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## Guiding principles for future developments in transport

G. Lyons, G. Marsden, M. Beecroft and K. Chatterjee

**Transport policy in the UK has been the focus of much deliberation and reformulation in recent years. While a ten year £180 billion spending plan is now in place this does not, nor should it, preclude the ongoing debate over transport's future and the principles with which it should be shaped. This paper presents a set of such principles which has been produced by the Transport Visions Network. The Network is a virtual community of some 250 young professionals that is exploring the future of transport in the twenty-first century. Having taken a long-term view in its deliberations, the Network has conceived twelve principles relating to the topics of: accessibility; mobility; costs; environment; trip type; health and safety; electronic communication; land use; reliability; social participation; stakeholders; and information.**

### 1. INTRODUCTION

Transport policy in the UK has been the focus of considerable deliberation and reformulation in recent years. Government acknowledgement in the 1990s that the building of new roads can generate (some) new traffic<sup>1</sup> saw the abandonment of a long standing policy whereby the solution to predicted traffic growth was to provide additional highway capacity to accommodate it. In the wake of a Conservative administration that initiated the 'great transport debate' and, in 1996, produced a transport Green Paper,<sup>2</sup> the new Labour Government in its first term of office produced the first Transport White Paper for some 20 years in 1998.<sup>3</sup> To implement the White Paper policies, it has been followed in 2000 with the production of a ten-year £180 billion spending plan for transport<sup>4</sup> and new primary legislation.<sup>5</sup> As society's dependence on the car and the resulting problems of congestion and environmental impacts have grown, so too has the need for an understanding of the role transport plays within society and how our transport systems should be used and developed to yield more sustainable and desirable outcomes.

Although policy implementation looks to gather pace, the ten-year spending plan should not signal an end to the transport debate. The changing nature of society, the complexity of transport issues and the gravity of their impacts demand that we continue to question, challenge and, when appropriate, revise transport policy. Indeed, it has been suggested that the ten-year plan is running to stand still and that it does not look far enough into the future.<sup>6</sup> This paper offers an holistic consideration of strategic policy by setting out a number of

guiding principles that it is believed should shape future transport developments. Such consideration, while seeking to offer a realistic advisory framework, affords itself the privilege of looking towards a longer-term horizon than that able to be considered by Government. The policy principles set out in the paper have arisen from the work of the Transport Visions Network (the 'Network'). The views expressed are those of the authors and are on behalf of the Network's wider membership.

### 2. TRANSPORT VISIONS NETWORK

The Transport Visions Network is a three-year initiative to explore the future of transport in the twenty-first century. It is a virtual community of some 250 young professionals, mainly drawn from academia, consultancies and public authorities both in the UK and overseas. From 2000 to 2003 the Network is sequentially addressing eight transport themes. Its first theme considered the future of society and lifestyles<sup>7</sup> as an important context for subsequent deliberations. In acknowledging that the future is not predetermined but is ours to shape, themes 3–8 are seeking to identify developments that the Network would like to see and perhaps those that should be guarded against. An important precursor to this is the need to establish a set of guiding principles for such developments.<sup>8</sup>

Twelve policy principles emerged from a structured process of discussion and debate. Network members were presented with a series of discussion topics and accompanying background and factual material alongside suggestions of issues to consider. On this basis, there was extensive email-based discussion with a total of over 350 messages exchanged. During the discussion, a number of areas for which policy principles were appropriate became apparent. A set of *transportation requirements* was then drafted and distributed. Further discussion took place at a one-day workshop leading to a revised final set (see Table 1). The following sections set out the thinking that gave rise to these guiding principles.

### 3. ACCESSIBILITY

One of the key objectives underlying current UK transport policy is 'to promote accessibility to everyday facilities for all, especially for those without a car'.<sup>9</sup> A number of definitions of accessibility exist. A review of recently submitted Local Transport Plans<sup>10</sup> has shown that most authorities deal with access in terms of availability of public transport rather than accessibility of facilities. By contrast, land-use planners have often preferred to evaluate the latter, although it is more

Topic	Requirement
Accessibility	There should be an equitable distribution of access to a range of key real and virtual destinations that support people's quality of life
Mobility	The absolute level of resource use for transport activities should be controlled and the resource efficiency of mobility should be maximised
Costs	Users should pay the full internal and external costs of transport and these should be made transparent. Where appropriate, transport uses or users providing external benefits should be subsidised
Environment	In the provision and operation of transport systems the adverse effects on the environment should be minimised according to agreed principles and targets
Trip type	There should be discrimination and prioritisation between different types of trips and activities
Health and safety	Transport should not exacerbate the adverse effects of lifestyle on health and safety and should aim to reduce these effects wherever possible
Electronic communication	Electronic and other non-mobile means of communication should be considered as transport options and treated accordingly in policy and practice
Land use	Land use efficiency should be maximised and net land take by the transport system minimised
Reliability	The reliability of the transport system and its operation should be regarded as a fundamental system management goal
Social participation	Transport should not exacerbate problems of social participation and should aim to reduce these problems wherever possible
Stakeholders	Stakeholders should play an integral role in the entire life-cycle of problem identification, solution formulation, implementation and evaluation
Information	Transport users should be enabled and encouraged to make fully informed choices

**Table 1. Transportation requirements**

difficult to measure. The nature of accessibility itself appears to be changing, as increasingly goods and services can be accessed by individuals or groups without recourse to physical movement. Accessibility in physical space is being complemented by accessibility in virtual space through advances in technology, defying familiar principles of distance, nearness or spatial interaction. Sociologists call this 'non-corporeal' mobility.<sup>11</sup>

Through greater private car use, increasing affluence and the desire or need for a much broader range of facilities and activities, high and increasing levels of mobility have prevailed. Against such a backdrop, it is not considered realistic, or necessarily desirable, to provide parity in accessibility to the same range of activities for all. However, we support the concept of identifying a number of key facilities that should be easily accessible to all.

We initially considered the merits of defining minimum acceptable levels of accessibility and identifying the benefits to be derived from achieving such levels. However, the concept of minimum levels of accessibility was felt to be unacceptable—to some people the minimum level would be considered good while to others it would be considered poor. Fundamentally, for people to exist they must already have an adequate level of accessibility to all the key real and virtual destinations that they need to reach. The quality of that existence is at the heart of the issue.

In the future almost everyone will be able to afford to, and know how to, use virtual means to get access to certain services. We raise concern that there could be implications for social participation, education and health, if virtual access becomes predominant and acts to reduce people's mobility. Therefore, we contend that the aim should be to achieve standards regarding real destinations first and then address virtual destinations.

#### 4. MOBILITY

The horizons of our travel desires continue to expand, as they have done over the course of history. There is a need to consider how best to manage the demand for mobility so that it does not jeopardise the environment and well-being of future generations.

The expressed aim in the Transport White Paper is 'to increase personal choice by improving the alternatives (to

car use) and to secure mobility that is sustainable in the long term'. The Engineering Council argues that there is a public view of personal mobility as a fundamental human freedom. It suggests that emphasis must be placed on a combination of personal mobility rights and responsibilities.<sup>12</sup>

If our current patterns of mobility are damaging the environment then one solution would be to limit mobility. The Road Traffic Reduction Act 1998<sup>13</sup> provides a step towards the need to consider limiting motorised mobility. Optional, rather than enforced, limitations on mobility at a personal level, however, face the free-rider problem—there is little incentive on an individual level to reduce personal motorised mobility because the benefits of such an action would be likely to be reaped primarily by others who may, in turn, be making no personal effort to reduce their motorised mobility.<sup>14</sup>

In addressing concerns about growing levels of mobility, a key aim should be to achieve sustainable levels of energy and resource consumption.<sup>15</sup> If this can be addressed then increasing levels of mobility might become more acceptable. Irrespective of the means of propulsion associated with different modes, other resources (including land take) are still likely to be consumed. There is also the problem of disposal of the consumed resources, e.g. rubber tyres and petrochemicals, at the end of their life cycle. Reducing non-renewable resource use should be a key focus of improving transport systems. This encompasses fuel, minerals, metal, rubber tyres and time, as

well as the atmosphere's ability to absorb the waste products of energy consumption (notably greenhouse gases). Hence any policy principle should have been formulated in terms that are not mode-specific and should allow a more holistic consideration of transport futures.

## 5. COSTS

In 1953, only 7% of an average British household's weekly expenditure was spent on transport. By 1994/95 it had risen to 15% (the European average). We now spend nearly as much on transport as we do on food or housing. This increase has taken place in the context of an eleven-fold growth in car traffic, an indication of both the fall in the real cost of motoring and the rise in real incomes.<sup>16</sup> At the same time as the real total costs of motoring have fallen, public transport fares have increased by around 30% in real terms.<sup>17</sup>

In the face of public opinion that we already pay too much for transport, the concept of, as yet, unpaid externalities needs to be brought to the fore. Congestion, air pollution, climate change, noise, vibration, injuries, danger and the loss of freedom for non-motorised road use (including children's play) are all examples of externalities. An externality is where *'one person's actions have direct costs or benefits for other people which that individual does not take into account'*.<sup>18</sup>

If the cost an individual pays for travel (the marginal personal cost) is smaller than the sum of the cost of their own journey and the delays they impose on others (the marginal social cost), then they are likely to use private motorised transport for trips that are unnecessary. We broadly support the concept of 'internalising the externalities' of the transport market. In this way, the charges that each individual faces for a journey should reflect the private cost to them and the costs or benefits to society as a whole of their trips.

However, there are serious difficulties in deciding how to quantify external costs, reflected in the range of values that have been obtained in studies to date. This is one reason we cannot yet pay external costs, although it is not an argument against trying to determine them or ultimately adding them to the total cost an individual should pay.

Other reasons or explanations for our current underpayment of the full social costs of transport include

- the concept is politically unacceptable
- it is too difficult (technologically and institutionally) to change the way we charge for travel
- the concept of externalities is too difficult for a significant proportion of society to grasp.

The concept of users paying full external costs is laudable but has serious implications for accessibility and social inclusion. The participation of lower income groups could be severely affected. For this reason it was determined that, where appropriate, transport uses or users providing external benefits should be subsidised. It was acknowledged that the model of subsidy used must be carefully defined and implemented. In determining full external costs, defining the benefits that society derives from a trip is also a difficult and perhaps unmeasurable task.

Regardless of the rationale behind pricing for transport in the future, it is felt that the full spectrum of costs of travel by each mode should be made transparent. During the UK fuel crisis of September 2000, the level of fuel taxation was justified both in terms of raising revenue for public services and for discouraging excessive fuel use. Society may more easily accept transport costs if it knows why it is paying them. Transparency in billing is much clearer in other 'networks'. Utilities, for example, are continually improving the range of tariffs on offer to consumers with certain elements of the cost being fixed and some being flexible. Itemised bills provide a further means for people to check their expenditure and adapt behaviour accordingly with the telecommunications industry and, more recently, the water industry leading the way.

## 6. ENVIRONMENT

Road transport is the third largest source (after industry and homes) of end-user emissions of CO<sub>2</sub>, an important greenhouse gas. CO<sub>2</sub> emissions are directly proportional to the fuel consumption of a vehicle. The European Commission has negotiated an agreement with car manufacturers to reduce CO<sub>2</sub> emissions by 25% by 2008.<sup>19</sup> Local air quality often remains a concern though, particularly in urban areas. Noise and vibration have usually been seen as less significant issues than local air quality and climate change. Their impacts are not life threatening, but both can threaten quality of life considerably and vibration can cause substantial property damage.

Less is known and written about the impacts of vehicles on the built and natural environments, although some elements have been quantified.<sup>20</sup> Nevertheless, the impacts of transport on these elements of the environment are being considered in the Government's New Approach To Appraisal (NATA) methodology by way of a scoring system.

More action is required to reduce the fossil fuel resource consumption of transport and the corresponding greenhouse gas emissions. In the future, zero- or low-emission vehicles might be powered by sources derived from renewable energy and, if so, the principal concern is the pace at which transition is achieved. However, environmental problems will remain, for example, road building will continue to have environmental consequences, such as the loss of habitats and bio-diversity.

Strong links between the environment, urban design and land-use planning are also evident. Better location of facilities and improved accessibility has the potential to reduce the need to travel, particularly by private motorised modes of transport. Reduced land take for roads, reduced land take for parking and reduced severance through lower traffic levels will all help to reduce the negative environmental impacts of travel.

We support the idea of working towards targets in achieving environmental improvements, at least until the possibility of internalising all of the costs of transport becomes a reality, in which case targets will not be required. In the short- to medium-term, environmental concerns are likely to have a major influence on transport policy. In the longer term, with the possible advent of zero-emission vehicles, concerns such as accessibility may have greater importance.

## 7. TRIP TYPE

Policy makers look to assess options for changes to the transport networks in terms of level of service and, notably, in terms of transport supply that can adequately accommodate projected transport demand. Since our transport systems primarily serve the purpose of enabling the movement of goods and human participation in activities, thereby supporting the functioning of society, it seems reasonable that they should be designed and managed accordingly. In particular, we contend that transport supply should be managed in accordance with consideration of the relative importance of different trip purposes.

Traditionally, morning and evening peak periods have been considered the principal problems to address and particular attention is given in policy terms to commuter and education trips. However, such policies attempt to balance total transport supply and demand within an area. There is less concern about the relative importance of different types of trip-making or about the prospect of attributing priority to the transport needs of different activities in terms of either total travel, time of travel or mode use.

We considered the notion that some trips are necessary while others are desirable and that the former might be prioritised over the latter. Prioritising according to necessity could be used to discourage certain travel or to price it to reflect its impact on congestion and external costs. The concept has an appeal although the principal difficulty becomes one of how to determine what constitutes a necessary trip or distinguishes it from a desirable one.

Alternatively, society might wish to prioritise desire over need. Regular, mundane trips (often in congested traffic conditions) that might be termed necessary, such as the daily commute, the weekly visit to the supermarket or the school run, might be the very trips we would all prefer to see reduced. This would provide the capacity for (more) desire-motivated trips, which (in terms of the associated activities), by definition, are those we tend to enjoy and that allow individual expression. Therefore boring need-based travel might be the priority for virtual alternatives (teleworking, teleshopping, etc.).

The relative importance of trips could be based upon the importance of the activities for which they are being made and, in turn, priorities could be time dependent. For example, school trips might be given priority between 8.00 a.m. and 9.00 a.m., while freight might have priority from 6.00 a.m. to 8.00 a.m. Freight trips made outside of the allotted 'necessary' period might then be discriminated against in price terms, since they have become desirable rather than necessary trips (at least in a temporal sense). Individuals' resistance to this concept might be tempered by the knowledge that within a specific time band the transport network is cheapest and more efficient for their use while at other times the cost would increase.

Prioritisation should not address trip-making in isolation. It should consider the impacts of such prioritisation on social goals and values, and be able to be modified in response to future changes in those values and goals. Prioritisation of trips already occurs at a household level, evidenced by the reaction

of the public during the fuel crisis. Traffic levels dropped by up to 40% on motorways and around 15% on minor roads.<sup>21</sup> However, analysis of diurnal variations showed that morning peak hour traffic dropped by much smaller amounts and off-peak travel by more. Temporal restrictions on access to city centres and bus lanes also exist but there is no overarching strategy in place to manage these restrictions according to an activity hierarchy.

## 8. HEALTH AND SAFETY

Satisfying the need and desire to travel can result in adverse health and safety effects for travellers and society as a whole. Up to 24 000 people are estimated to die prematurely each year, and similar numbers are admitted to hospital because of exposure to air pollution, much of which is due to road traffic.<sup>22</sup> Although serious road casualties have declined, many people are still killed or seriously injured on our roads and in other transport accidents.<sup>23</sup> Accident statistics do not reflect the fear of accidents widely felt among pedestrians and cyclists.

Car dependence encourages a sedentary lifestyle. Physical activity equivalent to 30 minutes (in total) of brisk walking on all, or most, days of the week provides preventative and protective benefits for a wide range of health conditions. *Active transport* like walking, cycling and/or using public transport instead of car travel could have dual health benefits, providing physical activity and reducing the adverse health effects of motor vehicle transport.<sup>24</sup> Indeed, in 1999 the Government published its *Making T.H.E. Links* guide to developing local initiatives to promote walking and cycling, in which it outlined the importance of joined up transport, health and environmental (T.H.E.) initiatives.<sup>25</sup>

Commuting is often stressful and tiring, with journeys regularly lengthened and made more difficult by congestion. The rigid divide between the workplace and the home brings about competing demands and a poor work/rest-of-life balance.<sup>26</sup> In Britain, 70% of people travel to work by car. 17% of workers spend between 40 and 90 min travelling to work.<sup>27</sup> Stressful driving conditions lead to, and are exacerbated by, 'road rage'. Road rage incidents can be distinguished from other traffic incidents by their wilful and criminal nature.<sup>28</sup>

It is tempting to blame transport for certain health and safety problems and yet, while it might contribute to, or exacerbate such problems, transport is not solely to blame. Modern lifestyles and the pressures associated with individuals who are cash rich and time poor lead in turn to stress, tiredness and aggression. Transport is intrinsically linked to lifestyles and yet it should be possible to develop transport systems and policies so that they become part of the solution rather than the cause of health and safety problems. Opportunities themselves within this context are likely to be varied and provoke mixed views. For example, there could be merit in encouraging the one-third of households without a car to maintain their position on the grounds that the absence of a private car reduces sedentary behaviour and thereby promotes good health. Such a notion might fly in the face of other objectives to reduce social exclusion brought about by a lack of affordable mobility and we suggest that attention should be

focussed on the larger proportion of the population whose travel behaviour needs to be challenged.

## 9. ELECTRONIC COMMUNICATION

The number of worldwide Internet hosts has increased by 1400% between July 1995 and July 2000.<sup>29</sup> Technological advances are presenting an increasing range of opportunities to communicate and participate in society without the need for travel and face-to-face encounters. At the outset, most new technologies are a luxury but over time they become more commonplace and are often subsequently considered a necessity. A home computer with Internet connection is no longer priced beyond the reach of the majority of the population. Indeed, the *virtual mobility* afforded by such technology can prove considerably cheaper to the individual than the price of motorised mobility and yet the former can also enhance accessibility enabling the individual or household to access information, goods, services and communities on-line. For many in society whose accessibility is limited by location or physical, financial, time or psychological constraints on mobility, the emergence of a new mode of travel—virtual mobility—might reshape their lives and the extent and nature of their physical mobility.

Expectations concerning e-commerce may at present be exceeding actual progress but governments around the world are convinced of the importance of e-commerce and its role in a global economy. It is estimated that the market for home delivery will be 2.5–10% of UK grocery sales by 2005.<sup>30</sup> Electronic communication can replace a considerable amount of high street shopping and purchasing with the potential removal of many personal shopping trips. However, the purchased items themselves must still be delivered. The Institute of Logistics and Transport notes that *'no longer will the high street be the focal point for consumer goods deliveries; instead it will be almost every front door in the land'*.<sup>31</sup> Views remain mixed concerning changes in the underlying travel related to goods movements.

As is often the case, the product or technology is essentially neutral; it is how it is applied that determines the nature of its impacts on society and travel. We are concerned that all too often overly optimistic initial interpretations of the transport implications of emergent advances in information and communications technology are made. For example, e-commerce might reduce the need for weekly shopping trips by car and might increase the propensity to use public transport. However, with less time spent shopping, increases in other leisure travel (by car) might emerge. Home shopping might lead to goods being transported over greater distances diminishing consumption of locally produced goods, which requires less transport and has the prospect of reviving local communities.

A diversity of views exist concerning future impacts of electronic communications on lifestyles, business operations and, in turn, on the transport system. However, we believe that whatever the impacts might be they will be significant and should be addressed by those involved in transport. Moreover, both physical and virtual travel take place to participate in activities. As such, whether it is a matter of road width or bandwidth providing transport supply and capacity, both

should be treated as transport options able to provide mobility and accessibility. Electronic communication, like physical mobility, also has the potential to reduce or exacerbate social exclusion and health effects.

While the UK Government is keeping abreast of developments in electronic communications it does not appear to explicitly acknowledge the possibilities for virtual mobility to perform a role within an integrated transport system and to encompass it in transport policy formulation and expenditure. If joined-up-government is a vision to be realised then we believe that transport policymakers must do more than acknowledge that electronic communication will affect transport. There must be an explicit inclusion of electronic communication in transport policy-making and expenditure. By arguing that electronic communication be considered as a means of transport it is envisioned that, in future, decisions might be made whereby provision of more virtual capacity might be promoted ahead of investment in physical capacity, or that Internet access and use could become the focus of subsidy as an alternative to public transport use. We are not suggesting that virtual mobility can offer a complete or satisfactory substitute for physical mobility in all cases, but that in some cases it could perform a valuable role and should be accounted for and addressed accordingly in transport policy formulation.

## 10. LAND USE

Land use planning is concerned with the shaping and management of the environment in which we live. It plays an important role in sustainable development, as it deals with the physical relationships between economic, social and environmental objectives.<sup>32</sup> The UK Government believes that *'by influencing the location, scale, density, design and mix of land uses, planning can help to reduce the need to travel, reduce the length of journeys and make it safer and easier for people to access jobs, shopping, leisure facilities and services by public transport, walking, and cycling. Consistent application of these planning policies will help to reduce some of the need for car journeys'*.<sup>33</sup>

The Government's planning policy guidance on housing (PPG3) suggests ways to promote more sustainable residential environments.<sup>34</sup> Large new housing developments should be located around major nodes of public transport corridors. Mixed use development, such as flats above shops, should be encouraged. The residential environment should be designed to be green and attractive. An efficient use of land is required with a greater number of dwellings per hectare. In general, the priority is for infills or urban/village expansions, rather than new settlements.

While land use can affect travel patterns, the reverse can also be true. In our pursuit of faster access to more places there is the need for more road space and easier access to the road network. This leads to lower building densities, pushing destinations further away. This further increases the demand for more road space. The pursuit of speed leads to us trying to chase destinations that are getting further away—'ever increasing circles'.

We feel that land use efficiency should be maximised while land take by the transport system (for roads, railways, car

parks, interchanges, etc.) should be minimised. However, these aims may not always be compatible with other objectives. An efficient transport system may require four railway lines, since one railway line might lead to an unreliable, slow and inefficient system. These four railway lines may themselves eliminate the need to build additional road space by displacing travel demand from road to rail. The problem of such conflicting objectives might be reconciled if the aspiration becomes one of *optimising* land use efficiency and net land take by the transport system. However, optimisation is not likely to be easy to interpret as it requires a suitable trade-off to be determined. We believe that it is more useful to talk in terms of net land take and not overall land take. Minimising the net land take of the transport system deals with broader issues of efficiency and not just quantity.

## 11. RELIABILITY

The reliability of our transportation systems is a matter of fundamental importance for transport users and, therefore, measures that seek to specifically target the improvement of reliability have the potential to strongly influence travel choices. A study of traveller information requirements,<sup>35</sup> which asked over 500 individuals to prioritise five travel factors, yielded a collective response with the following rank order

- reliability
- time
- convenience
- cost
- comfort.

Reliability, as a priority for transport systems and travel, features heavily within the Transport White Paper.<sup>33</sup> It is recognised that motorists will not readily consider using public transport unless it is as reliable as private travel. Better management of the road network is vital to the improvement of system and individual journey reliability. Congestion and unreliability of journeys add to the costs of business with modern business practices putting firms at even greater risk from delay and congestion. For example, concern has been expressed that congestion can result in 'just in time' goods deliveries becoming 'just too late'.<sup>36</sup>

Reliability might arguably hold the key to improving the effectiveness of traffic management. Reliability facilitates prediction of conditions on the transport network. Many traffic management initiatives are aimed at developing responsive systems in an attempt to cope with unreliable and unpredictable conditions. Real-time information provision to travellers is a direct consequence of a lack of reliability—therefore, it might be argued that to tackle reliability is to prevent the problem while real-time information provision is only an attempt to alleviate the problem. A reliable transport system reinforced by effective management would empower travellers to make more informed decisions, less influenced by possibly distorted perceptions of reliability and travel times across modes and services.

Reliability is likely to depend upon the availability of spare capacity in the transport system that can be used to absorb unforeseen events or incidents. For example, a three-lane

motorway might operate using only two lanes and the third lane would only be brought into operation to restore full capacity in response to an incident. *Late time* denotes arrival at the destination after the expected time, which has been widely used in studies of reliability. Relative to in-vehicle time, Wardman<sup>38</sup> presents data to show that late time has a value 7.4 times that of in-vehicle time. Such notions present the prospect of a trade off between journey time reliability and journey time. It might become a choice between the system that provides at its best a six-hour journey but has the risk of a ten-hour journey, or the system that provides a certainty of an eight-hour journey on every occasion. Indeed, if the issue of float time added to a journey because of a lack of reliability is considered then, potentially, by introducing a more reliable but possibly slower transport system, the opportunity to reduce float times might lead to an overall reduction in total time set aside for a journey.

We acknowledge that prioritising reliability might overshadow and compromise other aspects of transport system operation and level of service. The intention is not to ignore other aspects but to recognise the prospect of a reliability-based system producing a step change in system design, usability, efficiency and satisfaction.

## 12. SOCIAL PARTICIPATION

Social exclusion is a topic that has gained greater recognition in transport policy in recent times. Church *et al.* have identified seven categories of exclusion that may limit mobility<sup>38</sup>

- physical exclusion—physical barriers to services
- geographical exclusion—a relative lack of transportation provision
- exclusion from facilities—lack of access to facilities because of time and income constraints in the use of transport services
- economic exclusion—income and transport network constraints for accessing information about training and employment opportunities
- time-based exclusion—the difficulties of organising child care and other caring commitments to allow time for travel
- fear-based exclusion—'fear' of using transport
- space exclusion—security and space management strategies that discourage certain individuals from using transport services.

We have considered the role of transport in enhancing social participation. One argument is that as long as mobility costs money the higher socio-economic classes are always going to be able to afford more than those at the other end of the spectrum. There will always be a proportion of society who will be excluded involuntarily from transport services. This suggests that the best way of tackling social exclusion is to provide the opportunity for everyone to have a reasonable income. Where there is failure to ensure everyone has a reasonable income, there are different ways in which transport policy can play a part in promoting social participation. It can facilitate social inclusion by providing for a reduced need for physical mobility and by encouraging greater use of non-private motorised transport.

Affordable and convenient public transport and other alternatives need to be available, but not just to the socially excluded. Society's travel patterns should be tackled as a whole and not be divided into socio-economic groups. Addressing the impacts of the socially included majority, whose travel behaviour has the greatest impact on traffic congestion, is probably of greater importance. Nevertheless, people not considered to be socially excluded may experience similar accessibility problems to those who are excluded, for example, a busy parent taking their child to school.

We believe that transport on its own is not to blame for social exclusion but it should not make matters worse and it should improve things where possible. Technology is seen by many as a tool to tackle social exclusion. For example, the Internet could provide remote access to services that are not available physically. Caution is required here because many aspects of participation will not be able to be addressed by new technology. Physical interaction with other people will remain an important element of social participation.

### 13. STAKEHOLDERS

The role played by stakeholders in the future development of transport systems is an important issue for the acceptability and effectiveness of new solutions. According to a survey of British social attitudes,<sup>39</sup> public awareness of transport problems is much greater than its willingness to support measures aimed at relieving them.

The acceptability of new transport measures may be increased by involving local people, businesses, environmental interest groups and transport users and operators in their planning and development. In its Transport White Paper the Government set out how it would involve the public in developing transport policy, stating that *'we will expect local authorities when preparing their Local Transport Plans to consult widely and involve their communities and transport operators in setting priorities for improving transport'*.

The media can play an important role in influencing public opinion on transport matters. With the need to have public support for transport policy, it is important for policy makers to secure positive coverage from the media on their initiatives. The public relations side of transport planning has historically been neglected and policy makers need to be very careful to supply the media with information at appropriate stages in the planning, development, implementation and evaluation of an initiative.

We suggest there are two viewpoints concerning public involvement in transport policy development. The first is that consultation is important because the stakeholders have first-hand experience of local transport problems and without their input the solutions may not be well founded. Participation in decision making is also important so that stakeholders share ownership of the decisions affecting their lives and are keen to ensure they work. The second viewpoint is that people have a tendency to defend the way of life they know. They cannot be expected to fully appreciate the need for change and to come to terms with the time needed for change to happen and achieve benefits. By taking heed of their views there is a risk of having misguided policies. Nevertheless, it is often the case in

local situations that the 'uneducated' public have a better knowledge of the situation than the professionals and politicians, and are able to 'educate' them. If stakeholders are made aware of fundamental problems through public consultation, difficult political decisions should be easier to make.

We believe that the involvement of stakeholders is required in the full life cycle of solution development. In particular, they should be involved in the evaluation of solutions. Stakeholders have a valuable role to play in identifying successes and/or weaknesses in a policy or project, such that lessons for the future can be learnt.

### 14. INFORMATION

Individuals make travel choices based on their perceptions of the relative merits of alternative options. In addition to transport-specific decisions, people make many lifestyle decisions that constrain their travel opportunities. The implications of these decisions also need to be brought to people's attention through the provision of information. In general, people only consider alternatives at certain points in time, for example, when they start a new job. Proactive efforts need to be made to identify these opportunities before they happen and act upon them with the provision of appropriate information. When people are contemplating a potential new journey they are likely to be thinking not only about travel considerations but also about other considerations of the activity they are planning. For example, during what hours is the activity possible? Travel information needs to be combined with other relevant information so that better decisions can be made.

We consider that the ability of people to make informed transport and transport-related choices is important. In a good transport system information should be available and accessible to everyone, although the decision of whether to use it or not should be left to individual choice. Users should be encouraged to make informed rather than misguided choices.

### 15. CONCLUSION

This paper has set out what we as authors (and on behalf of the Transport Visions Network membership) believe should be the guiding principles that shape the future of transport in the UK. It comes as no surprise that some of these requirements bear a strong resemblance to current Government policy. Indeed, it would be cause for concern if it had been otherwise. Nevertheless, a number of variations and differences of emphasis have been suggested that we consider are important in looking to the longer term. The topics addressed in this paper remind us of the complexity of the challenges facing transport. As authors we have found the road leading to this paper of much educational value. We hope its content serves such a purpose for others or challenges transport professionals to review and perhaps refine their own perspectives on transport's guiding principles.

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