Getting out of the Jam: Britain's Transport Future
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Britain's Transport Crisis

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Introduction

One could be forgiven for having a feeling of déjà vu, poised as we are at the start of an event seeking to probe the problems we face in transport and to debate and elicit ideas for solutions. We appear to have been in this position so many times. Indeed dealing with the (urban) traffic congestion problem seems to have been with us almost since the car was invented. In the early 1920s traffic congestion in London was considered to have become acute and experimentation with rudimentary remedial measures was taking place. Forty years later, Buchanan led a team who sought to address the problem of urban congestion. A further forty years on and we continue to debate 'the transport crisis' and solutions to congestion. It might be tempting to ask 'why bother?' Will congestion continue to prevail regardless of our efforts?

Key in attempting to answer such questions is firstly the need to acknowledge that our efforts do make a difference. Urban traffic control systems might not make congestion disappear but their efficacy in suppressing congestion would become only too apparent were they to be switched off. Light rail systems have not only offered a more sustainable form of urban mobility but they have also unlocked the potential of the areas they serve by enhancing accessibility. Not all our efforts have brought only positive effects. Some seemingly exacerbate the problem or leave new problems in their wake. The policy of predict and provide, of course, has been subject to this accusation. We need to learn from our mistakes or errors of judgement.

The nature and scale of the transport system and its associated problems is continuously changing. Motorways did not exist in the 1920s nor therefore did high levels of inter-urban travel. In the 1960s the Internet did not exist, nor did domestic and international aviation for the masses. Therefore, whilst it might appear that our transport debates are well rehearsed and recycled, in fact new developments in transport and society present both new challenges and opportunities.

The aim of my presentation is to highlight some of the (new) challenges I believe we are facing. In some respects it would appear that I have been given the easier task of reflecting on transport problems in order to set the scene for the more difficult subsequent deliberations concerning how to address the problems. However, it must be stressed that defining the problems is as important as, if not more important than, debating the solutions. If we fail to properly understand the nature of the problems then we are at risk of developing solutions which, though they may be complex or technically challenging, either fail to address the real problems or worse still make matters worse.

I will first challenge whether or not the title of this opening address is appropriate – i.e. is Britain facing a transport crisis? Assuming that it is, I will then proceed to set out the nature of the crisis from two perspectives. The first concerns a portrayal of some key descriptors of transport and society which will serve to highlight that society's dependence on mobility has increased but also that transport does not merely serve society, it shapes society as in turn society shapes transport. The second perspective concerns reasons that seek to explain why the development of our transport system may have been misguided and why future success sought by transport planners and policymakers may be threatened.

Are we facing a crisis?
The title given to this opening presentation might be considered rather dramatic. Is it really the case that we face a transport crisis? As a car dependent villager, car commuter and public transport business traveller I continue to go about *my* daily life with no particular sign of impending doom. As a two car household we are able to ferry our children to numerous weekly activities at various times and locations. Provided I pick my times, my long distance commute is reasonably smooth and congestion-free. When I travel on business, the train is seldom *very* late and often runs smoothly and to time. I am of course aware that we travel a lot more nowadays, particularly by car, but we all seem to cope and get on with our lives. For me a crisis would be if the transport system took a rather sudden turn for the worse such that I was prevented from going about my daily routine of activities. With the exception of the short-lived 'fuel crisis' in September 2000, the only crises I have encountered have been minor, amounting to no more than a road traffic accident or a cancelled train leading to a momentary hiccup in my pattern of routine behaviour. Perhaps then, we as transport professionals have got things out of perspective?

The Collins English Dictionary defines 'crisis' as follows:
1. a crucial stage or turning point in the course of something, esp. in a sequence of events or a disease; or
2. an unstable period, esp. one of extreme trouble or danger in politics, economics, etc.

What can we draw out from these definitions?

It would certainly be true to say that transport is at a crucial stage or turning point in its development. We have now been in the 'motor age' for some time but in the last decade or so we have also moved firmly into the 'passenger aviation age' and the 'information age'. In parallel we have experienced UK transport policy entering a state of flux. Air travel and Internet use both hold the prospect of perpetuating a trend of further and faster in terms of personal travel or rather in relation to pursuit of *access* to people, goods, services and opportunities. We are now at a point where we must seriously consider what opportunities and threats these new modes of access have to offer society and what their impacts might be for existing land transport modes and associated problems.

The second definition of 'crisis' refers to a period of instability. While our transport systems are not congested at all times and places, it is nevertheless the case that they have, in general, become more congested. Any system that runs close to capacity becomes inherently unstable. We are pushing our transport system closer and closer to capacity and whilst it may continue to function it also continues to become more unstable.

The first definition considers a 'crisis' to be a crucial stage in a disease. Analogies between congestion and medical illness have been made before. Indeed car dependence can be likened to drug addiction. As a society we have become hooked on mobility and the car in particular. Over time both individually and collectively we have come to depend on that mobility and indeed to increase our levels of mobility consumption. We know that excessive mobility is bad for society. The side effects from its consumption are wide ranging, encompassing congestion and pollution as well as social exclusion, erosion of communities and sprawling land use.

In spite of this knowledge of the side-effects, our dependence is (perceived to be) strong. It is hard for us as a society to reduce our consumption of this mobility drug, particularly in the face of the industry and market forces 'pushers'. Indeed the very characteristic of our addiction which makes it ultimately so threatening is that its adverse affects build up slowly over time. Much as the smoker finds it hard to reconcile the long term prospect of lung cancer with the short term relief of a cigarette, so too might society have adopted a worrying complacency to the eventual consequences of its growing dependence on mobility.

Like the smoker, we cannot know for certain what course our dependency might take. Society may still continue to function for another forty years with its growing dependency on mobility. Yet we

know that to do nothing about our dependency equates to taking a risk with the health of society. We also know that to do too little too late could result in sealing our fate.

So then, on reflection I would suggest that we do face a crisis or turning point in transport. We can continue to put off facing the crisis to another day if we choose. Indeed to do so would not affect noticeably the functioning of society in the short term. However, facing some of the uncomfortable truths now rather than later will almost certainly ensure that society's future is healthier and longer lived.

I wish to turn now to sketching a picture of present day transport (or more specifically personal travel) and society and how they have evolved.

Transport and society

Table 1: key descriptors of transport and society

	past	'present'	% change
UK population (millions)	1961: 52.8	2001: 58.8	+11
people aged 65 and over (millions)	1961: 6.2	2001: 9.4	+52
number of households (millions)	1971: 18.6	2002: 24.4	+31
one person households(per cent)	1971: 18	2002: 29	+61
millions in employment	1987: 24.9	2002: 27.7	+11
part-time employees (millions)	1987: 4.7	2002: 6.2	+32
day nursery places ('000s)	1987: 62	2001: 304	+390
per cent of jobs (male/female) in financial and business services	1982: 12/13	2002: 20/19	+67/+46
per cent of jobs (male/female) in manufacturing	1982: 30/17	2002: 21/8	-30/-53
total household disposable income (£billion at 2001 prices):	1987: 427	2001: 678	+59
total household expenditure (£billion at 2001 prices)	1971: 272	2001: 631	+132
household expenditure on transport (£billion at 2001 prices)	1971: 37.0	2001: 91.8	+148
household expenditure on communication (£billion at 2001 prices)	1971: 1.8	2001: 13.8	+684
households with mobile phones (per cent)	1996/97: 17	2001/02: 65	+282
households with Internet access (per cent)	1998: 9	2002: 45	+400
trips per person per year	1989/91: 1091	1999/2001: 1019	-7
trips by car per person per year	1989/91: 619	1999/2001: 638	+3
annual distance travelled (billion passenger km)	1961: 295	2001: 734	+49
annual distance travelled by cars, vans and taxis (billion passenger km)	1961: 157	2001: 624	+297
time taken travelling per person per year (hours)	1972/73: 353	1998/2000: 360	+2
licensed cars in Britain (millions)	1961: 6.2	2001: 26.4	+326
men with full driving licences (percent)	1975/76: 69	1999/2001: 82	+19
women with full driving licences (percent):	1975/76: 29	1999/2001: 60	+107
obesity (per cent of males/females	-	2001: 21/23	-
total GB road network length ('000 km)	1963: 319.4	2001: 392.4	+23

Table 1 summarises some key descriptors of transport and society.

The population of the UK has grown and the number of retired people has increased substantially. A crude interpretation of this is that (potential) users of the UK's transport system are getting older and increasing in number. Typically however, the tripmaking unit has been taken to be the household rather than the individual. In the last 30 years the number of households has increased by nearly a

third and the proportion of one-person households by nearly two thirds. Divorce, decline or delay in marrying and increasing affluence are all contributory factors to this trend.

The UK now has record numbers of people in paid employment. Nearly three million more people were employed in 2002 compared to 1987. Women account for nearly half of those employed. However, they represent in particular the majority of those in part-time employment who have now increased by nearly a third. Reflective of the changing role of women in society and particularly within the workforce is the huge increase in the number of day nursery places. Nearly three million more people in employment plainly exerts more demand on the transport system. Crucially for transport, the makeup of employment has also changed. Part-time workers by definition will be travelling to and/or from work at off-peak times. To focus transport provision on the morning and evening peak periods as we have been inclined to do may therefore now be short-sighted. The substantial increase in female workers, whether full or part-time, must also be accounted for. Women much more than men must juggle household and childcare responsibilities alongside their paid employment. This demands greater flexibility in the patterns and timings of trips – something public transport provision is not easily able to address.

The makeup of the economy has changed. The manufacturing sector has declined. Meanwhile the largest increase in the last 20 years has been in financial and business services which now accounts for about one in five jobs. Growth in the service sector implies a greater proportion of jobs which are concerned with information handling. Unlike jobs in the manufacturing sector, such jobs are less dependent on being carried out at a given location. This presents opportunities to reshape and reduce travel associated with employment.

Household disposable income has increased substantially in the past 15 years, as in turn has expenditure. Household expenditure on transport has more than doubled in real terms in the last 30 years. Meanwhile expenditure on communication, although remaining a small proportion of overall household expenditure, is over seven times higher now than 30 years ago. Such expenditure reflects the increasing sophistication, availability and affordability of telecommunications devices. Both household mobile phone access and Internet access have increased substantially in the last five years.

The actual number of trips per person (by all modes) has shown a slight decrease over the last decade although the number of trips by car has continued to increase over the same period. Meanwhile, the distance travelled (notably by car) has increased considerably. Over the last 30 years the amount of time on average we spend travelling has not changed. Taken together these figures portray a trend in travelling further and faster, something which has been achieved largely through the use of the car. Journeys getting longer can also be interpreted as destinations are getting further away.

Society's capacity to engage in car travel in terms of the number of cars available and the proportion of people who are qualified to drive them has increased enormously.

However, perhaps our busy yet sedentary lives are coming at a personal price – with walking and cycling relegated increasingly to leisure pursuits, the mobility that supports our daily routines of activities no longer offers personal fitness as a by-product. That over a fifth of men and women in the UK are classed as obese must surely be a worrying statistic.

The last of the statistics in Table 1 underlines the growing scale of the problem – as the numbers of cars on our roads and the distances they travel has increased massively, the total length of the road network (a crude approximation of network capacity) has increased by less than a quarter in the last 40 years. It comes as no surprise to note therefore that our transport system is under great strain.

However, the nature of the problem is in fact more complex and wide ranging than this brief coverage suggests. Dealing with aggregate statistics and net change can mask significant issues in relation to equity and equality. Not everyone can afford to be highly mobile and, in a society built around an assumption of high mobility, are disadvantaged. Others are too young or too old to drive and can

therefore be dependent on other forms of mobility to the car. Many people have physical or mental impairments which can restrict their travel choices or make travelling more difficult.

Indeed the full extent of the complexity of the transport problem becomes apparent only when one recognises that there is a two-way relationship between transport and society just as there is between transport and land-use. Transport does not merely serve society. If only it were that simple. Transport shapes society as in turn society shapes transport. It therefore follows that social and technological change that is affecting society will also affect transport and that actions we might take targeted at changing our transport system or its use are also likely to affect society. And so social and transport goals and challenges become intertwined. If we can reach a consensus on there being inherent links between transport and society then I believe in turn we must acknowledge and act upon the need to acquire a much better and more complete understanding of the problem or crisis we face.

Having only a partial understanding of the reality we now face does not prevent us from also exploring how we reached this position and what threats lie ahead for the transport planners and policymakers who play a key role in the shaping of transport.

Transport planners and policymakers
In a recent address I gave, I was asked to provide a positive perspective on transport's future. In the event I elected to offer a somewhat more balanced interpretation of where we are and where we are going. Specifically I conducted a SWOT analysis of transport, highlighting and discussing the strengths, weaknesses, opportunities and threats (see Table 2). For the last part of my presentation today I would like to focus upon some selected weaknesses and threats. These will need to be borne in mind as we look forward to potential actions required to get out of the jam – actions that must play to our strengths and the opportunities before us.

strengths	weaknesses
1. keeping people moving	1. looking only one step ahead
2. environmental awareness	2. reliance on modelling and what is measurable
3. a widened transport agenda	3. focus on economics driven appraisal
4. creative and bold local authorities	4. transport shaped by technically minded men
5. learning from other countries	5. focus on mobility not accessibility
6. urban regeneration	6. ignorance of social and technological change
7. use of new technologies	7. ineffective integration of transport with society
8. forums for constructive criticism	8. lack of political resolve and consistency
9. an active research community	9. funding regimes
10. strong investment	10. masterly inaction

opportunities	threats
1. information and communications technologies	1. legacy infrastructure and systems
2. faith in a gain with pain culture	2. centralisation and economies of scale
3. an informed and sympathetic public	3. globalisation
4. experimentation	4. hypermobility and market forces
5. harmonising transport and social policy	5. complexity of the problems
6. land use and transport interaction	6. inertia, habit and fear of change
7. hypothecation	7. political pressures and institutional barriers
8. mainstreaming	8. short termism
9. the transport planning profession	9. skills shortage
10. system dynamics	10. the media

Table 2. A SWOT analysis of transport[1]

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[1] Lyons, G. (2003). Transport's Future - The Glass is Half Full. In Thomas, S. (Ed.) *Sharing in Success - Good News in Passenger Transport*, Chapter 16, 147-165, Cambridge, CICC, March

Weaknesses

<u>Looking only one step ahead.</u> The benefit of hindsight exposes a major weakness in our planning and strategies. We often fail to look more than one step ahead. The first order consequences of a strategy are always considered - consequences we intend to result from our actions. Often these will be short-term, measurable and tangible. Less common is the consideration of second and third order consequences. These may be much more difficult to foresee or anticipate, may be longer term and yet may be as profound, if not more profound than the first order consequences. A familiar example of this is predict and provide. However, are we learning from our mistakes in this regard? Arguably not. We are improving our multimodal transport system with an expressed aim of attaining reduced and more reliable journey times - laudable first order consequences. Yet Government statistics themselves, as we have seen, confirm a consistent trend of people travelling further and faster. In other words, it seems reasonable to suggest that the second order effects of reduced journey times will be that more passenger kilometres are travelled thereby placing more strain on our transport system. The third order effects could be that, spatially, our patterns of activity become more dispersed, increasing our dependency on mobility to sustain our lifestyles.

<u>Reliance on modelling and what is measurable.</u> Transport planning is concerned with advising decision makers about the likely consequences of alternative courses of action. In this regard a culture has evolved of focusing on quantitative analysis which in turn leads to a mentality of 'if you can't count it, it doesn't count'. Institutionally, we have come to rely on modelling as the basis for advising decision makers. Indeed one could argue that modelling is the only official channel through which analysts can convey their views with any authority. Models have substance. They are complex and data hungry. They produce detailed numerical outputs and indeed in many instances can offer compelling graphical representations of future scenarios. The expense, complexity and length of the process involved with modelling appears to act as a proxy for the level of confidence given to the outputs. However, models by their nature incorporate assumptions and tend to be geared towards representing first order effects. We are at risk of compromising our options for the future development of our transport systems if modelling in its present form continues to play such a significant part in informing decision making.

<u>Focus on economics driven appraisal.</u> While we now have a 'New Approach to Appraisal' in the UK which extends beyond only economic considerations, the benefit to cost ratio from the economic assessment still holds significant sway in the overall assessment of transport schemes. The fundamental approach to economic appraisal has changed very little since its introduction in the 1960s. In particular, travel time, savings in which typically constitute the major economic benefit of a transport scheme, is treated in a very clinical and simplistic way. It is assumed, for example, that time spent travelling during the working day is unproductive wasted time. This ignores what occurs increasingly in practice, particularly with regard to business travel by rail – people use their travel time productively, often facilitated by the availability of mobile technologies. Hence it could it be argued that not only has appraisal historically over emphasised the importance of economic assessment but also that such assessment is misguided.

<u>Transport shaped by technically minded men.</u> Perhaps some of these weaknesses are derived from a further weakness. The shaping and development of our transport system has been traditionally the preserve of technically minded men. This is quite understandable. For centuries transport has been a matter of engineering – the design, construction and maintenance of infrastructure and vehicles. Managing our transport systems has also been an increasingly important consideration, calling upon a grasp of technological advancements. Only recently are we beginning to give serious consideration to managing the demand for travel – something which calls for an understanding of the links between transport and society – an understanding not best suited to being addressing (only) by technically minded men. We have, for too long, treated the development of our transport system in a functional way – seeing it simply as a means of getting people and goods from A to B. We have not questioned whether people should be going from A to B or indeed taken much note of whether the functional specification meets the needs of society in an inclusive way. Consider for example that 52 per cent of

the UK population is female. Not all females (or even many females) fit the stereotype of the commuter travelling from home to work and back again in the peak periods, laden only with a briefcase. Yet the majority of transport professionals, those shaping our transport system, do fit or have fitted the stereotype.

Focus on mobility and not accessibility. Following on from this criticism of functional thinking, is our preoccupation with mobility rather than accessibility. The World Bank defines transport as 'connecting people and resources to opportunities'. In the UK we have taken 'connecting' to mean 'moving' people to opportunities. We should instead recognise that our transport system has or should have, as its goal, providing individuals in society with *access* to goods, people, opportunities and services. This can be achieved by bringing opportunities closer to people – a matter of land use planning or indeed virtual mobility. Instead our approach of moving people to opportunities has created unwelcome second order effects. As we have supported greater mobility to gain access so the points of access themselves have moved seemingly further away. For example the village shop is forsaken for the supermarket several miles away – accessible only by car. Loss of trade from the car owning majority of the local community leads to closure of the village shop. This both reinforces the need for motorised mobility for access but also denies access to those who do not have or cannot afford motorised mobility as an option.

Ignorance of social and technological change. A weakness explicitly acknowledged yet poorly addressed at the highest level is our ignorance of social and technological change. In its Ten Year Plan the Government states that "social and technological changes will also alter patterns of behaviour in unforeseen ways" and "the likely effects of increasing Internet use on transport and work patterns are still uncertain, but potentially profound, and will need to be monitored closely". It seems that to do more than acknowledge the significance of changes to society is to attempt to confront a problem that is too complex and that it is better therefore to press on with a degree of ignorance.

Ineffective integration of transport with society. A further weakness is by now implicit from those already considered – we have not been particularly effective at integrating transport with society. Indeed only relatively recently have we patted ourselves on the back for acknowledging and taking some action concerning the links between land use and transport.

Lack of political resolve and consistency. To be able to address many of these weaknesses is in part dependent upon the support of the political process. Transport users are voters and an overarching concern of a political administration is to be re-elected. Political cycles are short. Discernible positive progress in transport can take longer to achieve. As a consequence it would take a very bold government in a democracy to maintain strong resolve and to steer a steady course in dealing with the transport problems we face. This is particularly true if the course to be taken is one that involves restraint – compromising people's choice and freedom of mobility or challenging their assumed right to travel by car. Instead compromise and shifts in emphasis by governments tend to prevail. It can be argued that governments are pressed into *following* the democratic will of the people rather than *leading*. This runs the risk of rendering the initial goals and objectives unattainable.

Funding regimes. Problems of political resolve are compounded by unwelcome constraints in current funding regimes. Although overall funding for transport has been increased, local authorities are united in their frustration over the imbalance and inflexibility concerning capital and revenue funding. This approach tends to favour pursuit of large capital schemes rather than a whole series of smaller schemes and measures that can work in an integrated way to address local transport problems. The latter may be a more effective way to proceed.

Masterly inaction. We tend to be particularly cautious in the UK when it comes to change. It can be many years or even decades between the time a transport scheme is proposed or conceived and the time it is implemented. We have countless checks and balances to consider involving desk studies, appraisal and public inquiries and sometimes more than one iteration of these. Our fear of making

mistakes has overshadowed opportunities for trial and error and the prospect of accelerating positive change.

Threats

Legacy infrastructure and systems. Perhaps one of the most substantial difficulties as we look to the future is our legacy infrastructure and systems. We have for example a rail network that is now recognised by the Government as being in far worse condition than thought in 2000 when the Ten Year Plan was published. The problem faced by rail services is not that of generating passenger demand but one of providing sufficient capacity to meet that demand and in a way that offers an acceptable level of service. Yet increasing, capacity is hampered by the historic nature of our railways. Compared to continental Europe we have narrower gauge track which limits the speed and size of rolling stock. Double-deck trains that are used on the continent are not an option in the UK without new lines or hugely expensive modernisation to overcome problem of low level railway bridges. Stations too would need further modernisation. Even if resources were to be available to overhaul the entire system, disruption would be substantial and long term and land use constraints would be significant. Perhaps legacy systems should not be termed a threat but they are certainly a serious constraint.

Centralisation and economies of scale. Centralisation is a phenomenon that has been permitted to occur in part because of an assumption of access to car use. Economies of scale dictate that it is generally more effective for a business to consolidate its activities at a single location, rather than maintaining a series of spatially dispersed operations. Thereby we have seen local shops give way to supermarkets and local hospitals and schools close with their 'customers' obliged to travel further to larger scale sites that are financially viable. Planning policy guidance can limit the extent to which (further) centralisation occurs at out-of-town locations which in theory retains a degree of access via public transport for those without access to a car. However, concerns remain that destinations are moving further away from people either denying them access or necessitating car use.

Globalisation. Beyond centralisation we have globalisation. Doubtless there are many benefits of globalisation to be enjoyed. However, in transport terms it represents a growing trend in people wishing to access goods, people, opportunities and services across national boundaries and in turn wishing to travel over greater distances. Beyond a certain distance air travel becomes the only viable option (unless virtual mobility is employed). In this regard transport retains its 'here to serve' mentality. Projections of growth in air travel are made and policymakers appear to concern themselves principally with how to meet new levels of demand. Have we learnt nothing from the road building days of predict and provide? Not only does air travel fail to cover the total costs it imposes (something implicitly supported by the absence of taxation on aviation fuel) but it also generates significant problems in relation to surface transport access.

Hypermobility and market forces. Air travel represents the means to sustain the longstanding trend of society travelling faster and further. Hypermobility[2] is a term which has been used to reflect the direction in which such a trend is inexorably leading us. The importance of spatial location is increasingly diminished in a world of highly mobile existences. Traditional communities are eroded to be replaced by distributed ones, sustained through telecommunications. Those who can afford this existence are seemingly swept forward by market forces. Those who cannot face an increasingly isolated existence. Therefore it can seem somewhat absurd that a key means for transport to play its part in confronting social exclusion is seen to be the provision of better access to public transport. In other words, rather than trying to influence market forces in such a way as to move back from a state of hypermobility, we are decreeing that we should help push those who are excluded further into a hypermobile existence.

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[2] Adams, J. (2000). The social implications of hypermobility. Proc. Workshop on the Economic and Social Implications of Sustainable Transportation, Ottawa, 95-134.

Complexity of the problems. Perhaps an ever-present threat is the shear complexity of the transport problems we face. Once the problem was limited to how to provide enough total capacity to meet total demand. Now we are faced with needing to manage demand itself. To do this effectively we need to be able to understand what gives rise to demand. In order to address this a whole series of cause-effect relationships must be accounted for, and cause-effect relationships that extend far beyond transport itself and into the very fabric of society. Understanding generally requires empirical evidence to be substantiated and verified. However, as the complexity of the issues to be understood increases, the prospect of acquiring adequate or any empirical evidence rapidly diminishes. As the headache intensifies the simplest remedy can be to turn away from seeking a thorough and fully-informed understanding and to revert to more simplistic and arguably inadequate or even misguided interpretations of reality.

Inertia, habit and fear of change. Allied to the complexity of transport's links with society is the tremendous inertia that exists in the system. Society is made up predominantly of individuals who are creatures of habit. We are uncomfortable with the prospect of change and this trait permeates into transport policy and practice. We may proffer our *intent* to change through conducting debate and analysis surrounding new ways forward but when it comes to the *implementation* of change, instincts are prone to take over and inertia and habit hold sway.

Political pressures and institutional barriers. Much as legacies in our transport system itself can inhibit progress, there are longstanding legacies in the administrative and procedural processes that underpin policymaking and implementation. Monolithic bureaucratic systems preside and are housed in a fortified institutional framework of considerable complexity. Instigating change can therefore be likened to wading through treacle. Institutional barriers are further reinforced, or made difficult to overcome, by changing political pressures and priorities.

Short termism. Many of the above threats or constraints are exacerbated by short-termism. The political process at national, regional and local levels is short-term. Public transport operators are operating their businesses to short-term time horizons. The public itself is often more concerned with immediate impacts on its existence (such as a surge in petrol price) than it is with long term developments. Many transport schemes and certainly those inter-related with intentional land-use changes can take many years to come to fruition and for the full benefits to be realised. There can be few politicians who would choose to see the fruits of their labours enjoyed by a future administration, particularly of an alternative political persuasion!

Skills shortage. While the transport profession itself has been identified as an opportunity it also represents a threat. Although the mix of disciplines and gender in the profession is undergoing a positive change, there are at present serious concerns that there is a major shortfall in the number of people within the profession and in some cases the skills they possess. Without sufficient resource in this regard it becomes questionable whether the renewed levels of investment in transport can be fully and effectively used. The Transport Planning Skills Initiative is a profession-wide endeavour to begin addressing this and yet the level of resources devoted to tackling the problem may prove wholly inadequate when set against the cost to transport and society of a skills shortage persisting.

The media. The media constitute a potentially major threat to transport strategy and implementation. They can exert significant influence over public opinion and can be inclined to offer a subjective rather than objective representation of the facts. This is compounded by a natural tendency to look for 'good stories' which tend to be found in bad news rather than in seemingly unremarkable or uninspiring progress or success. Traditionally, transport professionals were looked to for their technical expertise. To guard against this media threat and indeed to perhaps even turn the threat into an opportunity, transport professionals or at least the transport profession itself must develop a much greater capacity to understand and deal effectively with the media.

Concluding remarks

To conclude my presentation I would like to draw together some of the key messages that I hope emerge from this assessment of Britain's transport crisis:

- Our transport systems and their use continue to change as does the societal context in which they exist and operate. This legitimises the need to regularly revisit the debate of transport's problems and potential solutions or actions that might be pursued.
- We must, however, avoid the trap of repetitive debate and rhetoric that leads to procrastination rather than positive action.
- This will be a substantial challenge in light of the complex interactions between transport and society which cannot be ignored and yet which remain poorly understood. An inadequate understanding of the problem leads to heightened uncertainty concerning the outcomes of decisions made and actions taken – an unsavoury situation for politicians contemplating bold and perhaps unpopular options to address our transport problems.
- That we face a crisis or at least some major problems is undeniable. However, we must guard against complacency that arguably has prevailed to date because of the incremental nature in which the adverse effects of society's mobility dependence become manifest.
- If we are to avoid developing solutions that inadvertently serve to exacerbate the current problem or create new problems then we must pay greater attention to looking more than one step ahead. Planning for and estimating the *intended* consequences is the easy part – recognising and gauging the nature, scale and effects of *unintended* consequences for both transport and society is the true challenge that lies before us.