sustainable development commission

SDC submission to

The Eddington Transport Study

January 2006

1. WHAT CONTRIBUTION DOES TRANSPORT MAKE TO THE UK'S ECONOMIC GROWTH, PRODUCTIVITY AND STABILITY? AND IN WHICH WAYS DOES IT CONTRIBUTE? DOES IT CURRENTLY IMPOSE CONSTRAINTS?

An evaluation of the contribution that transport makes to the UK's economic growth, productivity and stability must include the external costs that it imposes on the environment, society and other areas of the economy.

Transport is often considered a key component of economic prosperity because it is the main means by which goods and services are brought to producers and consumers. This is reflected in the close correlation between economic growth and increased transport activity. However, increased transport activity is linked to a range of environmental, social and health problems. Accordingly, several recent key policy documents have stated the need to break the link between transport, economic growth and environmental degradation[1].

In March 2005 the UK Government and the Devolved Administrations jointly published a shared framework for sustainable development, 'One future – different paths', in which five new principles of sustainable development were agreed across Government for all policy development, delivery and evaluation:

- Living within environmental limits
- Ensuring a strong, healthy and just society
- Achieving a sustainable economy
- Promoting good governance, and
- Using sound science responsibly.

Based on these principles, the UK Government published its Sustainable Development Strategy, 'Securing the future' to guide its policy-making process across different departments. 'Achieving a sustainable economy' together with good governance and using sound science responsibly are the routes to the goals of living within environmental limits and ensuring a strong, healthy and just society. Economic growth is not a goal in its own right, but a pathway to wellbeing.

Internalising Externalities

The SDC recommends that the Eddington Study should take the opportunity of examining ways to internalise external costs. Motoring[2] and aviation costs have fallen as a proportion of disposable income, contributing to a dramatic increase in demand. However, the true costs of these transport choices are hidden. Excluding them overstates the contribution that transport makes to the UK economy, and understates the costs imposed in other areas of the economy required to address them.

Climate Change

Climate change is the most serious of these external costs. Carbon emissions from road transport account for 24% of the total and these are expected to rise by a further 9% by 2010. Aviation is the fastest growing sub-sector in transport, but only domestic emissions feature in the UK inventory of greenhouse gases.

Research by the Tyndall Centre published last year[3] is the first to fully address the role of aviation in meeting the UK's carbon reduction targets. It shows that moderate growth by the aviation sector to 2050 would fill the UK's total carbon allowance if we set ourselves a cap

[1] E.g. EU (2001) White Paper: European transport policy for 2010: time to decide; Defra and National Statistics (2005) Sustainable Production and Consumption Indicators

[2] HMT (2005) Pre-budget report. Chapter 7

[3] Tyndall Centre (2005) Decarbonising the UK – energy for a climate conscious future. Tyndall Centre.

consistent with stabilisation at 450ppm. Stabilisation at 450ppm has been suggested as the level needed to control extreme climate change, and is a lower level than the UK's current 60% emission reduction target which equates to around 550ppm.

Climate change will impact in the UK's transport system in the future. Increased flooding in winter will impact on all modes of transport and extreme heat events could cause increased passenger casualties on the London Underground[4]. The impacts have already been felt: during the summer of 2003 speed restrictions were imposed on the rail network because of real and potential rail buckling. The economic costs to the transport and business sectors are high; the 2003 heat wave in Europe is estimated to have caused €13.5bn in direct costs; the 2002 European floods caused €16bn in direct costs.

Air Quality

Climate change is not the only external cost of transport. Emissions of nitrous and sulphurous oxides, and small particles are linked to respiratory disorders, with people in the most deprived areas subject to the worst air quality.

Physical Inactivity

A greater emphasis on discouraging such extensive car use and encouraging walking and cycling in UK transport policy and infrastructure would help to alleviate the problem of physical inactivity which costs the NHS in England £8.2 billion each year. Two thirds of adults do less than the required 30 minutes of moderate intensity activity - such as walking and cycling – 5 days a week.

Noise pollution

Noise pollution is also a major impact on people living under landing and take-off routes around airports.

[4] Department for Transport (2004) The Changing Climate: its impact on the Department for Transport

However these external costs are not factored into the current market system and so costs have been artificially low for air and private transport and neither business nor consumers are required to pay for the full cost of their actions. As these externalities are not factored into the true costs of transport, a comparison with non-fossil fuel transport options is significantly unfavourable.

The broad scope of the Study should not confine itself to the status quo, but should examine critically support for transport and the consequences for social and environmental costs including climate change. In the case of aviation fuel, decades of perverse subsidies and the licensed externalisation of costs have kept energy prices low, contributing to unequal competition between air and rail travel in the UK. The fuel duty escalator contributed to higher fuel prices on UK forecourts, but any emerging changes in behaviour evaporated when the escalator ceased to be applied from year 2000.

Transport has to make its full contribution to reducing greenhouse gas emissions. Failure to reduce these emissions will require even greater cuts in other sectors, which could be seen to be inequitable. If this were to happen, transport will impose increasing constraints on other areas of the economy: in paying for the external environmental and social costs of transport, and constraining other business activity to compensate for the carbon emissions from transport.

2. WHAT ARE THE MOST IMPORTANT CHARACTERISTICS AND PRIORITIES OF THE TRANSPORT SYSTEM, CURRENTLY AND IN THE FUTURE (TO 2030), FOR THE FOLLOWING GROUPS AND ECONOMIC CONCERNS, E.G. JOURNEY FREQUENCY OR CHOICE

a. Business travellers

For business travellers reliability is a key issue. If journey time can be spent productively, speed may not always be of the essence. Good information technology, mobile connections and other business facilities could favour travel by train over the more complex inter-modal journeys generally required for air travel throughout the UK.

Congestion has an economic cost in time wasted and also contributes to many of the social and environmental costs of transport discussed above. Congestion charging in central London has proved to be successful in improving average journey times and speeding up public transport (buses) as well as reducing CO_2 emissions by 17%. However we believe congestion charging should in the long term be complemented with distance charging so a combined approach to travel will automatically charge motorists for the damage they cause – both congestion in towns and over distances depending on the CO_2 they emit.

Any scheme that does not aim to dramatically reduce emissions as well as reduce congestion (as is the case with the Government's current proposal) will miss a key opportunity to internalise many of the main external costs of transport.

The London Congestion Charging Scheme has had a broadly neutral impact on business performance within the congestion charge zone despite initial concerns of a negative impact on local businesses. In addition, there have been environmental benefits, with a 12% decrease in NO_x and PM10 levels within the charging zone.

Teleconferencing is an important alternative to face-to-face meetings and can result in up to 30%[5] less business travel in certain conditions.

b. Commuters and labour markets

House prices and congestion, amongst other factors, may result in increased numbers of people living and working in the suburbs. This will impact on commute patterns, and could result in further reliance on private vehicles. Current typical housing densities of 30-50 dwellings per hectare or less will reinforce the dependence on travel by private car. Housing densities in proposed growth areas need to be at least 50 dwellings per hectare in order to justify the provision of comprehensive services[6] including good public transport links and improved walking and cycling facilities.

c. Freight

Freight is a key source of traffic growth. Overall traffic growth was 1.7% in 2004, comprising a 1.2% increase in cars, 2.9% in heavy goods vehicles (HGV) and 5% in light goods vehicles[7]. Because HGVs only pay 59-69% of their external costs[8], this growth will have an environmental and social impact. Growth in freight and the risk of delays because of congestion have led to calls for increased road capacity. The proposed plans

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[5] [5] Cairns S., Sloman L., Newsome C., Anable J., Kirkbride A., and Goodwin P., (2004) Smarter Choices – Changing the Way we Travel

[6] Power A, Richardson L, Seshimo K, Firth K and others (2004) A framework for housing in the London Thames gateway. LSE Housing and Enterprise LSE Cities.

[7] Department for Transport (2005) Transport Statistics Great Britain, 2004 Edition

[8] Oxford Economic Research Associates (1999) Environmental and Social Costs of Heavy Goods Vehicles and Options for Reforming the Fiscal System

for a freight port in Essex depend on motorway expansion. Responses of this type maintain the status quo, reinforcing a dependence on road freight and continuing to externalise social and environmental costs.

Increasing the proportion of freight carried by rail and the waterways would help to reverse many of these problems. Options must be cost-effective based on whole-life cycle costs including social and environmental costs. Investment in developing the capacity of the rail network to accommodate longer and wider trains and to improve freight handling facilities will help to reduce the costs of rail freight and to ease the problem of competition with passenger services[9].

c. Other groups

Other groups not included in the above contribute to transport patterns and problems, and interact with other users.

In the domestic sector, people travel to access goods and services. The numbers of children walking or cycling to school has fallen markedly over the last 10-20 years, and between 8am and 9am during term time, about one car in ten on the road in urban areas was on the school run in 1998/2000[10]. We welcome the government's target for every school to have a travel plan by 2010, and together with other measures discussed in this response could help to reverse this trend.

The UK, like the rest of the EU, is likely to have an ageing population over the next 30 years. Older people tend to be more dependent on local services, such as post offices and chemists and a pedestrian environment. The role of older people in the economy, their needs and extent to which transport can service them will be an important challenge.

[9] Freight on Rail. Goods without the Bads: A guide to the planning and developing a rail freight strategy

[10] DTI (2005) Energy Use in the UK.

3. HOW MIGHT TRANSPORT'S ROLE NEED TO CHANGE AND EVOLVE TO SUPPORT ECONOMIC GROWTH OVER THE NEXT 30 YEARS? AND WHAT OPPORTUNITIES MIGHT THERE BE TO IMPROVE THIS E.G. DEMAND MANAGEMENT OR STRATEGIC PRIORITISATION?

A clear national strategy on traffic reduction must be developed and implemented. As well as strategic prioritisation to reduce the need to travel and to promote walking, cycling and public transport, this should concentrate on facilitating take up of demand management and behavioural change measures. Demand management measures include:

- stronger guidance for Local Transport Plans to prioritise behavioural change measures, so local authorities actively promote alternative forms of transport
- good public transport facilities, and improved cycling and walking infrastructure;
- services at points close to this infrastructure, so communities are not dependent on cars for reaching essential facilities (shops, schools, hospitals, post offices, chemists, etc);
- removal of financial barriers in organisations: such as benefits in kind (vehicle allowances), and higher mileage rates for larger, more polluting vehicles;
- introduce positive incentives to share journeys and use least polluting modes

Such measures will particularly help the 26% of households without cars as other services improve, and local environmental quality improves in areas where traffic is reduced.

As well as reduced traffic volumes, other measures will be required to make sure that remaining traffic is less polluting. The SDC has proposed to Government in our response to the Climate Change Programme Review that changes in Vehicle Excise Duty (£0 to £1800 with £300 band range) would help to make smaller and lower-carbon vehicles more attractive and affordable.

Road user charging that combines both distance and congestion charging will help to reduce emissions and other environmental and social impacts. Charging schemes could reinforce these benefits by encouraging the take up of fuel efficient, lower carbon vehicles.

Complementary 'softer' measures will be required in the transport and other sectors to encourage this behavioural change, including:

- more flexible working hours to spread out travel time peaks;
- more flexible work patterns, such as home working and office sharing;
- personalised travel plans; and,
- car share schemes.

These measures could reduce peak period urban traffic by 21%[11] and with other measures could result in community benefits including a more pleasant street environment, public ownership of their local area, and reduced anti-social behaviour. Essex County Council has produced detailed guidance for the creation of sustainable, pedestrian scale urban space including 'play streets'[12]. The Scottish Executive is currently exploring office sharing for a number of departments through the 'On the Ground' initiative.

These measures bring economic benefits, every £1 spent on well-designed soft measures could result in £10 of benefit in reduced congestion[11]. They are also invaluable in quality of life terms, contributing to

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[11] Cairns S., Sloman L., Newsome C., Anable J., Kirkbride A., and Goodwin P., (2004) Smarter Choices – Changing the Way we Travel

[12] Essex County Council (2006) Essex Design Guide-urban place supplement http://www.the-edi.co.uk/downloads/ECC_UrbanPlaceSupplement.pdf

wellbeing and the internalisation of costs discussed under Question 1.

Current expansion and the predicted growth in air traffic is not sustainable. Given current subsidies, increases in air travel are predictable. In the UK, at present, there is no tax on aviation fuel, no VAT on air travel and no sales tax. The net tax subsidy to the aviation industry is around £9.2 billion a year[13]. The external costs of aviation also need to be accounted for, these are estimated to be in the region of £6 billion to £12.5 billion per annum[14]. For the aviation sector there is no easy technological solution, and demand management measures are essential.

The inclusion of aviation in the EU Emission Trading Scheme (EUETS) must be secured before airport expansion so that at least some of the external costs are factored into the growth of the sector. Changes in the EUETS rules may be required to make sure that including aviation does actually reduce emissions from the sector rather than simply result in a higher cost of carbon as aviation purchases surplus allowances from other participants.

Meanwhile to deal with the predicted growth, we recommend that the government leads among European countries by imposing an emissions charge initially on all internal air travel (excluding 'life-line' services in the Scottish Highlands and Islands), followed by aircraft leaving the UK, to overcome distorted price structures.

Further work is also necessary on the efficiency savings that can be made through improved landing and take off patterns. Emissions could be reduced by auctioning airport slots, or variable tariffs linked to their use, to manage peak time demand and air congestion.

[13] Sewill B (2005) Fly Now, Grieve Later

4. WHAT ARE THE BIGGEST CHALLENGES THAT MIGHT INHIBIT TRANSPORT'S CONTRIBUTION TO THE ECONOMY OVER THE NEXT 30 YEARS, AND HOW MIGHT THEY BE OVERCOME?

The biggest challenge for transport is to internalise its social and environmental costs and to manage demand to curb growth in road transport and aviation. In addition to congestion, infrastructure and rail freight already discussed, the main challenge that links directly to the economy is oil prices.

The impact of increases in oil prices could be reduced through:

- reduced reliance on private vehicles through demand management measures;
- increased use of fuel efficient, lower carbon vehicles through the use of fiscal instruments; and,
- increased use of biofuels using agricultural and forestry wastes, and waste oils.

To address these issues and to internalise the social and environmental costs associated with transport including its contribution to climate change, there is a need to re-think the current approaches to transport economic analysis.

At present, the Government's favoured strategy for maintaining economic growth on a more sustainable basis is to improve resource productivity or intensity – getting more economic value from each unit of production thus 'decoupling' economic growth from increased resource use. However, it is the overall amount of resource use that is important. Even significant efficiency improvements can be overwhelmed by overall increases in demand. Of the overall change in the transport sector between 1990 and 2000, it is estimated that 90 per cent was due to changes in output while the remaining 10 per cent was due to structural and efficiency changes[14]. The greatest output effect was from air transport, while the largest fall in intensity was from road passenger transport.

These trends are unsustainable and need to be reversed if we are to meet our carbon emission reduction targets. This will require measures on managing demand to work alongside supply-side measures to lock-in the benefits. Evaluating alternative responses must be based on whole life-cycle analysis that include social and environmental costs.

Currently in cost-benefit analysis the value of time compared with the social cost of carbon[15] contributes to an emphasis on economic impacts, including the current proposals for congestion-only charging rather than combined congestion and emissions charging.

Transport policy must be consistent with climate change policy. The basis for climate change policy cannot be framed in terms of simple 'cost-benefit analysis', but must be based on whether the strategy offers a 'reasonable insurance premium' for 'climate and energy security'.

[14] DTI (2005) Energy Consumption in the UK

[15] Her Majesty's Treasury Green Book

5) WHAT ARE THE OTHER MAJOR SOCIAL AND ENVIRONMENTAL IMPACTS OF TRANSPORT DECISIONS AND THE PRIORITIES IDENTIFIED IN QUESTION TWO THAT WE HAVE TO TAKE INTO ACCOUNT? WHAT IS THE RELATIONSHIP BETWEEN THESE AND THE OTHER DRIVERS LISTED ABOVE? WHERE ARE THE POTENTIAL SYNERGIES?

We consider these issues to be central to the answers to all 4 previous questions. Our answers above show that the pursuit of wellbeing and living within environmental limits helps to avoid the risk of attempting crude trade offs between economic, social and environmental priorities.

Climate Change

In earlier questions we have highlighted climate change as the central issue for transport policy, and proposed measures to address particular problems in the short term.

In the longer term, the SDC suggests that emissions trading should extend economy-wide, including individuals. Fixing an upper limit on the supply of carbon (in terms of what we are collectively allowed to emit in total) will create the demand for it, resulting in a cost for carbon that reflects the marginal abatement cost of reducing CO_2 emissions as experienced by the end user. The upper limit would be guided by the best available scientific information (IPCC Assessment reports) and allowances could be allocated on a per-capita basis and then traded.

This would create a stimulus for individuals to seek out low carbon goods and services, and a competitive advantage for businesses that provide them. Businesses would also have a clear long term signal to guide investment decisions.

Health Impacts

Increased provision for road and air transport may result in increased noise and air quality impacts. In the UK transport is the main source of complaints about noise[16] and associated effects including stress, annoyance, interference with sleep and reduced productivity at work. Air quality pollutants associated with transport include nitrogen dioxide, particulates and carbon monoxide, which are all associated with respiratory problems. Benzene, a further pollutant, is associated with a risk of cancer. The cost of noise is estimated to be between 0.025 and 0.97 pence per vehicle kilometre (depending on whether marginal or fully allocated costs are used). The cost of air quality impacts is estimated to be between 0.42 pence and £2.12 pence per kilometre (marginal and fully allocated cost).[17]

Planning infrastructure that does not take account of the importance of these impacts is economically costly. The new runway at Heathrow has been put on hold, because if used it would breach EU air quality limits and has been challenged on human rights grounds because of the impact of noise pollution.

An emphasis on 'pedestrian scale' urban spaces as discussed earlier would help to promote physical activity and improve air quality where people live.

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[16] The Royal Commission on Environmental Pollution (1994) Transport and the Environment 18th Report CM2674 HMSO

[17] Sansom T., Nash C., Mackie P., Shires J., and Watkiss P. (2001) Surface Transport Costs and Charges Great Britain 1998. (Updated to current figures).