

EUROPEAN BEST PRACTICE IN DELIVERING INTEGRATED TRANSPORT

Key Findings

Foreword

Professor David Begg, Chair of the Commission for Integrated Transport

When he announced his intention to publish the Government's 10-Year Plan for Transport, the Deputy Prime Minister and then Secretary of State for the Environment, Transport and the Regions said that his ambition for the UK was to rival the best in Europe and he asked CfIT to establish the benchmarks.

This report is the first comprehensive comparison of the UK's approach to all modes of transport with that of the rest of Europe. It looks at travel patterns, public investment, costs of journeys and examines some of the groundbreaking initiatives on the continent that could deliver integrated transport benefits here. It also highlights where the UK leads the field.

But first a word of warning. Finding and verifying consistent, up-to-date data with which to benchmark performance has proved very difficult. Benchmarking is essential if we are to learn from the best and deliver a transport system to be proud of. CfIT looks to the EU and member states to work together to develop monitoring systems capable of facilitating further benchmarking exercises.

The evidence we are now publishing is a clear but stark demonstration of two generations of neglect, of a transport network starved of investment for half a century. A situation that forced people into their cars whether they wanted to or not. Here in the UK we have fallen a generation behind the best in Europe in planning transport in a holistic way. The Government's Integrated Transport White Paper and last Year's 10 Year Transport Plan mark a welcome and long awaited focus on integrated policies and a step change in levels of investment.

As a result of the previous neglect, the report shows we have more congestion than any other European country and the most intensely used road network other than in Spain. Despite the relative compactness of the UK we spend more time commuting each day than any other European nation. We have the most car-dominated economy in Europe.

As well as motorists, public transport users, pedestrians and cyclists have borne the brunt of this neglect in the UK. Even with their superior transport infrastructure already in place France has been investing half as much again as us. Their high speed train services are visible proof of that investment. In Germany they have invested two thirds more. Until now we have trailed down near the bottom of the investment league.

There is one piece of good news, we lead the way in road safety. The UK has the lowest death toll in the European Union, less than half that of France and Italy. However, even on road safety we can't be complacent-pedestrians and cyclists are more than twice as likely to be killed in the UK as in Sweden and the Netherlands

While we were not investing sufficiently in better public transport we were charging our passengers a lot more to use worse services. We offered the lowest subsidies for bus users of any European country – making our services three times the price of those in Holland.

It is therefore no surprise that while bus and coach use grew by up to 80% in 12 European countries over the 19 years to 1998, they fell in the UK. At last we are seeing shoots of recovery in bus here too – up 0.9% last year, albeit heavily concentrated in London.

These depressing statistics are a reflection on neglect and poor planning by previous administrations going back over generations but they demonstrate how vital it is that the Government's Integrated Transport White Paper vision is delivered through the 10 Year Plan. We in the transport business have a mountain to climb.

Transport spending is now being given a much needed priority in the UK along with health and education.

This will bring us much further up the European spending table. The Government's projected £180 billion public/private investment programme is already helping us to set Europe an example in at least one area – the pace and scale of the development of our light rail network where it looks as if only Germany will be outstripping us by the end of the decade.

The Commission for Integrated Transport (CfIT) commissioned WS Atkins to report on best practice in Europe in delivering integrated transport. The three reports and summary report produced by WS Atkins can be found on the CfIT website (www.cfit.gov.uk).

This report sets out the key findings of their work, looking at national comparisons of performance and highlighting the key factors in successfully transferring best practice to the UK.

Our report emphasises how crucial it is for us to stick to the timetable set out in the 10 Year Plan. Any delay will set back our recovery still further.

The Deputy Prime Minister's ambition to rival the best in Europe was laudable but this report shows it is going to be tough to deliver. Today we all stand at a crossroads between a US-style car culture and a sustainable European multi modal system. The decisions we take now and the levels of investment that we attach to them will determine where we end up.

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Chapter 1 Outcomes

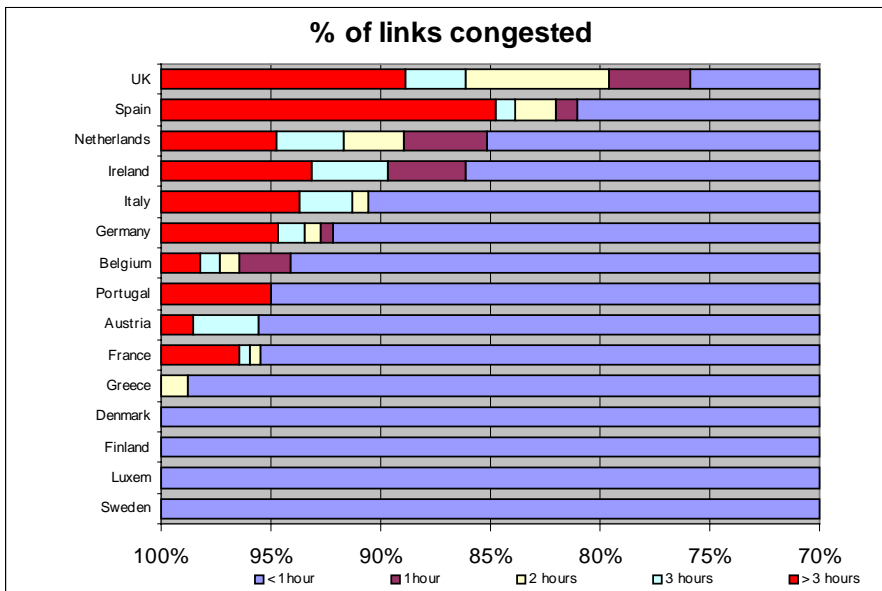
We sought to gauge the effectiveness of integrated transport policy delivery in the UK against other EU countries by comparing performance against a range of measures. Analyses were undertaken to assess relative progress in achieving the desired outcomes of integrated transport policies. These desired outcomes have been previously defined by DETR¹ and CFIT² as including:

- ◆ **reducing congestion** on the roads without eroding economic competitiveness;
- ◆ **improving road safety**, particularly for children, pedestrians and cyclists;
- ◆ **reducing the environmental impact** of transport in terms of human health, the local environment and the global environment; and
- ◆ **creating a more inclusive society** with improved access for all to goods, services, and employment.

Congestion

The most recent comparison of delays caused by congestion showed that Britain has the worst congestion in Europe (see Figure below). Almost a quarter of the most well used links in the UK suffered delays lasting an hour or more whilst such delays were suffered on less than one in ten links in Germany and France. Several countries had no links at all with delays of an hour or more.

That study concluded that the UK's poor performance was a result of persistent under-investment³.

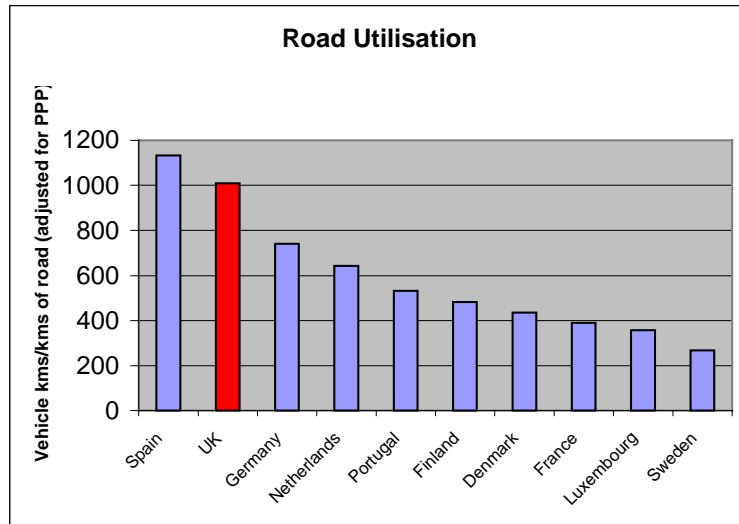


¹ Transport 2010: The 10 Year Plan, DETR, July 2000.

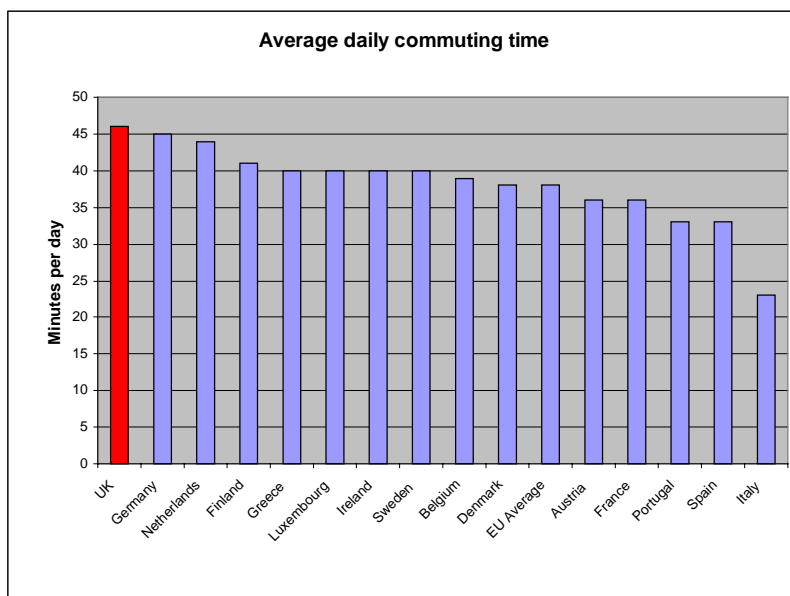
² European Best Practice in Transport - Benchmarking, CfIT, August 2000.

³ ECIS, The State of European Infrastructure, Rotterdam 1996.

Although not a perfect measure, it is also possible to assess congestion by comparing distance travelled with road length⁴. Even after allowing for the impact of differential levels of GDP, Britain's roads are among the most heavily used in Europe. Measured in terms of vehicle kilometres per kilometre of road, Britain has the second most intensely used roads in the EU, after Spain.



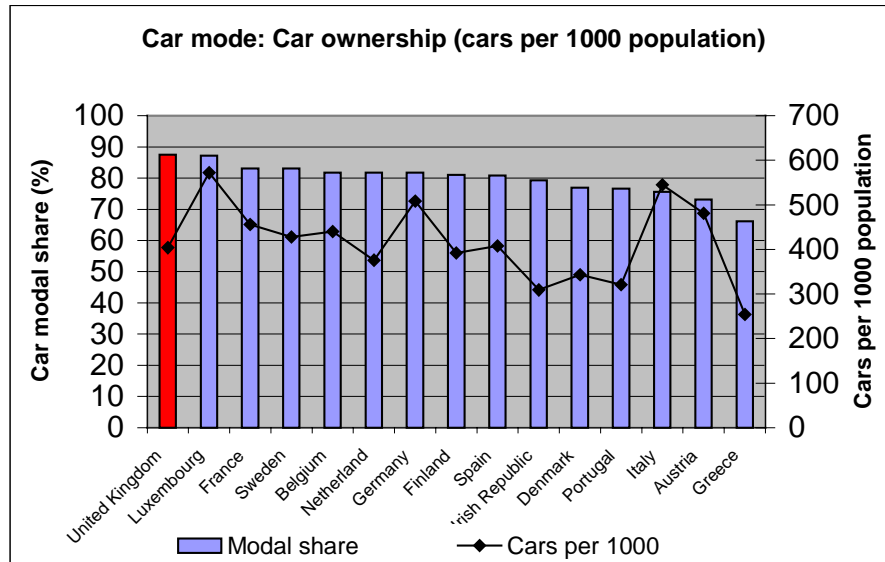
It is unsurprising, therefore, that British workers spend more time commuting each day than their European counterparts. This is despite having relatively high population densities, which ought to reduce distance to work and hence commuting time.⁵ The average British worker spends 46 minutes each day commuting – 10 minutes more each day than their French counterpart, and double the time spent commuting by Italian workers.



⁴ Other factors important to the measure of congestion include road quality, road design and road management.

⁵ Long commuting duration may also be effected by the likelihood of encountering traffic congestion en route, urban dispersal, cultural and lifestyle factors and high car dependence.

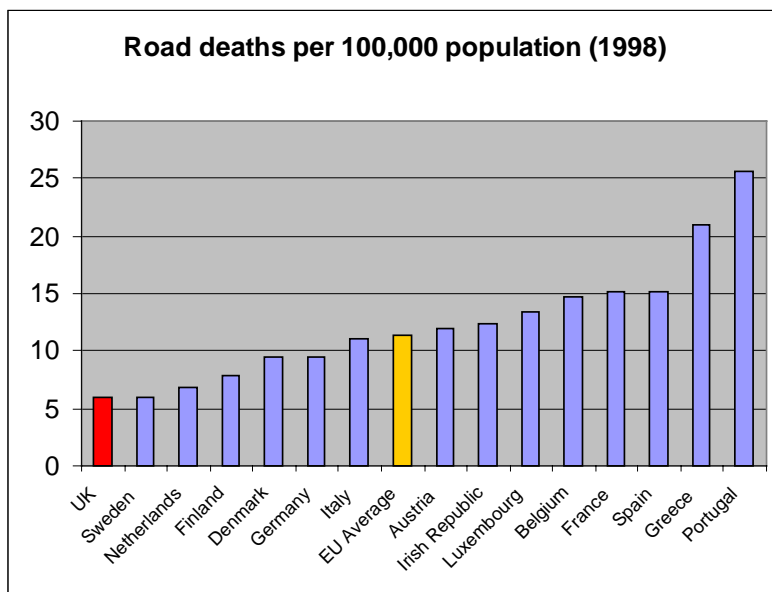
A central cause of these high congestion levels is that British people make more use of cars than any other European country, despite having below average car ownership. Almost nine out of ten motorised journeys (car, bus, motorbike) in the UK are by car, compared with an EU average of just over eight out of ten.



Road Safety

Road safety is a success story for the UK!

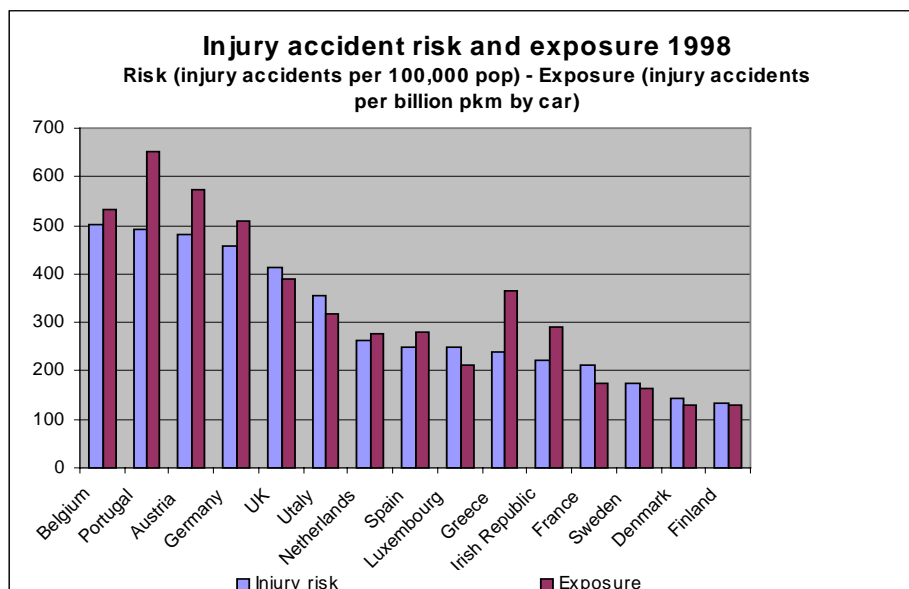
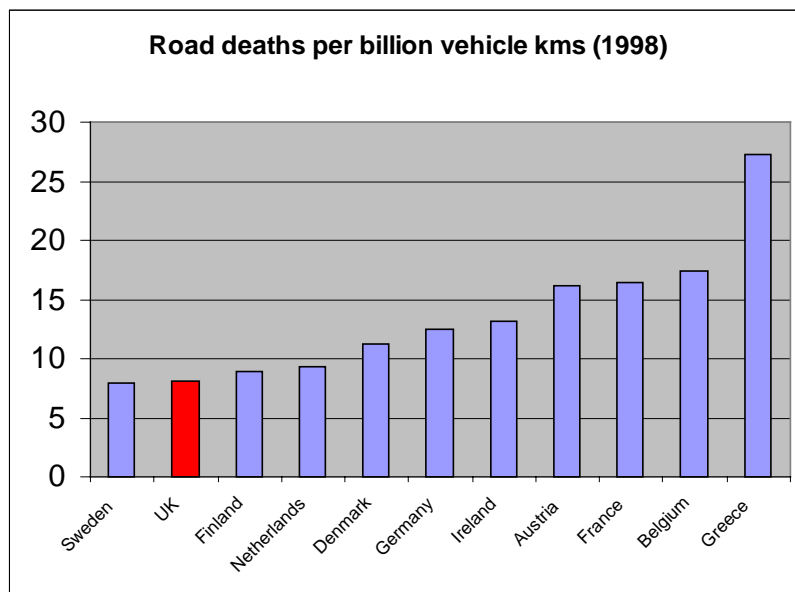
People in Britain are less likely to die on the roads than citizens of any other EU country, except Sweden. The UK has the lowest road death toll in the EU at 6 deaths per 100,000 population – less than half the levels of Italy or France.

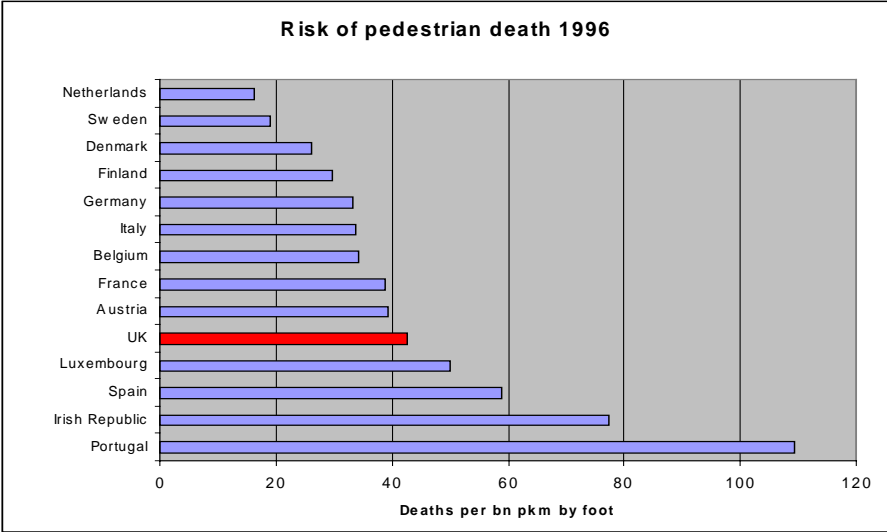
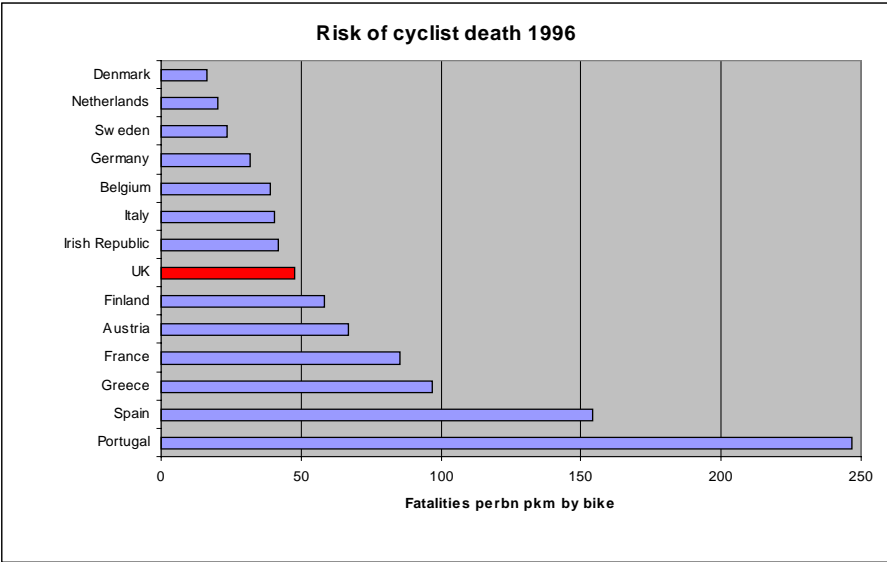
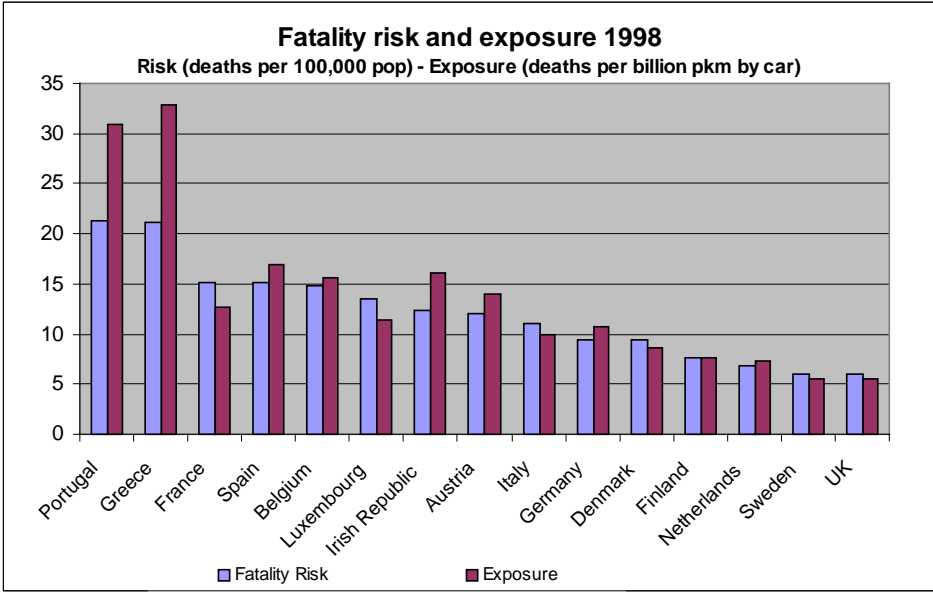


We have the second lowest number of deaths when measured against total distances driven. On average, one person is killed on British roads for every 8.1 billion kilometres driven, less than half the level of deaths in France.

This is a measure of the emphasis that successive Governments have placed on tackling this problem and shows what can be achieved through the use of well focussed targets. The critical element has been strong national political leadership, which has kept Britain at the forefront by adopting effective policies, such as those on seatbelts and drink driving, even in the face of strong initial opposition. Political leadership has allowed a productive partnership to develop between local and central government and the police that has been fundamental in delivering this critical outcome.

However we must not be complacent. Every year over 3,000 people die on British roads. Injury accident risk and exposure is also high compared to many European countries. There is therefore still a great deal to be done before our roads can ever be considered 'safe'. Furthermore, the aggregate statistics mask significant variations in the UK's performance between the modes. Measured by participation (deaths per billion passenger kilometres), British car occupants are the least likely to die in Europe, BUT pedestrians, cyclists and motorcyclists are amongst the most at risk. Pedestrians and cyclists *are more than twice as likely* to be killed on UK roads than in Sweden or the Netherlands.





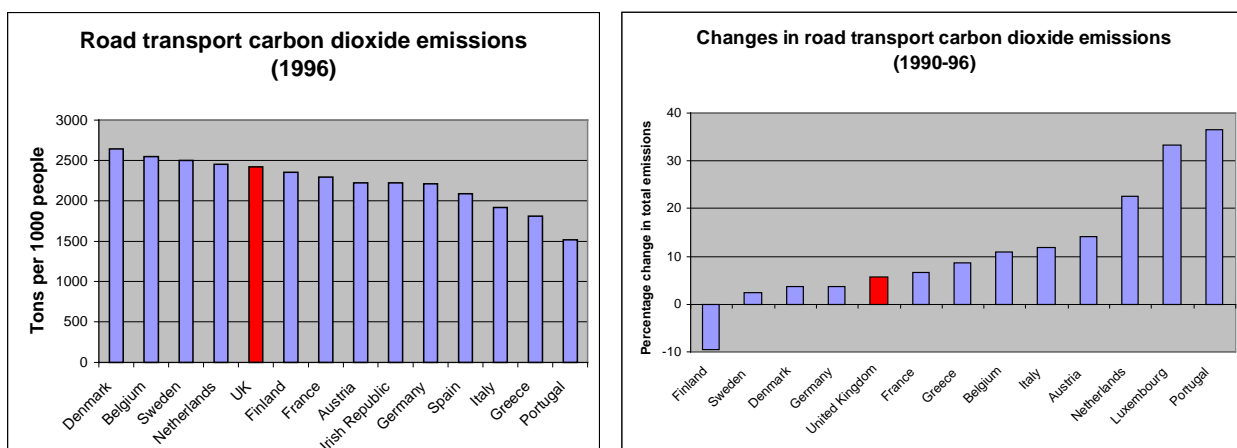
The Environment

Though it has been possible to provide some insights into the comparative performance of the UK in terms of emissions, it has proved impossible to benchmark against less tangible environmental outcomes such as noise pollution or severance.

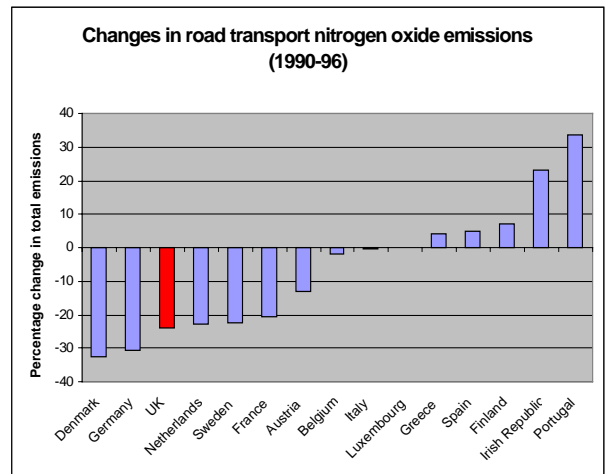
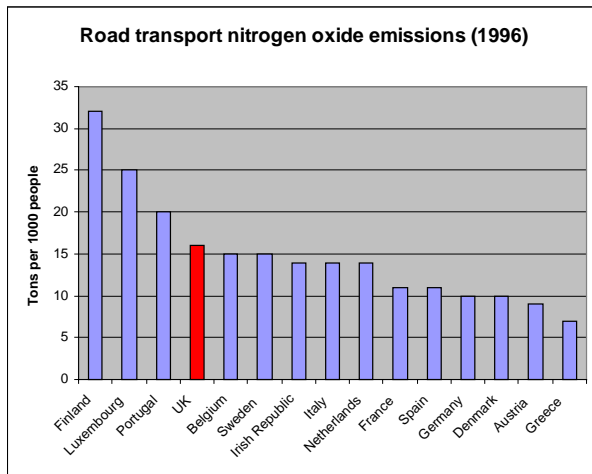
The latest available comparative data on road transport emissions is 5 years old. It shows that the UK was a mid to high-level polluter, though at that time transport emissions were beginning to show signs of improvement. Transport emissions contribute greatly to pollution, and do not necessarily respect international boundaries. Therefore it is critical that accurate and comprehensive information is available to make benchmark comparisons. Renewed efforts need to be made at a European level to rectify this lack of consistent data collection.

However, given that Britain is the most car dependent country in Europe, there is an opportunity, through achieving modal shift towards more environmentally friendly modes – particularly walking and cycling –to make significant advances in terms of reducing pollution and increasing health benefits.

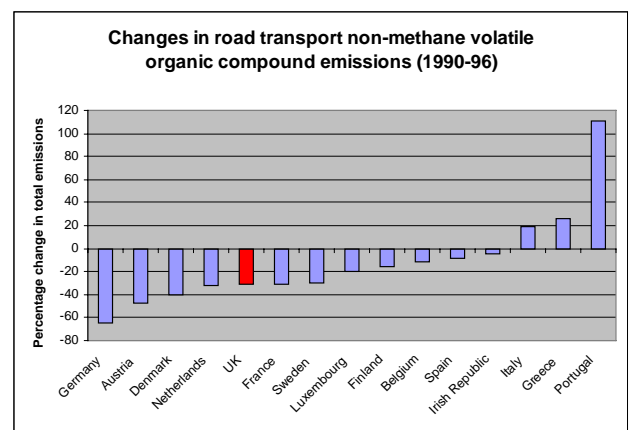
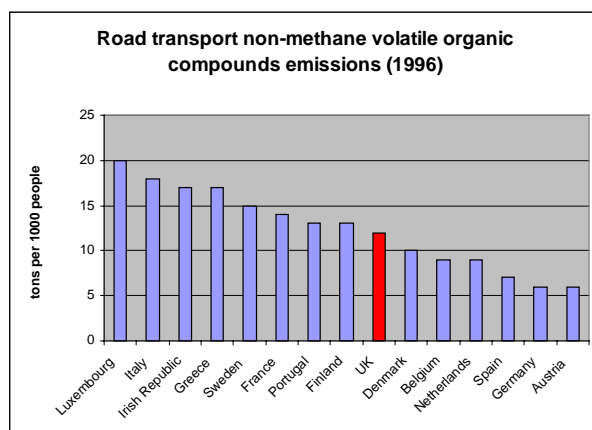
By comparison with our European counterparts, the UK has a fairly poor emission record because of our dependence on motorised transport and, particularly, the high car use. Comparison shows that the UK is the sixth highest producer of CO₂ per capita, however national estimates suggest that we could be the second highest CO₂ polluter after Luxembourg⁶.



⁶ Based on Eurostat and national estimates from ETC-AE.



The UK also produces the fourth highest volume of NO_x despite having a relatively young car fleet (the UK average age is 6.1 years compared with the European average of over 7 years). This suggests that savings brought about by technological advances are being offset by high car use.



In 1997 the UK had the fourth lowest proportion of cars with catalytic converters fitted and the lowest of the industrialised European countries. Again this is surprising given the relatively young age of the fleet, though the situation may have changed since 1997.

Only having access to comparative data on emissions severely limits what can be deduced about the environmental impacts of transport, though traffic levels can be used as a proxy for some environmental impacts (for example severance).

An indication of the urgent need to develop better and more co-ordinated methods of measuring other environmental impacts is shown by the fact that nearly half the UK wetlands (the highest in Europe) and a third of special bird areas (fifth highest in Europe) are within 5 kilometres of major road or rail infrastructure. It could be

inferred that the impact of transport on such habitats is amongst the worst in the EU.⁷ Alternatively, it could just be that we are more rigorous in identifying and designating such sites. Without suitable data, the true picture will not emerge and there is a real danger that important transport impacts that could have a critical effect on quality of life could be misunderstood or not recognised.

Social Exclusion

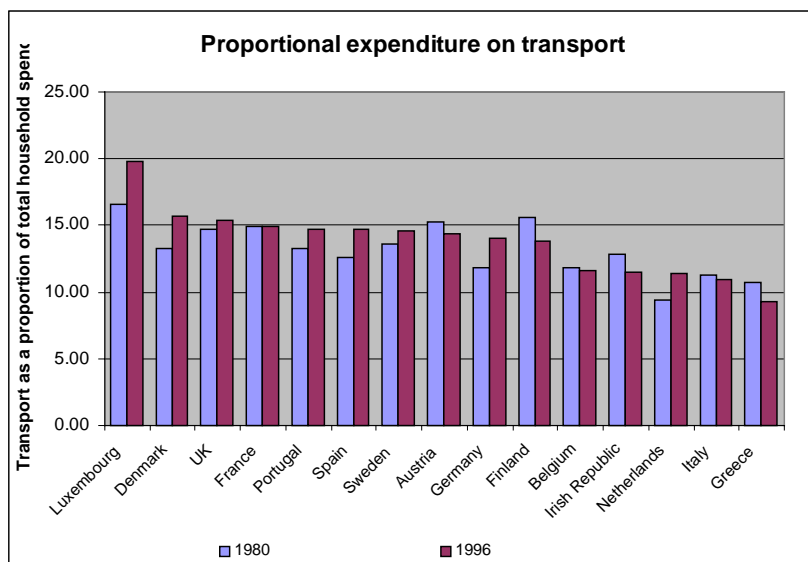
Social exclusion is more influenced by accessibility to goods and services than by mobility per se. However, most existing indicators relate to mobility (car ownership, driving licences held, distance travelled etc) and hence it has proved extremely difficult to benchmark social exclusion across the EU. Further there is little common understanding of what social exclusion is and how it might be measured. Some interesting proxy indicators do exist and are shown below. However, in order for the useful exchange of information and ideas about how to tackle the problems of transport related social exclusion (and more helpfully, to understand how transport systems can be developed to improve social inclusion), a great deal more effort needs to be directed towards agreeing common definitions and developing methods of quantifying the issues. CfIT believes this is an urgent priority and is working to develop an insight into the links between transport and social exclusion.

However, it is certain that Britain's high public transport fares, particularly bus fares, have a disproportionate effect on the less well off. Research in the UK shows that the poor and the socially excluded spend more on buses than on rail with, for example, the poorest pensioner groups spend between two and six times more on buses than on rail⁸. For further information on the impact of transport costs in rural areas, see CfIT's Rural Transport report on its website (www.cfit.gov.uk).

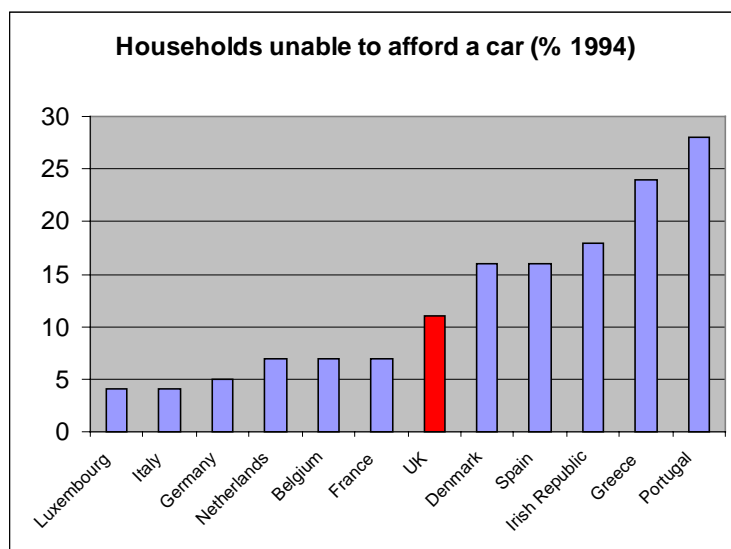
The Commission is also carrying out an in depth study of public subsidy for the bus industry, which has placed examining the issue of Social Exclusion as one of its three key priorities. That study will report early in 2002.

⁷ European Environment Agency, *Statistics for the Transport and Environment Reporting Mechanism Indicators on Transport and the Environment Integration in the EU(TERM)*, 2000

⁸ United Kingdom Transport Policy 1991-2001. Paper delivered to the Beesley Lectures on Regulation,, 2nd September 2001, Stephen Glaister, The Royal Society of Arts.



Households in the UK spend on average 15% of total expenditure on transport, the third highest in the EU. Though travel volumes and the real cost of travel have increased (disposable income has risen even faster), the proportion of expenditure on transport is little changed since the mid-eighties. There is no discernible trend across the other countries, however, to allow reliable conclusions to be drawn. It is interesting to note, though, that in Italy only 11% of household expenditure is on transport while there is a relatively high volume of travel, implying that travel costs are lower than in other countries.



Related Health Issues

The serious absence of data does not allow us to make a proper comparison of the health impacts of transport across Europe. However the relatively low percentage of journeys in the UK by foot or bike and the higher car dependency would indicate that there is cause for concern.

For example, in the 10 years to the mid 1990s, the number of overweight boys in England nearly doubled to 9% while the percentage of girls rose to 13%⁹. In almost the same time period, about 400,000 fewer children walked to school, and cycling numbers fell from 300,000 to 100,000¹⁰. The link between the two is unmistakable.

⁹ Prevalence and trends in overweight and obesity in three cross sectional studies of British Children 1974-94, Chinn and Rhona January 2001, King's College

¹⁰ DTLR National Travel survey 1997/1999

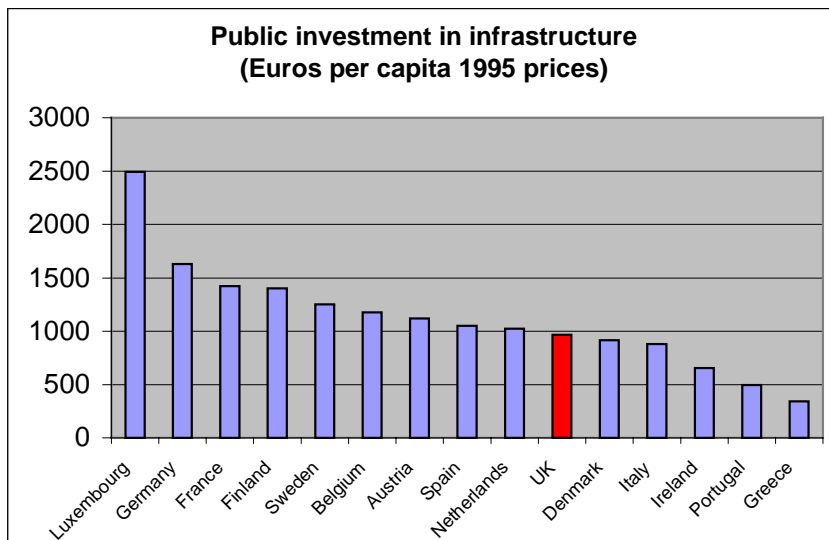
Chapter 2 Inputs

As demand for travel changes over time and as technology advances, transport systems need to be managed and developed to provide the necessary movement that underpins economic and social activity. Investment is essential in enhancing and maintaining transport networks and services. However, sustainable transport decisions also depend on integration with other policies, such as land use planning, and an institutional framework that can co-ordinate and deliver the necessary investment and policy framework.

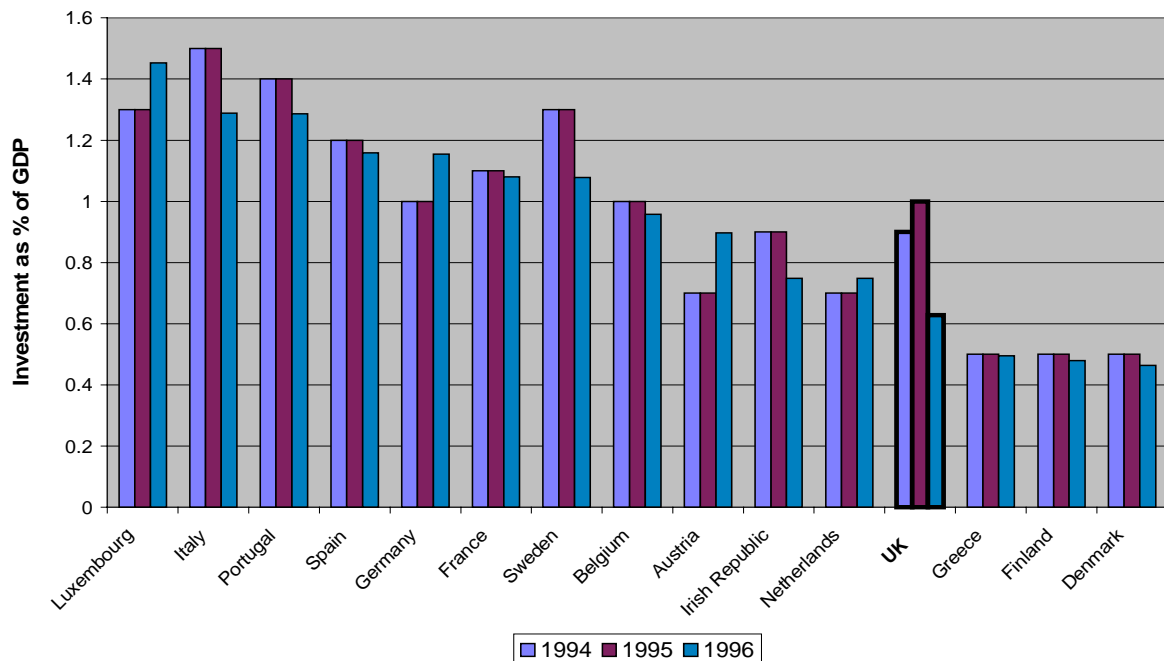
We have looked at the relative levels of investment across Europe in recent years.

Capital Investment in Transport

The latest available data demonstrates the scale of investment that is needed if the UK is to rival the best in Europe. Between 1990-1995, Germany invested two thirds more per person and France invested almost half as much again than the UK. This exemplifies the UK's historical trend of under-investment in transport. The Government's 10 Year Plan was a welcome break with this trend, promising as it did increased resources for UK transport. Our research demonstrates how crucial it is that these resources are used to invest wisely, given the importance of high quality sustainable transport systems to jobs, the economy and the standard of living of everyone in the UK.



Investment as % of GDP

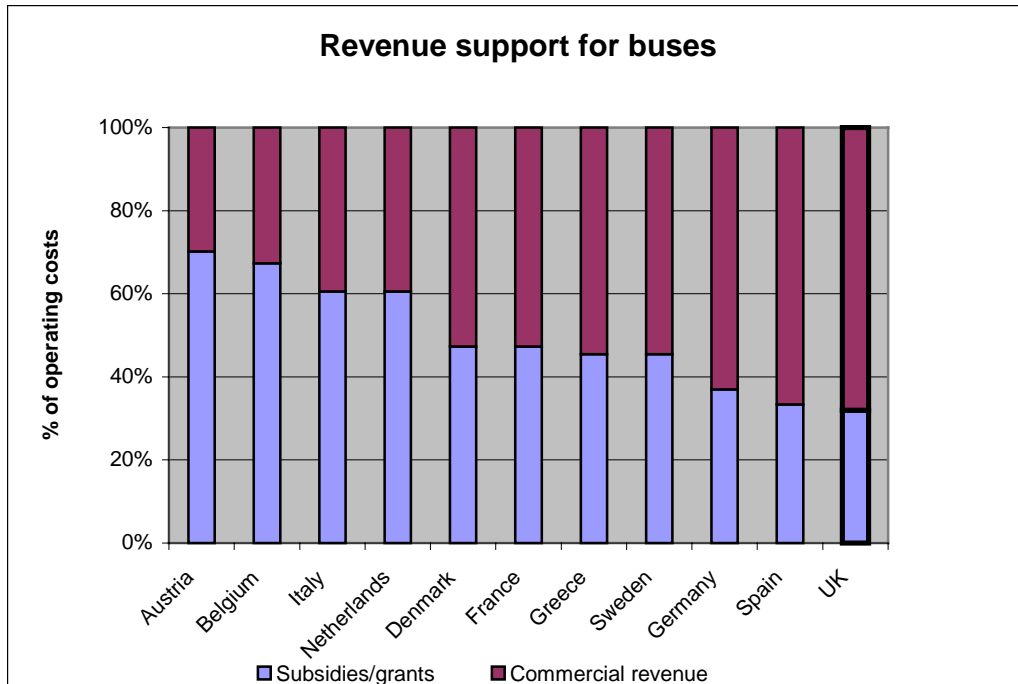


The figure above shows that, in 1996 (the last year for which figures are available), the UK spent only 0.6% of its GDP on transport investment compared with 1.10% in France, 1.15% in Germany and 1.25% in Italy. This means that we spent 45% less than the French, 48% less than the Germans and 52% less than the Italians, our main competitors in Europe, on transport.

Revenue Support

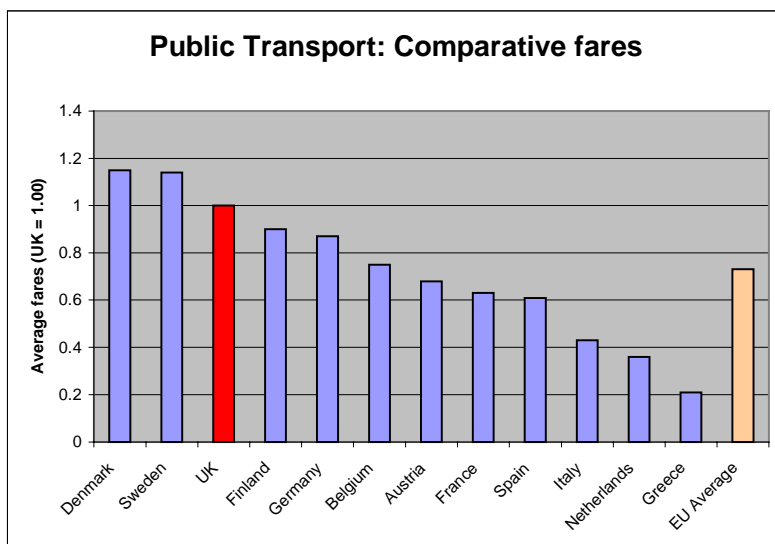
Given the under-investment in Transport in the UK over the last two generations, increasing capital investment in transport is the number one priority. CfIT believes that the Government's 10 Year Plan was correct to focus on this as a priority. However, our research also shows that European Governments are willing to subsidise public transport fares to a far greater extent than is the case in the UK. The graph below shows that bus services in other European countries receive up to 70% of their running costs in government subsidy, whilst the UK manages only 32%¹¹ - the lowest in the EU.

¹¹ The indicated level of operating costs for subsidies (32%) includes concessionary fares, FDR and reimbursements. This differs from the 18% quoted in the WS Atkins research which excludes concessionary fares.



Austria, Belgium, and Italy are the top three ranked countries in terms of reported urban subsidies/grants. The United Kingdom along with Norway show the lowest average rates for urban bus services.

The effect of this, of course, is higher fares. Though UK operators achieve the lowest operating costs per vehicle km, they charge the highest fares in Europe. A typical public transport trip by any mode in Britain costs 15% more than in Germany, 60% more than in France and nearly three times as much as in the Netherlands¹².



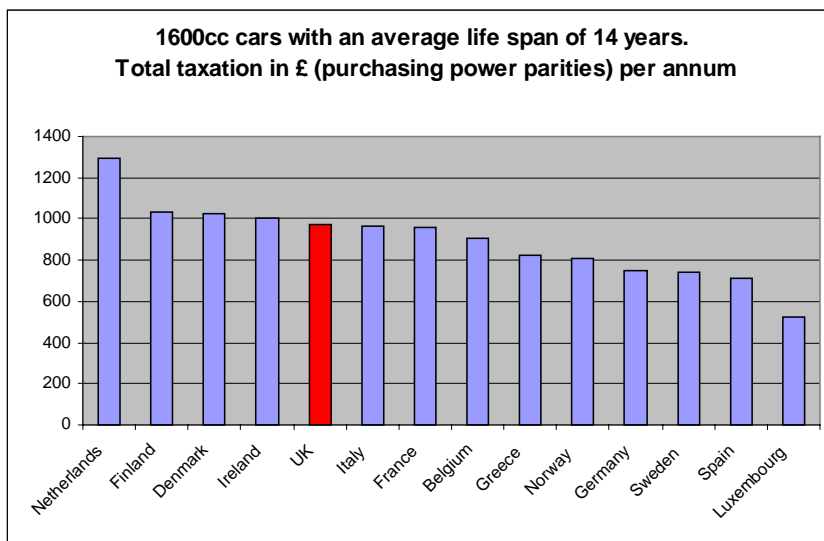
Whilst maintaining the efficiency of public transport is obviously critically important, high fares can have knock-on effects in terms of reducing patronage and increasing

¹² Calculated from public transport fares in terms of an average journey. Survey undertaken by UITP for Millennium Cities.

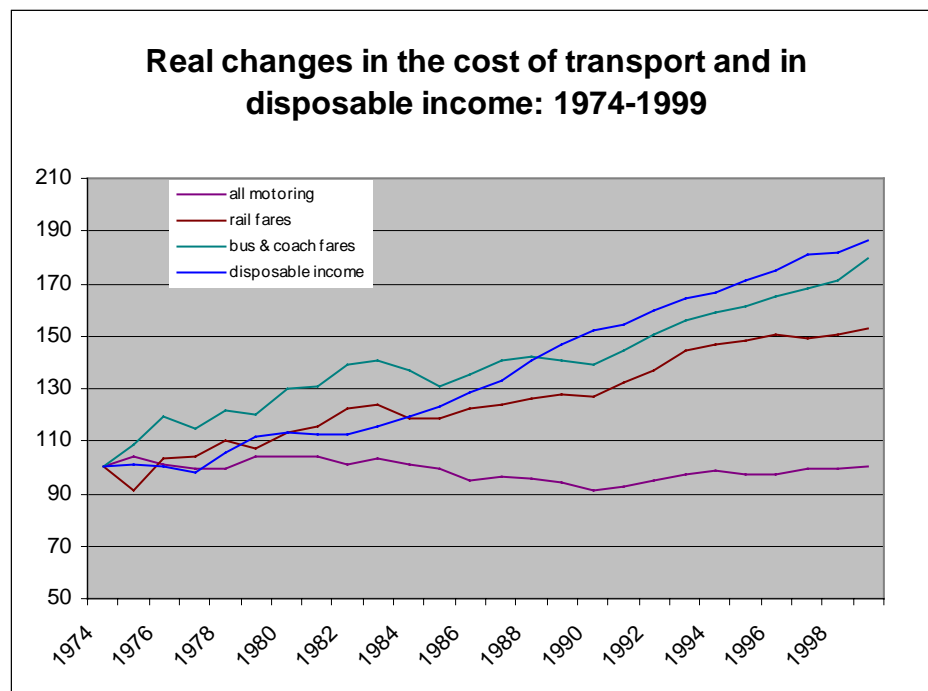
social exclusion. Therefore, whilst it is important that the increased levels of capital investment set out in the 10Year Plan are delivered, commensurate levels of revenue support is also crucial to maximise the benefits derived from the investment in infrastructure and rolling stock.

Comparative costs of public and private transport

Whilst the above figures demonstrate the high cost of using public transport in Britain, attention is often focussed instead on the costs of using private transport. In fact, previous CfIT research has shown that British motorists do not face higher than average motoring taxation, compared to other European countries (taking account of taxes on both ownership and use).



Instead, over the last 25 years it has been rail and bus fares that have outstripped disposable income, helping to explain the high levels of car use found in the UK.



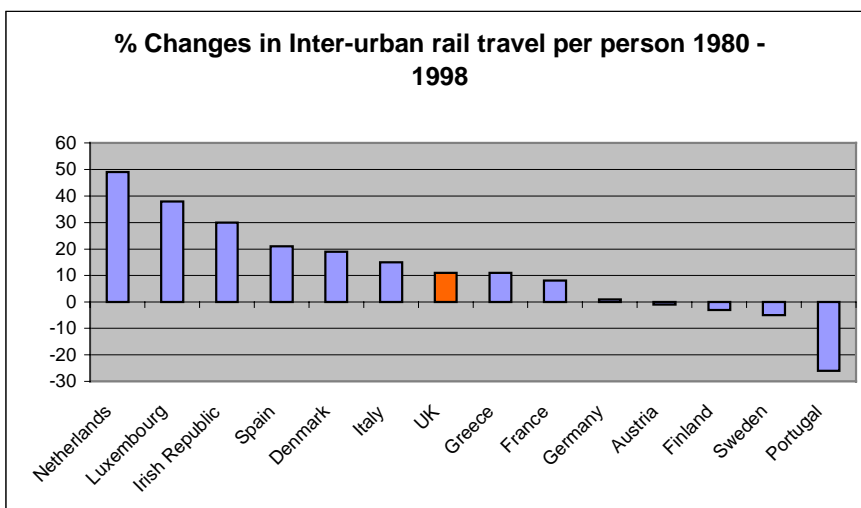
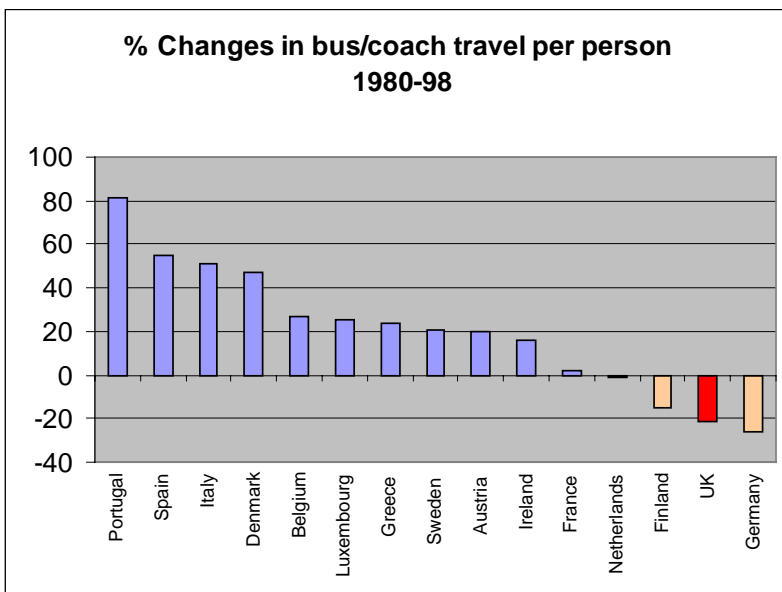
Chapter 3 Outputs.

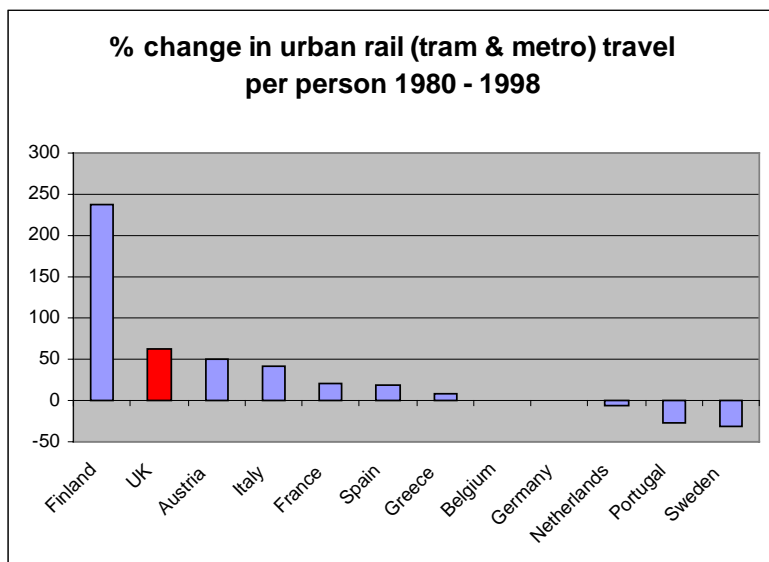
Over time, the nature and balance of transport policies and investment influences where people choose to live and work. This in turn influences travel patterns, decisions about whether to own a car, or buy a second car and choices such as how, when and how far to travel.

Because the UK is the most car-dominated country in Europe, the share of the transport market of alternative travel modes is relatively low.

Public Transport

Buses - which have been referred to as the centre piece of the Public Transport renaissance in Britain- have fared particularly badly in the UK over the last twenty years. Between 1980 and 1998, the average distance travelled by bus per person in the UK declined by more than a fifth. During the same period, most EU countries experienced growth in demand for bus travel – Austria and Sweden were up by more than 20%, Denmark by more than 40%, and Italy by more than one half. Over the same period, car travel per person in the UK rose by 51%.

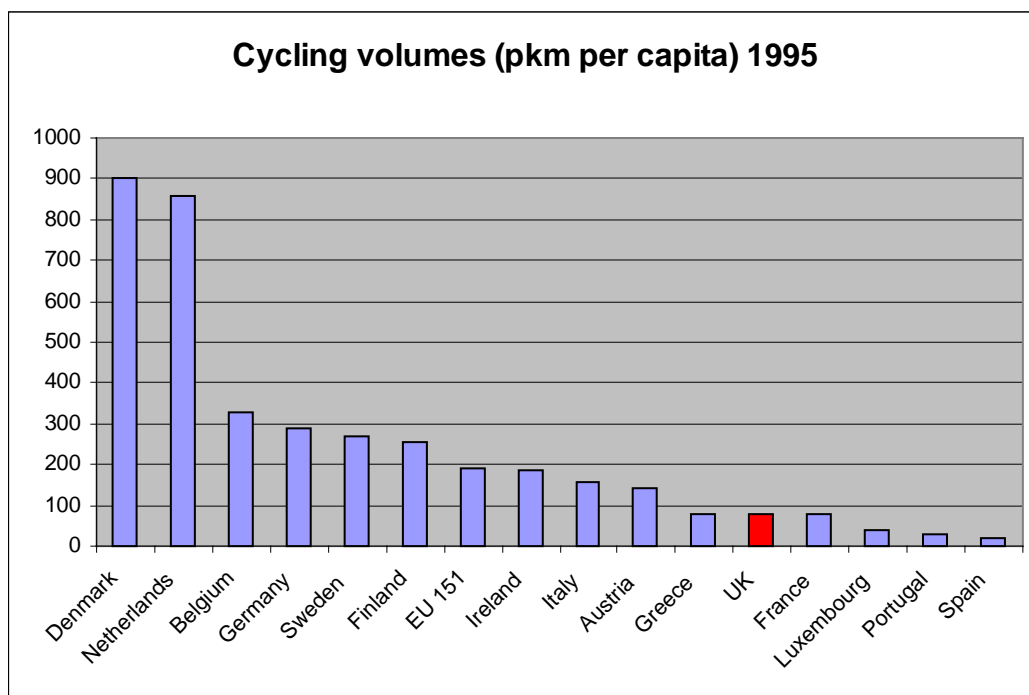




Cycling

Cycling has a significant role to play, particularly in attracting people out of their cars for short trips. Other European countries have been strikingly successful in encouraging cycling as a realistic and effective alternative to the car for short journeys. Our research has shown that cycling can be an important mode of travel in some European countries.

Cycle use between countries varied considerably; Denmark and the Netherlands have the highest levels per capita and nearly five times the EU average, while the UK has amongst the lowest levels with just 77km per capita per year. However, it should also be noted that, with the exception of Sweden and Portugal, cycle use is declining throughout the EU.

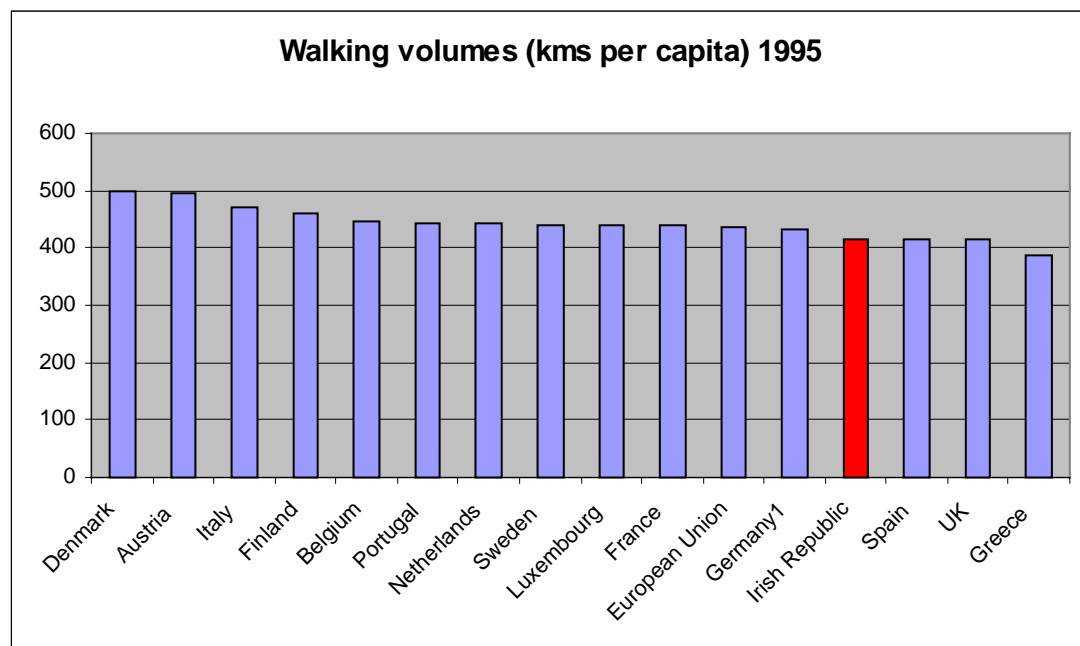


In Munich, Germany, conditions for cyclists have been enhanced through extensions to the cycle path network and cycle parking outside public buildings, stations and popular destinations. A cycle rental scheme is also available. Munich aims to increase the already high cycle mode share from 10% to 20%. In Stuttgart, Germany, the latest estimates suggest that cycling is continuing to increase and Stuttgart will reach their Regional Transportation Plan target of 10% by 2010.

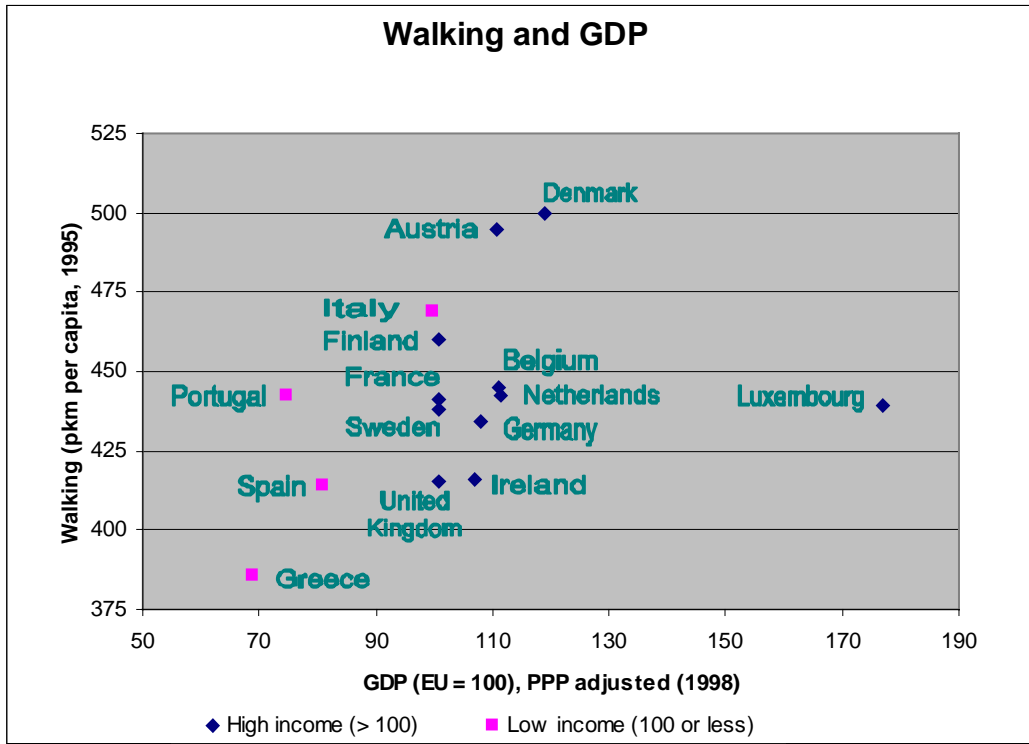
The case studies undertaken demonstrate that developing well planned and extensive cycle networks that provide off road alternatives along main routes is crucial to achieving modal shift from car to cycle. So too is the enforcement of 20 mph speed limits on a network wide basis on all but main roads, which we will examine later. The British weather should not be a barrier – Denmark, with a similar climate, leads the way in achieving high cycling levels. Perhaps the most telling statistics are those involving cyclist accident rates quoted on page 10. There is also a different cultural attitude to cycling in the UK. Whereas in countries such as the Netherlands cycling is fully accepted as a mode of transport, in the UK it is seen more as a leisure pursuit. In order to develop cycling in the UK as a people-friendly and popular alternative to the car, both central and local government will have to focus attention on strategies that make it far safer to cycle.

Walking

Walking also has a role to play in supplanting car based short trips. Since 1970 walking has declined in all European countries, though there was a small but significant recovery between 1990 and 1995 (the last year for which figures are available). Luxembourg, Portugal and the Netherlands recovered particularly well (all showing increases of over 10%). The recovery in the UK was among the lowest and in 1995 we had the lowest per capita walking distance except for Greece (and on a par with Spain and the Irish Republic).



Interestingly, there is evidence that people in wealthier countries walk more. This is thought to be linked to greater overall mobility and higher investment in pedestrian facilities.



Chapter 4 Transferability

Transferability is the crucial issue if the best practice lessons learnt are to be put into practice in the UK in delivering the 10 Year Plan.

Whilst the success factors vary by case study, reflecting at least in part the different urban scales and characteristics of the areas, the research points to three generic 'themes' of best practice which underpin effective integrated transport policy delivery in Europe:

- Integrated institutional and funding arrangements;
- Public transport co-ordination, quality and affordability;
- Balanced use of street space;

The research also reinforces that these themes are inter-related and achieving desired outcomes requires progress to be made within each, building on the good practice that has been developed to date in the UK.

Integrated institutional and funding arrangements

In many European countries there is a strong regional responsibility for transport integration. Regional authorities provide a bridge between national policy formulation (including infrastructure investment of national importance) and implementation of local transport. The case studies have shown that in Germany for example the Lander system has a strong influence on the quality and co-ordination of public transport. The strength of the regional planning role in mainland Europe contrasts with the UK.

The coordinating role brings together land use and transport planning and it allows an integrated approach to the provision and integration of the various public transport modes. Fundamental to their success is the strong political leadership that has developed at the regional level, allowing the various modes to be planned together so that they complement each other and contribute to a holistic, user focused system. Regional planning also brings the ability to direct funding to the appropriate investment, irrespective of the mode and the ability to market public transport so that the modes can, together, compete with the car rather than with each other.

The regional focus has also allowed transport and land use planning to be brought together more effectively to deliver more sustainable patterns of development, leading to higher mode shares for public transport and lower car dependency.

The approach to regional and sub-regional planning set out in the Government's Planning Policy Guidance note PPG11 sets a blueprint for improved co-ordination of transport, economic and land-use planning that will start to deliver the benefits seen from the best examples of co-ordinated regional planning on the continent. Current institutional arrangements are, however, seen as a barrier to delivery of the Government's transport objectives. The promised Regional Governance White Paper provides an opportunity to build on this, so as to ensure that the current structures and

institutions are strong enough and have sufficient locus to, effectively, exert the regional influence necessary to deliver the Integrated Transport White Paper vision and the 10 Year Plan objectives.

Public transport co-ordination, quality and affordability

Within the above institutional framework the single most important key to high quality integrated public transport systems is the co-ordinated approach to public transport provision. This is reliant on the establishment of integrated management structures.

In Munich, for example, a coordinating body was set up in 1972. Following “regionalisation” in 1995 the State of Bavaria, the City of Munich and the surrounding Districts became the main stakeholders. This body provides a common approach to service planning, tariff setting, revenue allocation, marketing and promotion of public transport across regional rail, underground, trams, regional buses and city buses. It is also responsible for the car sharing within Munich.

The benefits of this approach have included:

- High quality infrastructure and fleets
- Greater choice of travel modes
- Inter-modal integration
- Strong branding of public transport

The impact of this is that public transport is being used for 25% of all trips across the whole metropolitan area (compared with 12% in Glasgow and 14% in Greater Manchester) and over 50% in the city centre.

Balanced use of street space

The one critical success factor underpinning best practice in all case study areas was the introduction of area wide 20 mph zones. This, coupled with extensive use of pedestrianised areas, has had a dramatic effect on the “urban experience”. It has been fundamental in prompting both strong growth in walking and cycling and in the ability of public transport to compete with the private car. The balance has been shifted away from “movement space” to “exchange space” where the focus is on personal interaction in quality urban space rather than on mobility in car dominated streets.

This initiative has helped transform the case study cities across Europe from being noisy, polluted places into vibrant, people centred environments as well as facilitating the widespread re-allocation of street space to PT, cycling and walking to meet increased demand.

For example, since the late 1980s sustainability has been an important feature in planning policies for Munich, Germany. Continuation of high density development has been accompanied by efforts to improve the street environment and in 1996 the City adopted a ‘pedestrian-friendly city principle’ in an effort to encourage people to make more trips on foot. Measures included a new emphasis on street design with

seating, planters, etc, improved crossing points, 30kph speed limits on non-strategic routes and providing new and convenient pedestrian-only routes.

CfIT has found this to be a very rewarding and informative study. However the limited availability of data and a focus on supply-side inputs across the countries of Europe has proved to be a significant barrier, impeding our ability to benchmark effectively.

Transferring best practice is one of the most important and effective ways of delivering high quality infrastructure, continually improving levels of service and best value for money. A good start has been made, but we would all benefit from a concerted and consistent focus on data collection and benchmarking.