per year on average between 1993 and 2008. For the 99% poorest households, growth was limited to 0.75% per year on average, and for some households real income actually declined. For the 1% richest households, average annual growth amounted to 3.9%.⁴⁰ More evidence for the US comes from Greenstone and Looney (2011), who show that the median annual earning of male full time workers in 2009 is back to the level of 1969. Since there are fewer full time workers in 2009 than in 1969, this means the median annual earnings for all men have declined by 28% over the same period. Earnings for males are not the same as household income of course, but the size of the decline is disturbing.⁴¹ OECD (2011) shows a less extreme form of the US income pattern for the OECD as a whole, with average real household income growing by 1.7%, income for the top decile growing by 2% and the bottom decile income growing by 1.4% on average, between the mid 1980s and the late 2000s.⁴² A closer look at data on real disposable income⁴³ for some EU countries suggests that the incomes of the lowest 9 deciles in 2007 is essentially the same as it was in 2000 in France and Germany, whereas in the UK there was strong growth. Hence, although the evidence is piecemeal, it suggests that not only has there been an increase in inequality but also the amount of real income growth has been very limited and even negative for at least some groups in recent times.

Gender is another source of differentiation and fragmentation. The inequality in income and in opportunities related to gender is incisive. Duchène (2011) points out that standard statistics on transport provide little information on gender differences but that research nevertheless indicates that both promoting access for women to transport services and to improving the participation of women in transport-related jobs, enhances the effectiveness of transport policy in terms of poverty reduction.⁴⁴

An inclusive transport system needs to provide satisfactory services to all the different groups. The trend towards commoditization in transport supply has made basic service levels accessible to larger portions of society than ever before, and those that want higher quality can often get it at a premium. Deregulation has contributed to this trend, most visibly so in aviation, as it provided the flexibility that private companies need to respond to heterogeneities and changes in demand. It is important also for policy-makers to remain aware of the diversity of their clientele, and not restrict themselves to traditional reference groups when developing a vision for the transport sector. This is all the more important since, as highlighted before, transport is a key prerequisite for households to engage in all kinds of activities, including the ones that constitute their income base.

As indicated already, an inclusive approach to the development of transport may imply a reduced emphasis on harnessing the sector's capacity to boost economic growth or too narrow a focus on economic efficiency. More broadly, this line of argumentation touches upon the key question of what is the role transport policy has to play in attaining overall equity and inclusion objectives. Transport is an input required for participation in a broad range of activities. But should transport conditions take centre stage in promoting such participation, or should broader determinants of opportunity be the focus of policy? There are circumstances where a focus on access through transport can have particularly large payoffs, so transport policy has a role to play in equity policy. But care should be taken to make sure the policies are targeted and effective, that transport policy is not just about equity, and that the possibility always needs to be considered that alternative policies (outside transport) are more effective.

1.4 Safety and Security

Making transport safer...

Each year around 1.3 million people are killed and 50 million people injured on roads around the world. To focus political attention on reducing this unacceptable toll, the United Nations have proclaimed 2011 to 2020 the Decade of Action for Road Safety. May 2011 marks the launch of this global initiative under which governments, international organisations, civil society groups and transport industry will intensify collaboration to stabilise and then cut the level of road fatalities, promoting road safety measures at all levels.

Road crashes result in economic costs of up to 3% GDP, and additional emotional and financial stress. Most International Transport Forum member countries have achieved substantial reductions in fatalities in recent years, decreasing up to 55% in some countries over the period 2000-2009. Much potential remains for further cost-effective measures to reduce deaths and serious injuries, which have not seen as much improvement. Recent work by the International Transport Forum⁴⁵ identifies key elements in the comprehensive approach needed to maintain substantial rates of improvement and gradually approach the levels of safety achieved in rail⁴⁶ and air transport:

- Adopt a highly ambitious vision for road safety, more specifically aspire to eliminate death and serious injury, this in order to change social perceptions of their inevitability.
- Set interim targets to move systematically, i.e. by linking efforts to outputs, towards the vision.

- Develop a Safe System approach that addresses all elements of the road transport system in an integrated way with the aim of ensuring crash energy levels are below what would cause fatal or serious injury.
- Exploit proven interventions for early gains.
- Conduct sufficient data collection and analysis to understand crash risks and current performance.
- Strengthen the road safety management system through the identification of a lead agency, the core group of government ministries and agencies to be involved, their roles and responsibilities, and the performance targets in terms of institutional outputs and intermediate and final outcomes to be achieved within a defined strategy.
- Accelerate knowledge transfer through strong and sustained international cooperation.
- Foster commitment at the highest levels of government.

... and more secure

Security is of paramount importance. Many parts of the transport system present potential opportunities for terrorists to inflict high costs on society, directly through damage and loss of life and indirectly through expenditure on increased security, at very low financial cost to themselves. Policy-makers have to take action to reduce terrorist threats even if taking fully effective measures at acceptable cost is very difficult.

Securing the system is a massive challenge. The benefits of security investment are difficult to demonstrate in terms of concrete results but tightening security often makes travelling more arduous and increases the cost of both passenger and freight transport. It is worth asking if more user-oriented and risk-based security policy could produce better results.

The International Transport Forum organised a 2008 roundtable on security risk and examined the policy issues further at a workshop in the 2009 Summit on globalisation. The key principles and recommendations developed in these discussions include:

- Not all existing security policies make the most effective use of the resources available. Policies often are inflexible and static, whereas the sources of insecurity are flexible and dynamic. Policies mainly rely on target-hardening, but this is ineffective in target-rich open societies. The key idea is to move towards risk-based security policies. This implies dropping the illusion that 100% security can be reached by subjecting all travellers to identical screening processes, and instead rely on risk-assessment and monitoring behaviour to focus efforts where they are most needed.
- Improved security requires open communication with the public, showing that risk-based approaches are effective yet admitting they fall short of eliminating security risks entirely. The gap between security and perceived security needs to narrow.
- Security is a global issue, so ideally requires a global approach. In fact there exists a multitude of poorly coordinated and parallel security initiatives, of which businesses or countries often have little choice but comply with at a high cost to them and their customers or citizens. Mutual recognition or a more comprehensive multilateral

approach could reduce compliance costs and the cost of providing security overall.

- Financing mechanisms for aviation security are diverse, with more emphasis on general revenue funding in the USA and on user charges in the EU. Financing of supply chain security is not very transparent, but compliance costs tend to be borne by supply chain operators and their customers, and by government. Given that the benefits of security accrue to the general public as well as to travellers or end-users of supply chain operations, a mixed approach is defensible. However, a user-pays-oriented approach holds more potential for incentives to save costs and spend revenues effectively.

2. From principles to practice: the multiple demands of society on transport

2.1 Introduction: formulating policy objectives

The Forum aims ultimately to formulate practical policy recommendations, and this requires clarity on aspirations. Recognising this seemingly obvious point is of particular importance with the Transport for Society theme, as it puts end users' interests at centre stage. As was emphasised in Section 1, transport plays a multi-faceted role for society, and this means that core objectives are manifold and the expectations put on policy high.

Our goal is not to construct a unified vision of transport policy objectives, but rather to take stock of what are the main views and what explains divergences among them. Confronting the different views with the descriptions of current performance helps identify what are the main shortcomings – or policy challenges – in meeting society's needs in the transport sector. Broadly, there is widespread concern that the transport sector does not meet society's needs as well as it could and that it could deliver outputs at a lower social cost. In order to be able to assess where the transport sector falls short, an answer is needed to the logically prior question of what role transport *should* play in society and what costs are acceptable. There is no single answer here, but clarity on what drives answers reduces confusion and advances the debate.

When formulating policy recommendations, we strive to avoid oversimplifications that focus on one particular problem (e.g. lack of affordability for some users) or one particular policy goal (e.g. efficiency, or growth) but ignore how solutions need to be tailored to a broad set of policy constraints and aspirations.

Instead, we aim to formulate options for better policy that fully recognize the various – and sometimes conflicting – societal demands that are put on the transport sector. Section 2.2 presents our reading of how the assessment of Section 1 translates into a set of policy suggestions.

2.2 Policy priorities and approaches

The transport sector is a vital input for a wide range of household activities and supports the smooth functioning of production processes and markets. Transport enables economic growth and overall wellbeing. Societies' expectations regarding the performance of the sector are high and increasing, in the sense of both more and better transport. Transport

users desire high quality yet affordable service. Production models have come to rely increasingly on long supply chains that require cheap and reliable transport, and preferably fast as well.

At the same time, societies are increasingly concerned about negative impacts on human health and on the environment from the emission of local pollutants and greenhouse gases. Furthermore, the transport sector needs to adapt to broad societal trends, among which urbanization and ageing. It also faces an increasingly fragmented society in which wealth has become increasingly unequally distributed, and the capacity of the public sector to provide funds appears to have diminished for at least the near future in many countries.

The combination of ever rising expectations, changing framework conditions, and scarce resources increases the strain on “transport systems as we know them”. One response is to eliminate waste and redundancies in those systems. Another is to move to alternative ways of providing and paying for transport. Both responses are needed if the challenges are to be met, and to the extent they are not successful or sufficient, lowering expectations on what the sector can deliver may be needed as well.

The challenge is to put conditions in place that allow the sector to meet the needs of the roughly 9 billion people that will populate the globe by 2050 while maintaining negative impacts at or below acceptable levels. Achieving this will require private sector as well as public sector efforts, where each carries out those tasks for which it has a comparative advantage. Policy should focus on citizens and communities, as they are directly affected by the benefits and the impacts of transport use. For every policy initiative, it should be possible to answer to question how it furthers the interests of citizens and communities. These interests are not fully described by growth in GDP or any other single indicator, as is highlighted in the efforts underway in the OECD and other organisations to broaden the framework for measuring societal well-being beyond GDP. Inclusion of measures of the performance of the transport sector in this work is of clear interest.

The review in Section 1 revealed a number of key concepts around which the interaction between transport and society centers, and which therefore also are focal points of attention for transport policy. A first set of keywords pertains to ultimate policy goals: well-being (a comprehensive concept) equity, economic growth, environmental quality and health, safety, and security. Secondly, the following intermediate objectives were identified: efficiency, adequate financing, technological and organisational innovation, high quality labor inputs and good working conditions. Thirdly, in the context of urbanisation and demographic change, important changes are expected on which transport policy needs to anticipate. We briefly comment on each concept.

Economic growth:

Transport contributes to economic growth and transport policy can try to boost that contribution. To that end, policy should help provide adequate infrastructure as well as set conditions such that good use of it can be made. This is much more complex than just building new infrastructure, requiring also good maintenance or upgrading and setting fair conditions for access. Furthermore, not all infrastructure contributes equally strongly to growth. Appraisal has a key role in determining what use of funds yields the biggest returns, and current appraisal techniques can be complemented with analysis that identifies growth pathways clearly. Better appraisal will help clarify how different types of investments contribute to different policy objectives, including growth and the distribution of opportunities and outputs.

Equity:

As well-being is measured on the individual and not the aggregate level, it is not enough to try to increase total welfare or economic surplus. Instead, the distribution of inputs to individual well-being is a key policy concern as well. Since transport helps individuals participate in activities that contribute to their well-being, ensuring that transport can fulfil that role as broadly as possible contributes to the equitable distribution of opportunity and of outcomes. Transport policy should establish conditions for the sector to provide equitable access at the lowest possible costs. Observed trends toward increasing inequality highlight the need for policy attention in this area. Established appraisal techniques are sometimes criticised for under-emphasizing this role of transport policy. At the same time, the distributional impacts of transport initiatives that contribute to, e.g., efficiency or growth, should not be overplayed in the evaluation of such initiatives, as there are ways of mitigating those impacts when they are deemed undesirable. In sum, the role of transport of providing opportunity needs to be recognized, but transport policies do not always need to be designed with distributional impacts in mind, as they can help further other objectives (e.g. growth, or reduced environmental impacts) . Even if such policies have adverse equity impacts, it is quite conceivable that accompanying policy initiatives to address them are available.

Environment and health:

The impacts of transport on the environment and health can be mitigated by reducing transport activity and/or by reducing the pollution-intensity of that activity. Reducing transport activity as long as the drivers for it (population and income growth) push in the other direction is very difficult, although not altogether impossible in a limited set of circumstances. Reducing pollution-intensity by encouraging switching to less polluting transport modes is an option, but again only feasible in a limited set of circumstances. The potential of reducing pollution-intensity by improving efficiency is considerable, and may offer the lowest-cost way forward in most circumstances. Changing energy sources is critical to meeting long term targets for cutting greenhouse gas emissions. The potential is large although costs are currently high for wide-scale application of electric vehicles and other alternative fuels. This does not mean that the solution is entirely technological, but that the technology component is crucial if successful management of environmental and health impacts is envisaged.

Safety:

Research and practice indicate that it is possible to reduce global numbers of road traffic deaths and serious injuries. Even in best performing countries, which have reached historically low death rates in 2010, progress is still possible and required. The adoption of a safe system approach, with a long term goal of no deaths or serious injuries, and interim ambitious but realistic targets has shown its potential and is within reach for all countries whatever their current safety performance. The implementation of proven measures to reduce speeding, drink and driving and the non-wearing of seatbelt is essential. Knowledge transfer is also important. In many cases, the toolbox exists and can be adapted for countries that face growing populations with more cars on the one hand and an infrastructure and regulatory framework that is not adapted to rapidly growing traffic volume. This however requires high political will and support, in particular to convince the relevant stakeholders of the positive business case for investing in road safety.

Security:

Managing the security risk requires continued global collaboration to combat terrorism and crime in transport. Vigilance must be maintained on the basis of risk-based approaches that respect the individual integrity of the traveller and optimise the use of public resources.

Efficiency:

Efficiency means making the most of available resources and requires policy where markets do not provide the right incentives for doing so. Efficiency is an intermediate goal, not a final one: keeping social costs as low as possible for given output levels obviously is a good idea, but should not take priority over individuals' well-being, which depends on the distribution of economic surplus as well as on its overall size. The transport sector is characterised by multiple market failures that make intervention necessary, for example by setting charges to reflect costs of pollution and congestion and by regulation where market structures imply possibilities for excessive market power. The private sector, on the other hand, is often thought to perform better where productive efficiency is concerned, and regulatory policies should not hamper the sector in realising its potential.

Adequate funding:

There are no easy solutions to alleviate the increased scarcity of public funding. Private funding is an option for some types of policy initiatives, but private investors seek sufficient returns and protection against risk, and this may affect what projects are funded and how precisely they are implemented. Furthermore, the transport sector is not the only sector that may intensify its search for private funding. The public sector needs to have a precise idea of what are the pros and cons, which requires having access to expertise for managing private sector involvement. Moving to charges closely related to facility use instead of broader fuel charges or general revenue is an option that deserves close consideration, whether it be in a public or a private setting.

Innovation:

It is unlikely that the sector will be able to meet rising demand while simultaneously increasing quality and using fewer resources within current technological and organisational frameworks. Change therefore needs to be encouraged, for example through funding structures, even if it is clear that experimentation involves the occasional failure. Innovation touches upon all aspects of the sector, including technology, services provided, and institutional structures.

Labour and working conditions:

Employers, employee associations and educational institutions need to facilitate the education and training required to ensure the availability of skilled personnel to meet the needs of the transport sector of the future. Good working conditions obviously attract workers and are a goal in themselves.

Urbanisation:

With ever increasing shares of the global population moving to cities, efforts to improve the working of urban transport systems are likely to have particularly large payoffs. The interaction between land-use and transport policies is of particular importance and a potentially important lever for influencing future transport needs. Policy reflection and action should not be delayed, as decisions made now will affect dwelling and transport patterns for decades. If policy coordination fails, results will be disastrous in megacities.

Ageing:

Future populations will be older on average in many countries, and this has direct impacts on what types of transport services will be needed. Policy needs to anticipate this change, paying particular attention to the question to what extent customized services for the elderly should be provided and the design of the system at large should be geared towards this increasingly important group.

Conclusion

To conclude, the overview of the manifold interactions between transport and society underlines the indispensable role of transport in allowing people to participate in society for wealth-generating activities and other activities that contribute to well-being. The sector generally performs well, but there clearly is considerable scope for improvement in various aspects of its functioning. Our discussions suggest that improvements will be gradual and piecemeal. Opportunities for improvement are everywhere, and careful consideration of varying contexts is required to make sure the best ones are chosen. An evidence- and appraisal-based approach to policy-making is needed. Introducing change is not easy given the inertia and the multitude of policy objectives (efficiency, equity, sustainability) that characterise the sector. Public expectations are high, they are difficult to meet and need to be managed. One way is through setting ambitious but realistic targets which will help the sector attract the resources and the broad social support required for successful policy.

NOTES

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from Germany for the period from 1992 through 2008 show shares in between those of France and the US that increase gradually over time.

7. The disposable income difference is larger, with for example the income in the second decile amounting to 1/3 of that in the ninth decile, in the UK, France and Germany in 2007 (based on Eurostat data).
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and the rest of Asia will count 20 of them (own calculations on UN World Urbanization Prospects).

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