# Keeping the Nation Moving

## Time to face the facts

November 2011

RAC Foundation

Front cover photo: traffic on the A38(M) near Birmingham.

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This report has been written by Philip Gomm, Head of External Communications at the RAC Foundation. It represents the corporate view of the Foundation.

The Royal Automobile Club Foundation for Motoring Limited is a charity which explores the economic, mobility, safety and environmental issues relating to roads and responsible road users. Independent and authoritative research, carried out for the public benefit, is central to the Foundation's activities.

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# Foreword

Roads and cars have revolutionised the world. Between them they have helped to create equality of opportunity and economic prosperity. They have allowed horizons to be broadened and ambitions to be achieved.

The road system is now one of the nation's most important assets. If the roads do not work, the country stops. This has been demonstrated repeatedly in the wake of flooding and severe cold weather, the fuel protests, major fires, roadworks and serious accidents.

We argue in this document that there is no adequate plan in place to deal with the fact that our reliance on the road network will increase in the future.

This report is not full of mind-numbing equations and formulae. It does not dwell on the minutiae – to make its point, it doesn't need to. It is about the big picture. Nor are the majority of figures contained in it new. Most are freely available, and many are already fundamental to the formulation of government policy across Whitehall. Perhaps the most important is the projection that the population will increase by more than ten million by 2035.

Add to this expected population growth the hopes of an economic recovery (and an eventual return to the historic long-term real rate of growth of over 2% per year) – and recognising that the demand for movement of both people and goods is closely tied to the level of economic activity – and the implied future pressure on our road and rail networks is immense.

When it comes to the railways there is already cross-party consensus on the need for more capacity, and plans are being implemented to provide and pay for it. In particular, all parties are prepared to support the massive investment required for High Speed 2 (the proposed high-speed rail 'Y' link between London and Birmingham and beyond).

Yet for every passenger mile travelled by rail, there are 11 on the roads, predominantly in buses and cars. There is already a significant backlog of underinvestment in road maintenance, and the Government predicts that road traffic will rise by over 40% by 2035. So where are the plans to deal with this? They don't exist – at least not in adequate form. And the only cross-party consensus seems to be to keep a dignified silence on the whole matter.

This is surprising, given the pivotal and dominant position of road transport in the UK, and the fact that the author of the traffic forecasts is the Department for Transport itself. What's more, while the Department has ideas on how to expand the railways, and is promising to make available the necessary extra money to do so, it has severely cut spending on roads at both national and local levels.

So why do politicians – in all parties – appear to have such a lack of appreciation of the transport problems that we face, and why are they so short on appropriate proposals as to how we might solve them? Probably because they don't think they need to. Although congestion steadily erodes economic productivity and relentlessly encroaches on individuals' daily lives, until there comes a 'big bang' moment there is always a more pressing (and in all likelihood more easily resolvable) matter for ministers to deal with. Yet all the while, congestion continues to affect millions of people and cost the country billions of pounds.

The arithmetic is simple: left unchecked, traffic will grow, and with it traffic jams and unreliability of transportation. The Department for Transport predicts that by 2045 average delays will have risen by well over a half. Bear in mind that this is an average – that is, across all roads, at all times. On busy routes, at busy times of day, the effects of congestion will be much worse. As Sir Rod Eddington pointed out in his independent Transport Study for the previous government, the consequences will be damaging to industry, to the economy and to the quality of life of us all.

This document is primarily an appeal to face up to the problems ahead – having done that, we can begin to debate the possible solutions ('sweating the assets', adding selective new capacity, limiting future demand, or a bit of all three) and find a way forward. There is no simple solution: the situation calls for a balanced package of clear policies.

*Keeping the Nation Moving: Time to face the facts* should not be misconstrued as simply a call for more road building or for managing demand through pay-as-you-go charging. We need to look more fundamentally at how our strategic and main roads are planned, developed, funded, operated and maintained; how the traffic that uses them is managed; and how that use is paid for.

However, as part of this approach, the RAC Foundation does see a strong case for fundamentally reforming road taxation to include a pay-as-you-go approach (with a commensurate reduction in fuel tax and/or the price of the tax disc). Although currently out of favour with the present Government, it is still worthy of debate as part of the bigger picture.

If this paper is seen as a meaningful basis for discussion, and encourages policymakers to join the conversation rather than remain silent, then we will regard that as progress.

RAC Foundation
November 2011

# Contents

# 1. A Summary of the Argument

Whilst other departments, such as HM Treasury, seem happy to use official Department for Transport traffic forecasts to develop policy, the Department for Transport itself appears not to be. Surely something is wrong.

Either the Department for Transport believes that its own forecasts are unlikely to be fulfilled – in which case they need to be publicly and quickly amended – or else the Department is unwilling or unable to formulate an adequate response to the stark reality that lies only a few years away.

Given that much of ministers' case for the current high-speed rail proposal (High Speed 2, HS2) depends on the rapid expansion in demand for both road and rail travel, it is hard to believe that these predictions are not relied on in departmental decision-making. Even if policymakers regard the traffic forecasts as unlikely to be realised, serious problems would remain:

- The current plans (as set out in the Comprehensive Spending Review) may not be adequate for coping with even reduced traffic growth.
- There is no adequate provision for rectifying the long and growing backlog of road maintenance.[1]
- Government will still have to deal with falling fuel duty revenue as cars are increasingly decarbonised – that is, they consume less petrol or diesel per mile, or use an alternative fuel type.

On the other hand, if government regards the current forecasts as likely to be fulfilled then the list of concerns lengthens dramatically:

- Without a long-term strategy in place for addressing these issues, it is more difficult to assess the case for serious investment.
- It is, likewise, harder to commit to the lengthy planning and decision-making process for particular infrastructure proposals.
- How would improvements be paid for?
- What are the options for managing demand as traffic growth spreads congestion over increasing proportions of the total road network and for more hours in the day? Should pay-as-you-go charging be revisited, managing demand in a way that other transport and service providers do every day?
- How far can 'sweating the assets' – that is, getting more out of the existing infrastructure – actually go? And how can it be funded?

1 According to the annual ALARM (Annual Local Authority Road Maintenance) survey of local highways authorities, it would take an estimated £10.5 billion to clear the road maintenance backlog in England and Wales – see page 11 of www.asphaltindustryalliance.com/images/library/files/Alarm_2011_web.pdf. We note that the Government's current Highways Maintenance Efficiency Programme is designed to ensure better value for money and better long-term maintenance strategies.

In what follows we take the need to cut greenhouse gas emissions by 80% by 2050 as a given – and indeed support it – but that does not imply that collectively we ignore the need for high-quality roads for the transport of freight and the running of businesses, or throw away the immense benefits of personal mobility. What we seek is a balanced and consistent set of policies which take account of potentially competing priorities.

There is a belief that a reduction in road traffic is required to tackle climate change. This is not necessarily so. There are scenarios under which carbon reduction targets can be met even with increased mileage on our roads,[2] though much will depend on the rate of decarbonisation of road vehicles. When and where the increase in traffic is to be found will also be crucial.

The RAC Foundation thinks that there are good reasons to prepare for substantially more traffic growth, and that this can be done whilst meeting the government's binding carbon reduction targets. Economic recovery requires reliable roads, and neither industry nor the general public would be content with the deterioration that is the implicit consequence of existing policies. The Government's changes to planning policies, with a presumption in favour of (sustainable) development, may of themselves trigger the need for further road and other transport investment.

But well-maintained, managed and enhanced roads require substantially more money to be spent than is allowed for in the Government's current plans, and we should not be advocating this without suggesting where the extra money is to come from. There are four possibilities:

1. **Diversion of some general government expenditure from other sectors**. In other words spending a greater proportion of tax revenues on roads than is presently the case. (Revenue is currently about three times expenditure.[3]) This approach has been proposed many times, but there is no sign of it happening, particularly in the present difficult economic climate. That such a rebalancing has not occurred is in part symptomatic of the fact that, unlike other users of essential services and utilities, the road user has no voice as a consumer. A wider recognition is needed that motorists and others are paying a great deal of money in return for the use of an asset, and – in contrast to the situation with our other utilities – far more than it costs to provide and maintain that asset.

2 For example, the Committee on Climate Change has developed a scenario for surface transport in which traffic grows (by 19.1% between 2010 and 2030) that is consistent with meeting the 4th Carbon Budget (covering the period 2023–27) as recommended by the Committee and accepted by the Government.

3 The Road Users Alliance *Road File 2011* found that drivers paid £32 billion in taxes specific to road users (including vehicle excise duty and fuel duty) and £16 billion in general taxation (including VAT and company car tax). Spending on roads was about £10 billion – http://rua.org.uk/images/rf2011.pdf.

2. **Further increases in existing taxes on road users**. Given the current high cost of running a car, this would be deeply unpopular, as the furore over a planned increase in fuel duty earlier in 2011 demonstrated. There is no case for it in terms of equitable general taxation policy, nor on emissions grounds, with the rate of fuel duty significantly in excess of the current price of carbon associated with each litre of fuel.[4] It would also conflict with policies on social inclusion and the wish to help rural areas; and it would adversely affect many poorer households who, along the lines of 'fuel poverty', might already be described as being in 'transport poverty'.
3. **Taking the funding of any new roads entirely from pay-as-you-go charges levied on the drivers who subsequently use this new capacity**. There may be attractive opportunities to do this – for example along the line of the heavily congested A14 serving the east coast ports – but in isolation these schemes cannot make much of a contribution to finding solutions to the pervasive problems across much of the existing national and local networks.
4. **A more general pay-as-you-go charging mechanism**. The RAC Foundation has long argued that some form of pay-as-you-go system will eventually be necessary on some of our existing roads to tackle the trio of major difficulties: congestion, environmental impact and falling road tax revenue for the Exchequer. We are not alone: a number of organisations, including business groups, say something similar.

4 www.racfoundation.org/assets/rac_foundation/content/downloadables/carbon_prices-smmt-300309.pdf

We recognise that this is not what all politicians or motorists want to hear. We understand that a wide-ranging charging system cannot and will not – indeed should not – be brought in overnight. But to ignore the concept because it is not the easy option is the wrong approach. The introduction of pay-as-you-go charging on a number of existing roads, together with adjustments in road taxation and institutional reform to ensure that revenues are dedicated to improving the road network, would:

- more closely align a driver's costs with his or her use of the road network;
- be technically possible at reasonable cost, with reliability and privacy assured;
- help to manage growth in peak demand periods;
- help in the mitigation of greenhouse gas emissions – especially those from traffic stuck in congestion;
- be beneficial by making road provision more independent of central government and at the same time more responsive to user needs;
- offer the chance to cut overall motoring taxation as well as having the potential to raise it; and
- draw on and build on what is increasingly common and successful practice overseas.

A charging system based more closely on road usage would result in many drivers being better off financially. While some would end up paying more, they would expect to see significant benefits in the form of less congestion.

We hope that government will recognise the problem of congestion and develop a long-term strategy, taking into account the considerable economic benefits of road investment. There is a need for a better planning process (as already exists for the railways and the other utilities), for both the strategic network, and for local authorities with their local roads. This may require governance reform for the strategic network and the progressive introduction of pay-as-you-go charging. It will offer a more coherent and fundable strategy if part of a package which includes: better road maintenance; selective, targeted investment in new national and local capacity; and a long-term plan to 'sweat the assets'.

Though much of the data in this document is collected and presented on a Great Britain or UK basis, the focus of the argument – certainly when it comes to matters of governance – is England. But the issues highlighted are unique neither to this nation nor to the developed world. The global march of the automobile is relentless. Today there are 750 million cars in the world. The International Energy Agency predicts that by 2050 that figure will have tripled to 2.2 billion.[5]

5 http://ec.europa.eu/transport/strategies/facts-and-figures/transport-matters/index_en.htm

The question is really quite simple: are there plans for adequate road capacity to serve economic recovery, growth and population increases? If, as the RAC Foundation believes, the answer is no, then we must decide what to do about it. There are realistic options.

The RAC Foundation is optimistic about the future *if* we respond to the challenges sooner rather than later. We believe an intelligent combination of some of the options listed above would give us a way of meeting the needs of a modern and civilised society whilst at the same time adhering to climate change imperatives.

# 2. The Nation's Arteries

Roads and road networks are the original form of infrastructure. Long before human beings had water pipes, power systems, telecommunications or even buildings, they used roads (and rivers) or their equivalents – paths, tracks, bridleways and the like – to undertake that most essential of human activities: travel.

Today the vast web of roads in Great Britain (see Table 1) is as important to the social and economic fabric of the nation as any other so-called essential utility.

**Table 1: Road type, length and traffic in Great Britain, 2011[6]**

| Type of road | Road length in miles | Proportion of roads by length (%) | Traffic in billion vehicle miles per year | Proportion of traffic (%) |
|---|---|---|---|---|
| Motorways | 2,205 | 1 | 61 | 20 |
| A roads | 28,910 | 12 | 136 | 44 |
| Other roads | 213,885 | 87 | 111 | 36 |
| **Total** | **245,000** | **100** | **308** | **100** |

6 www.dft.gov.uk/pgr/statistics/datatablespublications/roads/traffic and

Not all roads are equal. In terms of strategic importance and everyday use, it is the motorways and A roads that stand out. Although accounting for only 13% of total road length, these major arteries carry nearly two thirds (64%) of all traffic.

Looked at in isolation, motorways – though making up only 1% of road length – carry 20% of traffic.

In the decade up to 2010 the net amount of new road length added was about 1%. Yet during that same period the British population grew by about 5% and total traffic rose by 6% (and this period included at least two years of economic downturn). The RAC Foundation is not advocating unchecked road building to match population changes, but these figures do illustrate the growing capacity problems we face.

In England[7] the Strategic Road Network consists of motorways and major trunk roads (important A roads).[8] It is the responsibility of the Secretary of State for Transport to maintain, manage and enhance these. He or she does this through the Highways Agency.

The rest of the A roads (the primary network of roads) and other classifications of roads are the responsibility of local highway authorities.

This rather complex pattern of responsibilities often makes it hard for the general public to know who is responsible for what, and to whom they should be complaining if levels of service are inadequate.

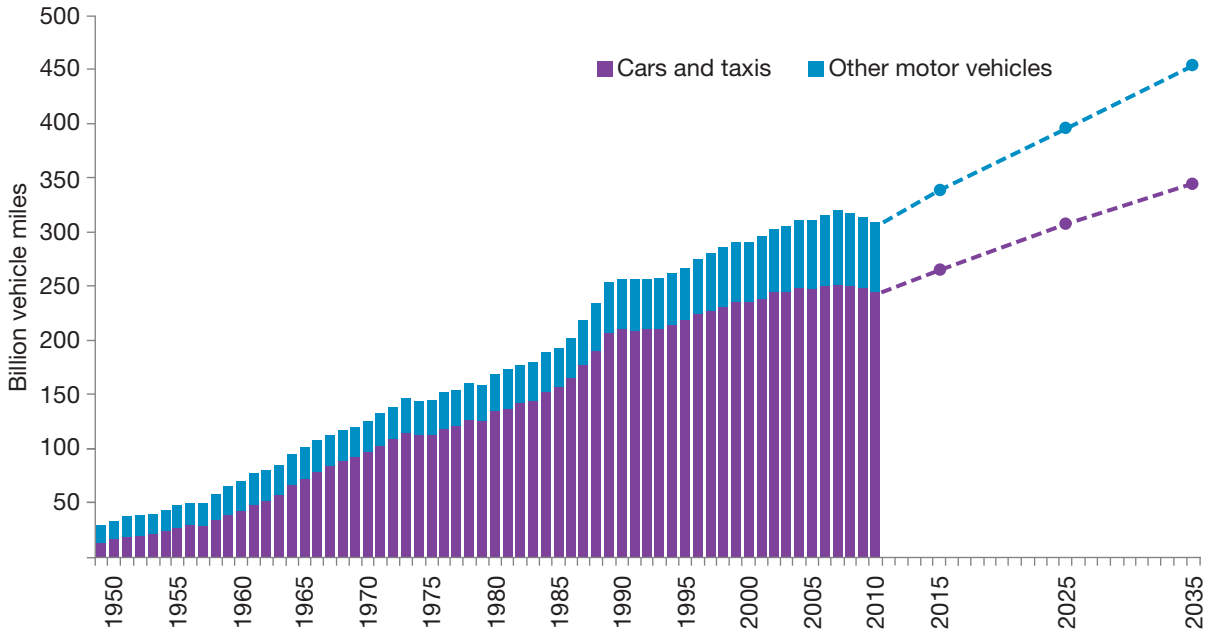
7 For Wales and Scotland the administration of strategic roads is a devolved matter.

8 A map of the Strategic Road Network managed by the Highways Agency is available at www.highways.gov.uk/aboutus/6151.htm.

# 3. The Journey So Far

For the past sixty years the trajectory of traffic in Britain has, overall, been upwards. Between 1950 and 2007 it rose tenfold, though that rate of growth has not been sustained year in, year out.

**Figure 1: All vehicle traffic Great Britain, 1950–2010[9]**




9 http://assets.dft.gov.uk/statistics/tables/tra0101.xls. The dotted lines represent National Transport Model 2009 traffic forecasts – www2.dft.gov.uk/pgr/economics/ntm/forecasts2009/xls/forecast.xls, see Table 2 in Section 5 of this report.

From Figure 1 it is clear that economic downturn – such as that seen in the mid-1970s following the oil crisis, and then during the recession of the early 1990s – has led to the levelling off of, or even fall in, traffic. The same situation has been true of the latest economic crisis.[10] The telling point is that after each blip the upward trend has continued. According to the forecasts shown, the Department for Transport thinks it will do so again.

Clearly we have to make appropriate plans if we are to accommodate the vision of the future set forth in Figure 1, or indeed if we want to alter that vision. Unfortunately we are not approaching what lies ahead with a track record of success.

In recent history there has rarely been any consistency of policy, with major swings between a desire to cut spending on roads to save money on the one hand, and an expansion of road provision in recognition of traffic growth to come on the other. During the 1960s and '70s the major roads programme was quite extensive. But by the 1980s things had slowed as funds dried up and the network ceased to develop.

In 1989 the pendulum swung again and the case was set out for significantly increasing capacity.[11] In all, some 500 road schemes were suggested. However, the scale of the ambition dwarfed both the political will and the size of the public purse, and the proposals were scaled back – to 300 schemes by 1995, and 150 by 1997.

The new Labour administration had its own thoughts. John Prescott, the then Secretary of State for the Environment, Transport and the Regions, reordered the priorities, putting emphasis on maintenance, and cutting the number of schemes

10 The Department for Transport says: 'In 2010, the overall motor vehicle traffic volume in Great Britain was 1.6% lower than in 2009, at 308.1 billion vehicle miles. This follows a 1.0% year-on-year fall between 2008 and 2009, and a 0.8% fall between 2007 and 2008.' http://assets.dft.gov.uk/statistics/releases/traffic-estimates-2010/traffic-estimates-2010.pdf

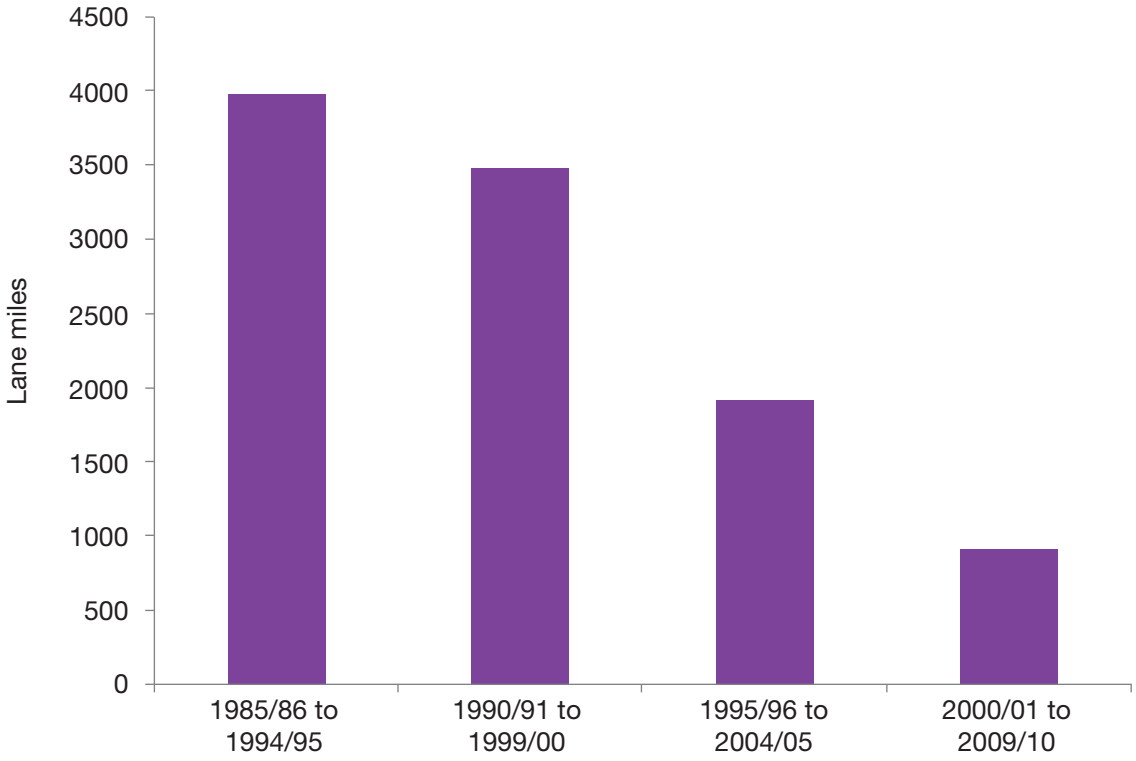
11 These proposals were set out in two documents: the 1989 White Paper, *Roads for Prosperity*, and an associated report *Trunk Roads, England into the 1990s*.

– now regarded as part of a Targeted Programme of Improvements (TPI) – to just 37. At the same time the process of transferring responsibility for many trunk roads from the Highways Agency to local authorities was under way.[12]

Yet the size and scope of the TPI – soon to change its name to the Programme of Major Schemes – was to change again. First, in 2000, it was expanded, with 14 schemes under construction by April 2005 and another 37 planned to start within the subsequent three years.

The result of all this toing and froing was the creation of less and less new road capacity; moreover, of the mileage that has been added, much is unclassified, serving new developments. Certainly the rate of trunk road construction has not been at the level which the RAC Foundation has advocated as economically justifiable.[13]

**Figure 2: English new trunk road construction and improvement rates (shown in overlapping ten-year periods)[14]**



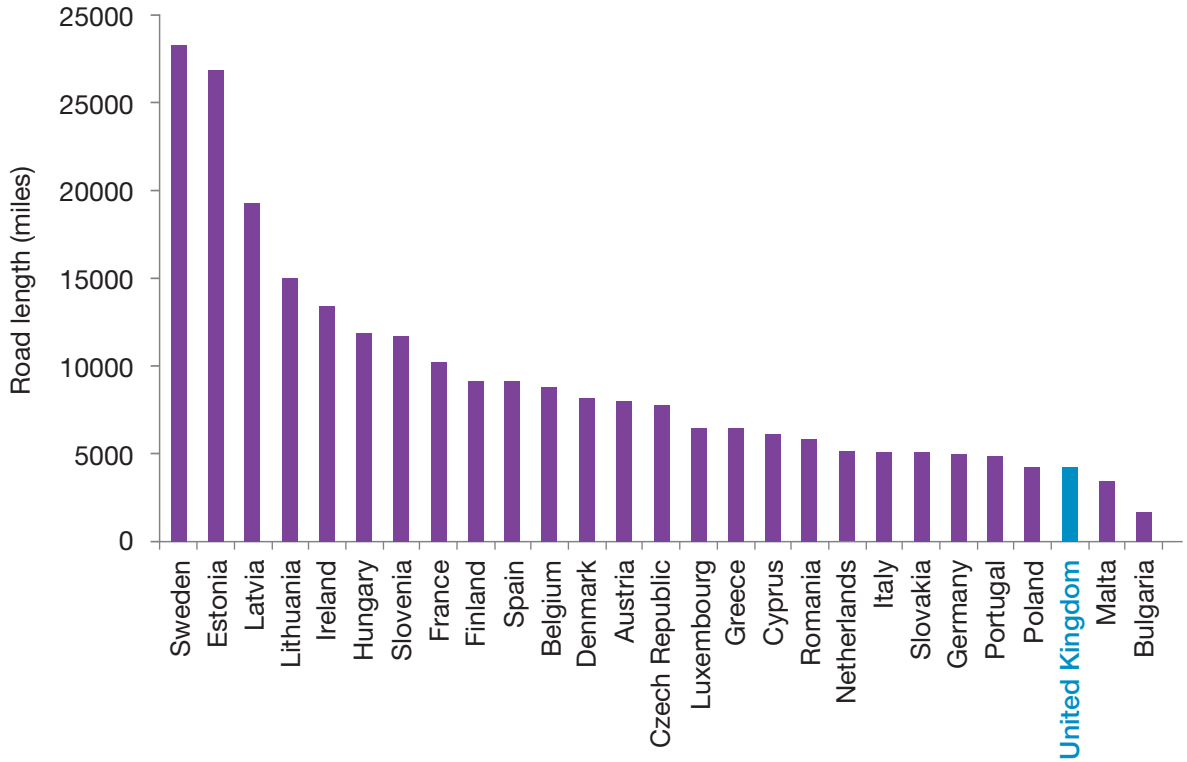

Over the years the UK has fallen behind other nations in its provision of roads (see Figure 3). As measured by the length of road per head of population the UK sits at number 25 on a list of 27 European countries.

12 Between 1999 and 2009 about a quarter of trunk roads had been 'detrunked'. See sheet 7.8b of www2.dft.gov.uk/pgr/statistics/datatablespublications/roads/condition/lengths/tsgb0798.xls

13 www.racfoundation.org/research/economics/Roads-and-Reality

14 Data from Transport Statistics Great Britain (TSGB) 1996 Table 3.19, TSGB 2007 Table 7.16 and TSGB 2009 Table 7.16.

**Figure 3: EU road lengths per million head of population**[15]

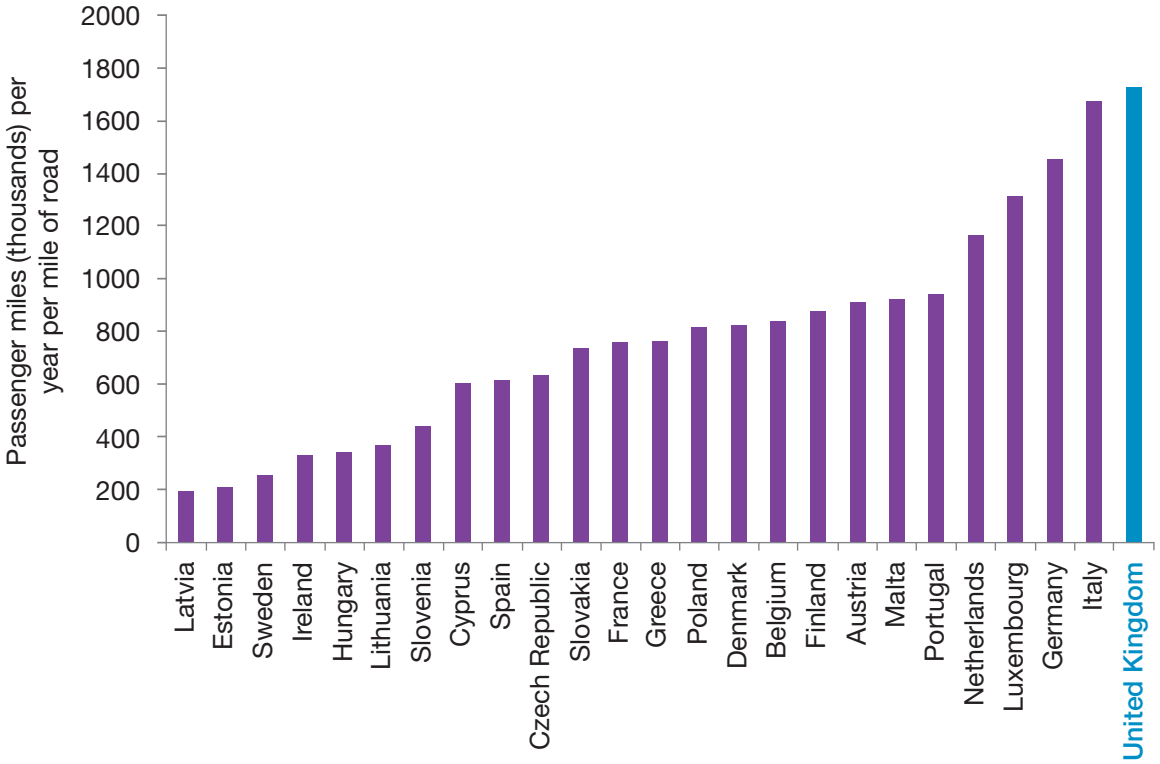



The UK has the sixth highest number of passenger miles travelled by road per person in Europe. When combined with the road length in the UK per person,

15 Data from EU Transport in Figures 2006, EU Transport Statistical Pocketbook 2011 and European Road Stats 2010.

we find that the UK has the highest average density of passenger road traffic per mile of road of any country in Europe (see Figure 4). And that is before taking account of commercial vehicles.

**Figure 4: EU road passenger density**[16]




With no European country making more intensive daily use of the road network than the UK, it is no surprise that awareness of – and concern about – traffic congestion is so widespread in this country.

The UK also ranks poorly in terms of its transport infrastructure by international standards. The 2011 World Economic Forum Global Competitiveness Report[17] places the UK in 26th position in terms of the quality of its roads, and towards the bottom of the list of developed countries. By contrast, France is number one in the ranking.

In another recent study, nearly half of firms rated the UK's transport networks as below average in global terms, and expressed concern about the deteriorating state of road networks over the past five years.[18]

16 ibid.

17 www3.weforum.org/docs/WEF_GCR_Report_2011-12.pdf

18 www.cbi.org.uk/media/1052324/2011.09-cbi-kpmg-infrastructure-report.pdf

In 2005 the Chancellor of the Exchequer and the Secretary of State for Transport commissioned the independent Eddington Transport Study[19] of the country's transport needs in relation to 'competitiveness, stability and growth'. It concluded that connectivity within Britain is generally good, but that neither the quantity nor quality of infrastructure is adequate, and that economic progress is increasingly being compromised by shortages of transport capacity – little of which makes positive reading for a nation on the move.

19 http://collections.europarchive.org/tna/20100408160254/http:/www.dft.gov.uk/about/strategy/transportstrategy/eddingtonstudy/

# 4. Car Dependency

Once the preserve of the wealthy, cars have brought about a democratising effect on society and are now used by the vast majority of the population:

- 80% of men and 66% of women have full driving licences.
- 80% of adults live in a car-owning household.
- 63% of all journeys – including walking and cycling – are by car.

Car ownership and use have grown substantially since the end of the Second World War.[20] Prior to that, motoring was largely the prerogative of the well-to-do. But this is no longer so. With the growth of car ownership, motoring has become the dominant source of mobility for a growing proportion of the population, now the majority.

20 www.racfoundation.org/assets/rac_foundation/content/downloadables/low_income_motoring-bayliss-280909.pdf

The rate of car ownership amongst the poorest fifth of households has increased from less than 5% in 1960 to 51% in 2010 – a tenfold increase.

Over the same period, car ownership amongst all households has increased from 29% to 75%, so the rate of change in ownership amongst those on lower incomes has been much faster than in households as a whole, and very much faster than that of wealthy households, where the increases have been mainly in multiple car ownership.

This is not to say that multiple car ownership is confined to wealthy households: 12% of the poorest fifth of households also now own more than one car.

Contrast this with rail use. Train travellers tend to be relatively wealthy.[21] Only 15% of those in households with an annual income of less than £25,000 use trains at least once or twice a month. For households with incomes of over £50,000 this figure doubles.

It is also worth reiterating that while 85% of passenger miles take place by car, van and taxi, and 5% by bus and coach, just 8% are travelled on the railways (with 60% of those journeys starting or ending in London).[22]

In view of this dominance of road use over rail use, it is surprising that £45 billion has been invested in rail infrastructure over the last decade compared with £41 billion in roads, especially when we are faced with the bleak future on congestion predicted by the Department for Transport itself.

21 www.racfoundation.org/assets/rac_foundation/content/downloadables/rac_foundation_rail_use.pdf

22 www.publications.parliament.uk/pa/cm201011/cmselect/cmtran/writev/economy/te10.htm. The 8% includes National Rail, London Underground and trams; the 60% refers only to National Rail.

# 5. Trouble Ahead

Several government bodies are making plans on the basis that total vehicle traffic will grow by 25% by 2025 and 43% by 2035 (both compared with 2003). This is shown – amongst a host of other interesting and depressing data – in the National Transport Model (see Table 2). These Department for Transport figures are used by both HM Treasury and the independent Office for Budget Responsibility to predict road tax revenues. The Committee on Climate Change also relies on these numbers in planning how we might meet our carbon emission reduction targets.



**Table 2: Traffic, average vehicle delay and speeds in England, 2003–2035[23]**

| Year | Data | London | Large urban | Other urban | Rural | All areas | Inter-urban[23] |
|---|---|---|---|---|---|---|---|
| 2003 | Traffic (cars), billion vehicle miles | 16.4 | 82.5 | | 111.3 | 210.2 | 64.7 |
| | Traffic (all vehicles), billion vehicle miles | 19.9 | 97.6 | | 141.7 | 259.1 | 84.3 |
| | Average delay, seconds/vehicle mile | 82.9 | 31.5 | 19.5 | 4.3 | 19.6 | 7.6 |
| | Vehicle speed, mph | 16.3 | 24.4 | 26.3 | 49.2 | 31.5 | 53.4 |
| Predicted percentage change on 2003 | | | | | | | |
| 2015 | Traffic (cars) | 0 | 4 | 5 | 4 | 4 | 4 |
| | **Traffic (all vehicles)** | 5 | 7 | 8 | 7 | **7** | 7 |
| | Average delay | 8 | 7 | 6 | 2 | 6 | 1 |
| | Vehicle speed | -3 | -2 | -1 | 0 | -1 | 0 |
| 2025 | Traffic (cars) | 17 | 20 | 20 | 23 | 21 | 25 |
| | **Traffic (all vehicles)** | 23 | 24 | 25 | 27 | **25** | 28 |
| | Average delay | 35 | 26 | 24 | 24 | 27 | 19 |
| | Vehicle speed | -12 | -5 | -3 | -1 | -4 | -2 |
| 2035 | Traffic (cars only) | 31 | 34 | 34 | 38 | 36 | 41 |
| | **Traffic (all vehicles)** | 40 | 41 | 41 | 44 | **43** | 46 |
| | Average delay | 67 | 54 | 41 | 58 | 54 | 54 |
| | Vehicle speed | -20 | -10 | -6 | -3 | -8 | -5 |

23 www2.dft.gov.uk/pgr/economics/ntm/forecasts2009/xls/forecast.xls

24 In Table 2 of the Department for Transport's *Road Transport Forecasts 2009*, this column is headed 'All Highways Agency Trunk Roads'.

But why the growth in traffic? Because of anticipated economic recovery and a predicted dramatic rise in population.

Estimates from the Office for National Statistics show that the number of people in the UK will climb to 73 million by 2035,[25] an 18% rise on the figure for 2010. It is easy to see how this will come about: increasing longevity,[26] a rising birth rate, and net immigration. The rise is not uniform, however. Some areas will find themselves with more people than others and hence bigger problems when it comes to traffic and congestion (see Table 3).[27]

**Table 3: Population[28] and traffic growth forecast in the English regions**

| | 2010 population (million) | Population growth % | | Traffic growth % |
|---|---|---|---|---|
| | | 2020 on 2010 | 2030 on 2010 | 2035 on 2003 |
| North East | 2.6 | 4 | 8 | 34 |
| North West | 6.9 | 4 | 7 | 39 |
| Yorkshire and Humberside | 5.3 | 8 | 17 | 44 |
| East Midlands | 4.5 | 8 | 16 | 48 |
| West Midlands | 5.5 | 5 | 11 | 39 |
| East | 5.8 | 10 | 20 | 45 |
| London | 7.8 | 9 | 16 | 40 |
| South East | 8.5 | 8 | 16 | 44 |
| South West | 5.3 | 8 | 17 | 46 |
| **Total for England** | **52.2** | **7.3** | **14.4** | **43[29]** |

There has been much recent debate about the concept of 'peak car', the point where individual car use reaches saturation and at which even renewed economic growth will not lead to greater pressure for personal mobility. Intuitively this is plausible. It is impossible to envisage a time where all an individual's waking hours are spent behind the wheel of a car. The thirst for more travel will be quenched long before that. This is an area which requires much more study.

25 www.ons.gov.uk/ons/rel/npp/national-population-projections/2010-based-projections/stb-2010-based-npp-principal-and-key-variants.html

26 In December 2010 the Department for Work and Pensions predicted more than ten million of the existing population would live to the age of 100 – www.dwp.gov.uk/newsroom/press-releases/2010/dec-2010/dwp186-10-301210.shtml

27 Rising population in itself does not determine traffic growth. It is also linked to the demographic profile and the local economy.

28 Office for National Statistics; Welsh Government; National Records of Scotland; Northern Ireland Statistics and Research Agency. Region and Country Profiles: Population and Migration, 28 October 2011.

29 Average weighted by 2030 population. Traffic growth data taken from www2.dft.gov.uk/pgr/economics/ntm/forecasts2009/xls/forecast.xls.

But, significantly, ‘peak car’ does not remove the impact of ten million more people – who between them will drive four million more cars[30] – in the UK in little more than two decades’ time. Whichever way you look at it, the result will be: more congestion.

30 This is extrapolated from the current ratio of private cars to population.

# 6. Jams Today, Jams Tomorrow

Why worry about congestion? What problems does it cause? Actually, there are at least three of them. Firstly, a reduction in the speed at which traffic flows, even when there are no incidents. Secondly, when incidents – be they crashes, roadworks or whatever – do occur, their effects are magnified.[31] And thirdly, journey times become increasingly unpredictable.

Congestion on the roads is already a depressing part of our daily lives. You only have to ask people. Almost two thirds (60%) of those in car-owning households say that some of their journeys – as driver or passenger – are delayed, or else that it is necessary to change the time or way they travel to avoid congestion.[32]

This is especially obvious to commuters and businesses. And it is set to worsen, as Table 2 demonstrates. As well as traffic volume up by 43% by 2035, average delays are set to increase by over 50%.

31 For this reason the RAC Foundation has long called for quicker accident clear-up – something the Government promised to do in May 2011 – www.dft.gov.uk/news/press-releases/dft-press-20110519 – and the introduction of lane rental to encourage utility companies to expedite their works or face financial penalties reflecting the impact they cause.

32 Ipsos MORI survey for the RAC Foundation, September 2011.

This is not a picture that should surprise us. The Eddington study contained a similar message:[33]

> 'The model forecasts that by 2025, 13 per cent of traffic on England's roads will be travelling on very congested roads (an increase of 8 per cent on 2003). In these conditions, traffic flow starts to break down, with journeys subject to stop-start travel conditions, and high levels of travel-time variability. One third of London traffic, and one fifth of traffic in urban areas would suffer these very congested conditions. With forecast increases in commuting and business trip lengths, congestion is also forecast to spread more widely across the strategic road network.
>
> Business and commuting road users can expect to face higher than average delays – the modelling suggests that 15 per cent of business traffic, and 16 per cent of commuting traffic, will be subject to very congested conditions.'

Eddington converted the increase in congestion into monetary value, estimating the additional cost of congestion in 2025 to be £32 billion[34] – which is conservative in that it disregards reliability impacts and wider economic impacts, and ignores the higher values that time is given in London and the South East.

The RAC Foundation has made its own illustrative estimates of the jams to come. In *Roads and Reality*[35] we gave a picture of future congestion by asking the Highways Agency to take the 2006 English Strategic Road Network 'stress' map (see Figure 5) and overlay it with various uniform rates of traffic growth. Figure 6 shows what would happen if there were a 40% rise in vehicles on the roads – a situation which the Government's own numbers[36] show could happen well within the next 25 years.

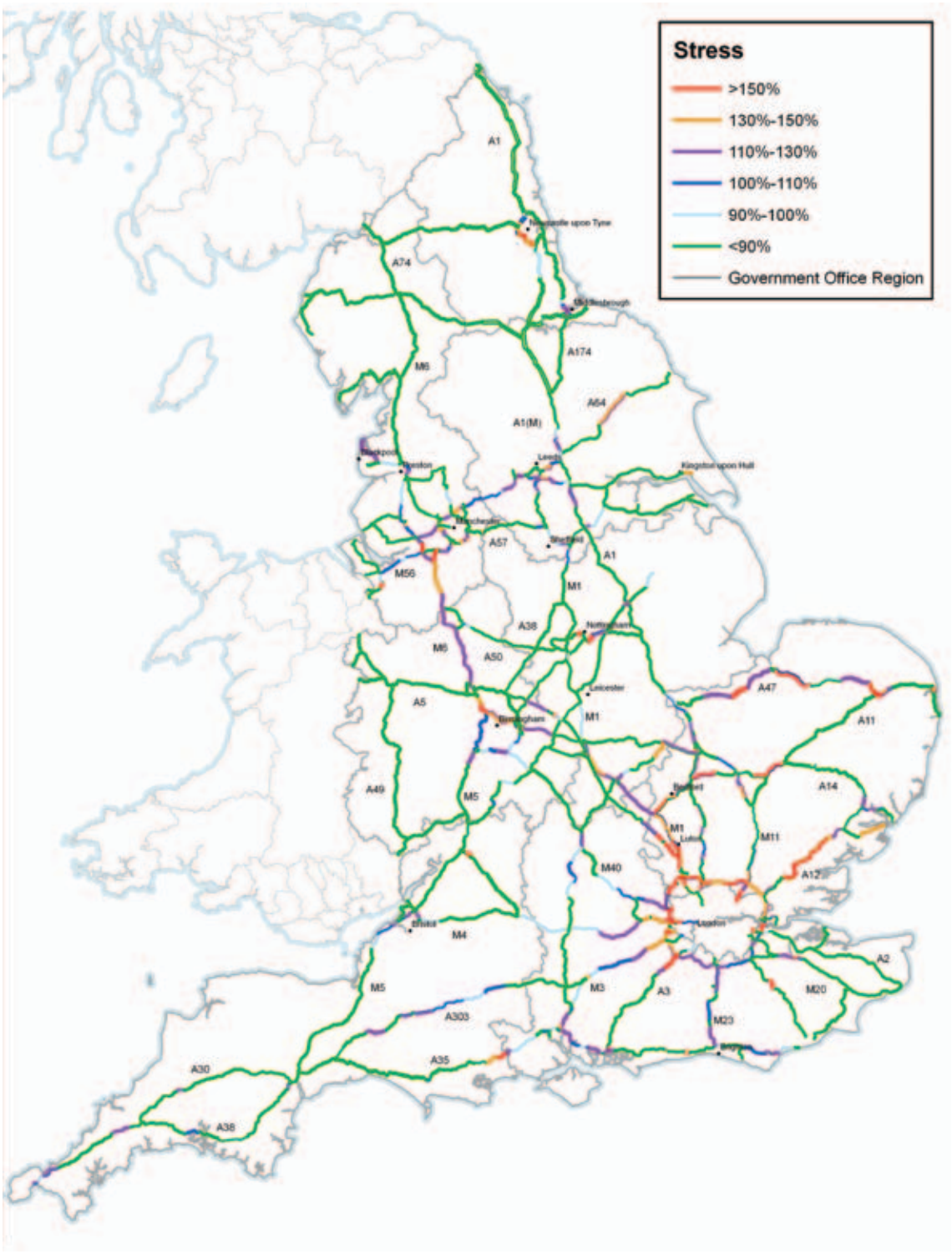
33 http://collections.europarchive.org/tna/20100408160254/http:/www.dft.gov.uk/about/strategy/transportstrategy/eddingtonstudy/, Volume 2, paras 3.18 & 3.19

34 Eddington based his calculation on 2002 prices and came up with a figure of £24 billion. The £32 billion is this figure expressed in 2011 prices.

35 www.racfoundation.org/research/economics/Roads-and-Reality

36 www.dft.gov.uk/publications/road-transport-forecast-dft-ntm-results-2009

**Figure 5: Stress on the English Strategic Road Network in 2006**[37]




37 www.racfoundation.org/assets/rac_foundation/content/downloadables/roads_and_reality-glaister_et_al-041207.pdf

**Figure 6: Stress on the English Strategic Road Network with traffic at 40% above 2006 levels[38]**


All of these estimates of future levels of road congestion were made before the Coalition Government's Comprehensive Spending Review of October 2010, since which the number of planned road schemes has been cut yet further, leaving us even less well equipped to cope with the difficulties ahead.

38 ibid.

# 7. Comprehensive Cuts?

On first reading there were some welcome sentiments expressed by the Government in the Comprehensive Spending Review:

> '…the Chancellor pledged to make the tough choices that will allow us to maintain investment in new and existing infrastructure that will support a growing economy… Our Spending Review settlement is based on… taking hard decisions about priorities that have allowed us to secure the investment in vital transport infrastructure that will support the national economic recovery.'[39]

This message is consistent with the principles set out in the Eddington study.[40] It was also good to hear that the Government was protecting transport capital expenditure.

39 http://nds.coi.gov.uk/clientmicrosite/Content/Detail.aspx?ClientId=202&NewsAreaId=2&ReleaseID=416118&SubjectId=3

40 http://collections.europarchive.org/tna/20100408160254/http:/www.dft.gov.uk/about/strategy/transportstrategy/eddingtonstudy/

However, the headlines obscured some worrying detail. Whereas the average capital spend on rail over the four years is being increased by 20%,[41] the average capital spend on the Highways Agency will be cut by 35%. Highways Agency resource spending – money that is spent on the day-to-day running of a department, and the delivery of public services – is to reduce by 23%, and local government transport resource spend will shrink by 28%.

Many of the schemes to be delayed or withdrawn by local government are capital or maintenance programmes for roads – some of them large schemes. Other public transport activities will also be badly affected, particularly local bus services. By the time of the Comprehensive Spending Review, the Programme of Major Schemes (referred to in Section 3) comprised 48 projects. Few of these survived the Review unscathed, with the then Secretary of State Philip Hammond announcing that:

- 8 projects already underway would continue to completion;
- 14 more would begin by April 2015;
- 14 were postponed till after 2015;
- 4 were earmarked for reappraisal; and
- 8 were cancelled completely on the grounds they could not be adequately funded in the foreseeable future.[42]

Nor did all local transport schemes – road and non-road alike – survive the Review. Philip Hammond announced a 'prioritisation exercise' to determine which local schemes already in the pipeline through the old system of Regional Funding Allocations would proceed, given that the total Department for Transport contribution needed was £1.7 billion, but a mere £900 million was now available in this new age of austerity.[43]

41 Compared with the 2010–11 baseline. All the figures are in cash terms and will be further eroded by the effect of inflation. Incidentally, the government committed £750 million over the four-year review period to preparation for HS2 between London and Birmingham (which could not open in less than twelve years' time), a scheme that could eventually cost the taxpayer an estimated £17 billion.

42 The current status of Highways Agency schemes can be seen at www.highways.gov.uk/roads/29356.aspx.

43 www2.dft.gov.uk/pgr/regional/ltp/major/transportschemes/

The consultancy group Arup[44] and the RAC Foundation have analysed those Highways Agency and local authority projects which the Department for Transport is presently unable or unwilling to fund – a total of 96. Their geographical location is shown in Figure 7.

**Figure 7: Map of national and local road projects awaiting funding[45]**


44 www.racfoundation.org/assets/rac_foundation/content/downloadables/providing_and_funding_strategic_roads-arup-071111.pdf

45 ibid.

The total capital cost – and hence the funding gap – of the projects reviewed (where cost data is available) is currently estimated at £10.8 billion. Of the 96 projects identified, 61 are sponsored by the Highways Agency and 35 by local authorities.

Some of the major local authority schemes might still receive funding through a bidding process run by the Department for Transport to encourage cost-saving initiatives, though the funding gap consists largely of Highways Agency-led projects, with those accounting for £9.3 billion of the £10.8 billion shortfall identified. The unfunded projects would primarily have delivered targeted capacity improvements on the existing road network, rather than new connections.

Contrary to what might be expected from a group of unfunded projects, they have the potential to deliver strong economic benefits. On average they would give £2.8 million of benefits for every £1 million invested. This compares favourably, for example, with the benefit:cost ratio (BCR) of 1.6 estimated by the Department for Transport for HS2 between London and Birmingham. The top ten unfunded schemes by BCR are set out in Table 4. None of these has a BCR below 6.0.

**Table 4: Top ten unfunded projects as ordered by published benefit: cost ratios[46]**

| Project | Cost (£ million, 2010 values) | BCR |
|---|---|---|
| A21 Tonbridge to Pembury Dualling | 117 | 11.0 |
| Leeds Inner Ring Road | 43 | 10.0 |
| A18-A180 Link | 8 | 9.7 |
| Kingskerswell Bypass | 110 | 8.0 |
| A453 Widening (M1 Junction 24 to A52 Nottingham) | 153 | 7.8 |
| A47 Blofield to North Burlingham | 26 | 7.1 |
| A45 Westbound Bridge | 13 | 7.0 |
| A5-M1 Link (Dunstable Northern Bypass) | 146 | 6.5 |
| Evesham Bridge Maintenance | 14 | 6.4 |
| A38(M) Tame Viaduct | 31 | 6.3 |

46 ibid.

Even as Philip Hammond took his red pen to so many road schemes, he acknowledged the value of similar ones he was retaining:

> '…the fourteen [major road] schemes confirmed today will make a major contribution to the development of Britain's economy. For every pound invested, there will be over six pounds of public benefits. On some schemes, this figure will be higher than ten.'[47]

It is not as if the formula for the BCR calculations is particularly skewed in the favour of roads, as Mr Hammond also recognised:

> 'We have the best appraisal system in Whitehall, there's no question about that. The Department for Transport's appraisal system is more objective, more quantitative than anything else across Whitehall.'[48]

There is another positive side to many road schemes, not reflected in appraisals. Unlike *grands projets* – such as HS2 – they are often relatively small and therefore relatively affordable, and do not risk crowding out other transport investment. They also tend to deliver benefits sooner than the blockbusters.

Yet despite all the positive arguments, here we remain: in a position where there is now even less planned investment in national and local road capacity than at the time when the forecasts of worsening congestion were originally made.

47 www2.dft.gov.uk/pgr/roads/network/strategic/highwaystransportschemes/pdf/highwaystransportschemes.pdf

48 Quoted in *Local Transport Today*, 12 November 2010. This was followed in April 2011 by the results of a departmental review of the appraisal process which made only relatively minor changes to the system: www.dft.gov.uk/news/statements/hammond-20110427

# 8. The Environmental Imperative

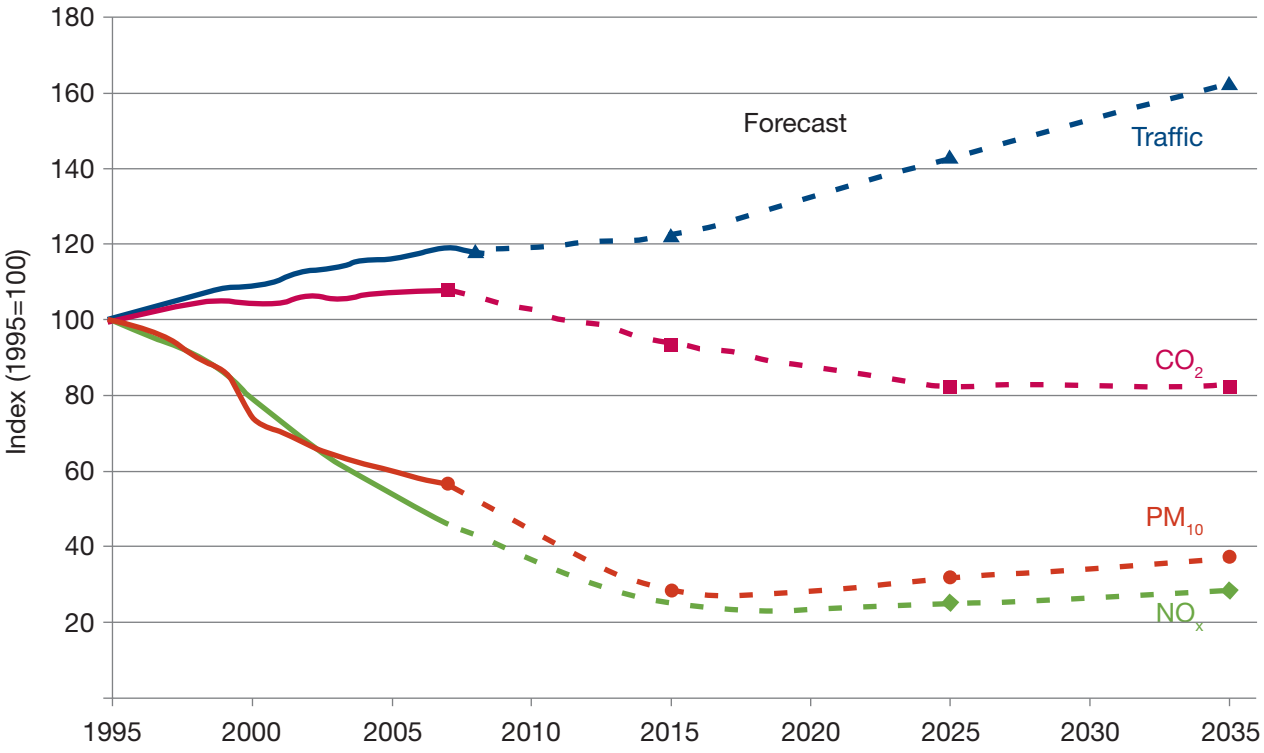
Surface transport accounts for 24% of the UK's emissions of $CO_2$ (the predominant greenhouse gas). According to the Committee on Climate Change these 'were dominated by emissions from cars (61% of $CO_2$ emissions), vans (13%) and HGVs (18%)'.[49]

Given our obligations under the Climate Change Act 2008, this is cause for concern. National law requires the UK to cut its emissions of greenhouse gases by 80% by 2050, relative to 1990 levels. Yet despite these ambitious and overriding objectives, it is possible to reconcile the predicted rise in traffic with a fall in $CO_2$ emissions[50] (as Figure 8 shows), until at least 2035. Beyond this, much will depend on the continued and extensive decarbonisation of the vehicle fleet, and the success of any measures that are introduced to manage further traffic growth. Behavioural change will also play a part.

49 $CO_2$ is the predominant greenhouse gas, and total emissions of greenhouse gases are usually measured in terms of $CO_2$ equivalent. The figures quoted come from the Committee on Climate Change's third progress report to Parliament – www.theccc.org.uk/reports/3rd-progress-report

50 There have already been significant reductions in local air pollutants. Between 1999 and 2009 emissions of CO fell by 76%; $NO_x$ by 55%; $PM_{10}$ by 36%; Pb down 99%; and $SO_2$ down 94% – www2.dft.gov.uk/pgr/statistics/datatablespublications/energyenvironment/localpollution/env0301.xls


**Figure 8: Historical and forecast traffic and emissions data[51]**




The Committee on Climate Change says that to meet its recommendations, government should aim to ensure that there are 1.7 million electric cars and plug-in hybrids on the road by 2020, and that a decade later 60% of all new cars sold should be electric.[52] Clearly this is a huge challenge, given that the current car parc (the number of UK-registered cars on the roads) is 28 million

51 http://assets.dft.gov.uk/publications/road-transport-forecasts-2009-results-from-the-department-for-transport-s-national-transport-model/forecasts2009.pdf

52 www.theccc.org.uk/news/press-releases/873-uk-should-commit-to-a-60-cut-in-emissions-by-2030-as-a-contribution-to-global-efforts-to-combat-climate-change-7-december-2010

strong, and that there are doubts about electric vehicles' cost, range, battery life and residual values – as can be seen in early sales figures.[53] But low-carbon vehicles do not just equal pure electric vehicles.

The RAC Foundation believes that much of the short- and medium-term progress in cutting carbon emissions will stem from the further refinement of the internal combustion engine – particularly if combined with lightweighting, improved aerodynamics and lower rolling resistance tyres – and the wider use of hybrid technology. The car industry's recent record on this gives grounds for optimism.

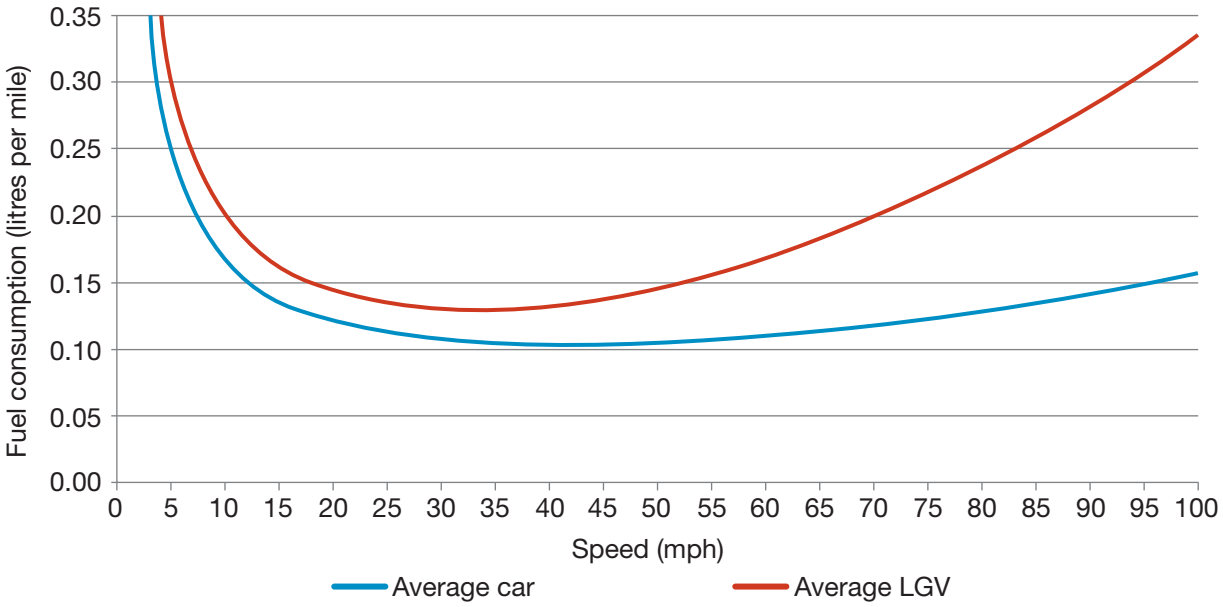
53 In the first nine months that it was running – up to the end of September 2011 – just 786 cars were purchased under the Government's Plug-in Car Grant scheme which is offering consumers grants of up to £5,000 to reduce the price of cars emitting 75 $gCO_2$/km or less – www.dft.gov.uk/topics/sustainable/olev/plug-in-car-grant/

In 2010 the average new car in the UK emitted 144 $gCO_2$/km – 20% down on 2000 levels.[54] And according to a study by the European Federation for Transport and Environment, $CO_2$ emissions from all new car sales by the major manufacturers were 3.7% lower in 2010 than in the previous year, with an industry average of 140 $gCO_2$/km.[55] The study also found that:

> 'The top four in terms of fleet-average $CO_2$ emissions remains unchanged. Fiat leads with 126 g/km, followed by Toyota, PSA [Peugeot Citroën] and Renault. Daimler remains last on the list, having reduced $CO_2$ in 2010 by a below-average 3%. The industry as a whole is only 7% away from hitting its 130 g/km target for 2015, last year it still had a 11% gap to close.'

All of this is encouraging, yet our efforts to reduce emissions would be more successful still if we could meaningfully tackle congestion. Figure 9 explains why.

**Figure 9: Speed and fuel consumption, average cars and vans[56]**




Note: LGV – light goods vehicle

There is a very clear correlation between the speed at which vehicles travel and the amount of $CO_2$ they produce. Simply put, congestion – and at the other end of the scale, high speed – increase fuel consumption per mile and hence $CO_2$ emissions.

54 www.smmt.co.uk/shop/new-car-co2-report-mar-2011/

55 www.transportenvironment.org/Publications/prep_hand_out/lid/653

56 Data from www.dft.gov.uk/webtag/documents/expert/unit3.5.6.php

# 9. Alternatives to Car Use

Of course if a sizeable number of us found an alternative to using our cars, then our worries about the jams and their consequences – including the impact on our collective carbon footprint – would evaporate. We could spend our time, trouble and money addressing other issues. It is crucial that we encourage people to substitute their car use with something else where possible, but the evidence suggests that while such measures can reduce demand for personal motorised travel, they are not enough to stem the tide of congestion.

While the 2010 National Travel Survey[57] shows that the number of trips we make as individuals is decreasing noticeably, the overall distance we are covering is only slightly down:

- Between 1995/97 and 2010, overall trip rates fell by 12%. Trips by private modes of transport fell by 14% while public transport modes increased by 8%. Walking trips saw the largest decrease.
- In 2010, there was an average of 960 trips per person per year – the lowest level since the mid-1970s.
- Average distance travelled per person per year remained relatively stable until 2007, but has declined slightly over the subsequent three years.

Our general reliance on the car has not passed ministers by. Speaking in Japan in September 2011, Philip Hammond said:

> '…Government recognises the absolute centrality of the car to people's lives. For many journeys it is, and will remain, the only practical and convenient choice. Indeed, 84% of all journeys in the UK are undertaken by car. The enemy is not the car, it's the carbon.'[58]

Our collective reliance on the car was underlined by findings in the 2011 RAC Report on Motoring:

> 'A third of drivers still believe "most people in cars could use public transport instead" – which has been constant for the last four years. But equally, almost four in five would find it "very difficult to adjust my lifestyle to being without a car" – again a consistent view over the last few years.'[59]

57 www.dft.gov.uk/statistics/releases/national-travel-survey-2010

58 And, he might have added, the jams. In fact, as the previous section makes clear, the carbon we can deal with – www.dft.gov.uk/news/speeches/hammond-20110921

59 www.rac.co.uk/report-on-motoring/report-2011/the-necessity-of-motoring/

Unsurprisingly, according to the same report, there is a divide between urban and rural car users:

- Of drivers living in a rural area, 72% are dependent on a car for shopping, compared to 39% living in an urban area.
- Of drivers living in a rural area, 69% are dependent on a car for work, compared to 30% living in an urban area.

The Ipsos MORI survey referred to in Section 6 found that 60% of drivers and passengers stated that they could not replace many, or indeed any, of their existing car trips by public transport, cycling or walking.[60]

So just how far can modal shift go?

According to the Integrated Transport Commission, not far – at least not far when it comes to long-distance travel (anything over 50 miles), which accounts for just 3% of all mechanised trips but nearly a third of total distance travelled.

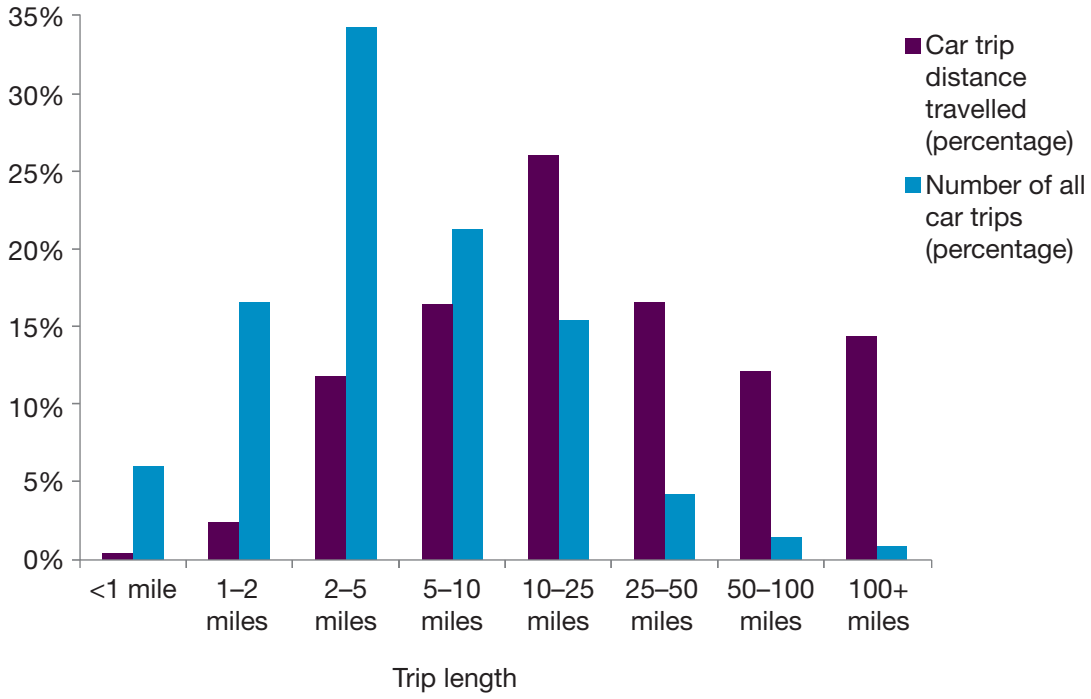
> 'There seems to be little scope to influence choice of mode for long distance travel – changes in cost or time may suppress or generate travel on one mode but do not appear to switch many people to other modes. Most long distance journeys seem to be chosen with a particular mode in mind – "I can get there by train so that's where I will go and that's how I will travel." If policy-makers wish, for example, to cut travel by air or car, they must act directly on the mode itself. Improvements to rail or coach services will do little to attract people out of cars or planes.'[61]

There is a similar uphill struggle to change behaviour when it comes to medium-distance journeys – those between 5 and 50 miles – where the practicality and availability of alternatives is extremely limited. As Figure 10 shows, there is a high number of relatively short car trips, but the greatest distance is accounted for by trips of between 5 and 50 miles. It is distance, not the amount of trips, which determines the consumption of road space and the volume of $CO_2$ emitted. Realistically, it is difficult to envisage many trips longer than five miles being transferred away from the car to walking or cycling.

60 Ipsos MORI survey for the RAC Foundation, September 2011.

61 www.theitc.org.uk/docs/2.pdf

**Figure 10: Number and distance of car trips (driver and passenger) by trip length for Great Britain[62]**




When it comes to local travel, the 2004–8 Smarter Choices trial is illuminating. It was run in three English towns, involving around 4,000 people in each place. Most of the money was spent on personal travel planning, travel awareness campaigns, and promoting cycling and walking. The result was a reduction in both car trips and car mileage. The evaluation report[63] published in 2010 said:

> 'Car driver trips by residents fell by 9% per person, and car driver distance by 5~7%,[64] according to aggregated household survey results for the three towns. This compares with a fall of about 1% in medium-sized urban areas over the same period, based on NTS [National Travel Survey] data.'

The project demonstrated useful change, but not step change. When viewed against public attitudes, empirical evidence and the large number of trips for which taxis, buses and trains do not provide a suitable alternative, it seems clear that public transport is unlikely to provide the short- or medium-term answer to avoiding a growth in car use.[65]

62 Data from http://assets.dft.gov.uk/statistics/tables/nts0308.xls

63 http://assets.dft.gov.uk/publications/the-effects-of-smarter-choice-programmes-in-the-sustainable-travel-towns-summary-report/summaryreport.pdf

64 Note that this does not equate to a 5–7% drop in traffic, because many of the vehicles in the towns will have been commercial or used by people passing through the area, i.e. non-residents.

65 In the longer term it is possible that land-use planning will allow for easier access of services by public transport.

While cars, vans and taxis account for 85% of passenger miles travelled each year, trains account for just 8% and buses just 5% (and half of those bus trips in England were in London).[66] Even if these last two percentages were significantly increased, doubled even – which they weren't under the Smarter Choices scheme – the reality is that the vast majority of travel would still be predominantly by private car.

There is also the not insignificant matter of the cost of public transport. Railways and buses – on average – cost the taxpayer money in subsidy: 15p per passenger mile travelled on the train;[67] 6p per mile per passenger on the bus. By contrast, drivers of cars and lorries contribute a net 7p per mile to the Exchequer in fuel duty and vehicle excise duty alone (excluding VAT). Even if public transport were an answer, would it be one we could afford? It is hard to see where the funds could sensibly be found to pay for such an approach on the present basis of subsidy-supported services.[68]

Important changes, though still relatively small-scale, in the way in which we access cars will help to limit car ownership (so mitigating on-street parking problems in larger towns and cities); the impact on car usage, however, is not yet fully understood. Car sharing, car clubs and car rental are all growth areas and are likely to make their mark, mainly in large urban areas.[69]

Technology also has a growing impact on our travel patterns. In 2011, 59% of firms offered teleworking as an option to at least some employees (compared to 13% in 2006), and almost all companies (96%) offered at least one form of flexible working – including job sharing, compressed hours, and part-time, flexitime or term-time working.[70] These trends are already established, and may continue to alleviate some of the growth in traffic.

A better understanding is needed of the longer-term scope for alternatives to conventional car use while maintaining the mobility that is essential for the economy and for people's quality of life. At this stage it is difficult to see how outside the major cities there can be much mitigation of growth in car-based demand for travel.

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66 Bicycles, motorcycles and aviation each account for around 1% of passenger miles. Figures come from Transport Statistics Great Britain – www2.dft.gov.uk/pgr/statistics/datatablespublications/tsgb/#complete

67 Calculation based on data from the 2011 McNulty report. While 15p is the average national subsidy, the figures range from 4.8p per mile in London and the South East, to 7.3p for long distance and 31.1p for regional services.

68 Just before the 2010 general election, the Liberal Democrats announced a radical policy to cut the major roads budget up to 2013/14 by 90% and divert £3.5 billion into the railways. Media coverage of the proposals said: 'Councils and transport authorities could bid for money from a new Rail Expansion Fund to improve, reopen or establish services.' See for example www.telegraph.co.uk/news/uknews/road-and-rail-transport/7552211/Lib-Dems-promise-biggest-expansion-of-rail-network-since-Victorian-era.html.

69 www.racfoundation.org/research/mobility/alternative-models-car-use

70 http://employment.cbi.org.uk/media/68109/ets%202011%20june%20-%20navigating%20choppy%20waters.pdf

So we are still left with the need to create and maintain an adequate and properly funded road network that will benefit not only motorists but other road users too: bus, coach and taxi passengers, motorcyclists, cyclists and pedestrians, not to mention the commercial freight and servicing vehicles on which our economy so critically depends.

# 10. Options for Change

The RAC Foundation would argue – indeed has argued in this paper – that congestion is a large and growing problem which for a variety of reasons needs to be tackled. The question is: how?

As we have already suggested, there are options.

The first is that we do nothing: simply sit back, let congestion grow, and live with the consequences. Few would argue that this is desirable.

The second is a short-term tactical package. This involves firstly 'sweating the assets' – squeezing some more capacity from our existing road assets through better management. That this is possible has been demonstrated by the Managed Motorway schemes which employ both hard-shoulder running and variable speed limits to increase capacity and achieve both smoother running and more reliable journeys.

Of the 14 major road schemes approved during the Comprehensive Spending Review, 11 are Managed Motorway projects, and there are more that could be undertaken. Careful management of speeds can increase throughput, improve safety and reduce carbon emissions.

We commend and support this programme, and would like to see it extended as a commitment for all heavily trafficked motorways. The Highways Agency believes that there is scope to introduce hard-shoulder running on 340 (lane) miles of motorway – which is only a small fraction of the total.[71]

While these techniques should be deployed to their fullest extent, the model is not transferable to other road types – only motorways have hard shoulders that can be brought into use. Also, many problems associated with motorways centre on junctions and access roads, as much as the high capacity links themselves.[72]

Secondly, the tactical package would involve some selective road building and improvement. The RAC Foundation fully accepts that we should not and

71 www.highways.gov.uk/news/pressrelease.aspx?pressreleaseid=405160

72 It is, however, true that many urban roads are heavily managed, not least through the use of things like intelligent traffic signals.

cannot 'build ourselves out of trouble', but it is the case that many targeted road enhancement projects have a strong case, deliver excellent value for money, and will bring relief to existing congested hotspots, as well as conferring benefits on adjacent communities where congestion is reduced and environmental impact mitigated.

Modest and affordable though such a package would be, there remains the issue of funding it.

Currently there are only two practical ways of raising extra funds beyond the relatively small sums already being spent. The first is to increase the rates of taxation on road users over and above the already high level. This would be deeply unpopular, given the current squeeze on household expenditure and the high cost of running a car, exemplified best in the near-record-level fuel price that drivers continue to pay. The storm over fuel duty earlier in 2011 shows the anger and frustration felt by many motorists. Certainly there is no rational case for raising significant extra funds from drivers in terms of good general taxation policy, nor on emissions grounds, with the rate of fuel duty significantly in excess of the price of carbon associated with each litre of fuel.[73] Such a move would also conflict with policies on social inclusion and the wish to help those in rural areas.

An alternative, conventional, way to raise money would be to divert government spending from other areas. In effect this would mean spending a higher proportion of existing motoring tax revenue on roads. This has been proposed many times over many years, but there is no sign of government accepting the logic of ring-fencing a higher proportion of road tax revenue, particularly in the present economic circumstances. In part, the continued inability of 34 million drivers to get a fairer deal is a symptom of the lack of both a single, coherent consumer voice for motorists and a regulator to ensure that motorists get the service from the road network that they have paid for. There continues to be no formal recognition that road users are paying a great deal in return for the use of an asset – and, in contrast to the situation with our other utilities, far more than it costs to provide that asset.

There is a third option, one that leads to a fundamental change in the way that roads are governed, road users are charged, and demand is managed.

73 www.racfoundation.org/assets/rac_foundation/content/downloadables/carbon_prices-smmt-300309.pdf


159
Streatham Station

# 11. A New System of Governance

You have to feel sorry for the Highways Agency. It is responsible for running one of the nation's most vital assets. A third of all traffic – including two thirds of all freight – travels on the roads under its control. Yet the Agency leads an essentially hand-to-mouth existence, with no more than very short-term guarantees of funding levels.


It is all so very different on the railways.

To start with, railway planning operates on a five-year cycle. At the start of each such period, two documents are produced. One is the Statement of Funds Available, the guaranteed sum of money coming from the government, and the other is the High Level Output Specification, essentially an agreed list of what the cash is to be spent on.

Then it is over to the Office of Rail Regulation to make sure that the money is used as it was intended. As for train passengers, they can take any complaints they might have to a consumer watchdog that has their best interests at heart.

There is a similar long-term view taken amongst the privatised utilities. Take water companies for example. They are required to come up with 25-year plans detailing how they will ensure the supply of water to the nation a quarter-century hence.

The RAC Foundation would argue that the time has come for a larger degree of independence, and a greater strategic role, to be considered for the Highways Agency.

That the Government instigated the Cook Review 'to examine whether Government has the right approach to operating maintaining and enhancing the strategic road network' was welcome.[74] However, Alan Cook's terms of reference precluded him from considering any form of pay-as-you-go driving, something which the RAC Foundation believes should lie at the heart of any examination of road governance and funding.

74 The Review was carried out by Alan Cook, non-executive chairman of the Highways Agency.

# 12. Pay As You Go

France, Spain, Portugal, Singapore, Italy, Germany, Sweden, Australia, the USA;[75] visit any of these countries and you are likely to pay a direct charge to use certain roads, often in proportion to the distance covered.

'Pay As You Go' go is a concept we are all deeply familiar with and find wholly acceptable. Phone charges are based on how much we talk and when we do so. Electricity and gas bills are calculated on the amount of energy consumed and the time of day it is used. Increasingly, water usage is also metered. Even in the transport sphere – on trains and planes, buses and coaches – we are comfortable with, or at least understand, the idea of differential pricing related to when we travel, and where we travel to.

75 www.racfoundation.org/assets/rac_foundation/content/downloadables/acceptability_of_road_pricing-walker-2011.pdf



So why are things so very different on the roads? Why isn't pay-as-you-go charging being considered? After all, it has the potential to solve some very big problems.

Depending on the type of scheme introduced, it could:

- reduce congestion by altering driver behaviour, thus smoothing and reducing demand;
- reward those who travel frugally;
- potentially raise extra revenue for spending on better road maintenance, better traffic management, improved safety and targeted investment in new capacity;
- benefit drivers of low-carbon vehicles; and
- help replace the projected drop in fuel duty revenue as people switch to green cars.

This last point might not be a priority for drivers, but is one which the Treasury must address. It has certainly not escaped the attention of the Office for Budget Responsibility. Assuming the 2009 forecasts for traffic growth, an annual oil price rise of 2.7%, an increase in fuel duty in line with annual inflation of 3.2%, and the meeting of EU and Committee on Climate Change targets on fuel efficiency, the Office for Budget Responsibility calculates that fuel duty receipts will fall markedly over the next 20 years: 'Demand for fuel would decline by up to 20%, with the fall most evident between 2020 and 2030.'[76]

Figures 11 and 12 tell the story.

76 http://budgetresponsibility.independent.gov.uk/wordpress/docs/FSR2011.pdf

**Figure 11: Historical and future fuel consumption[77]**

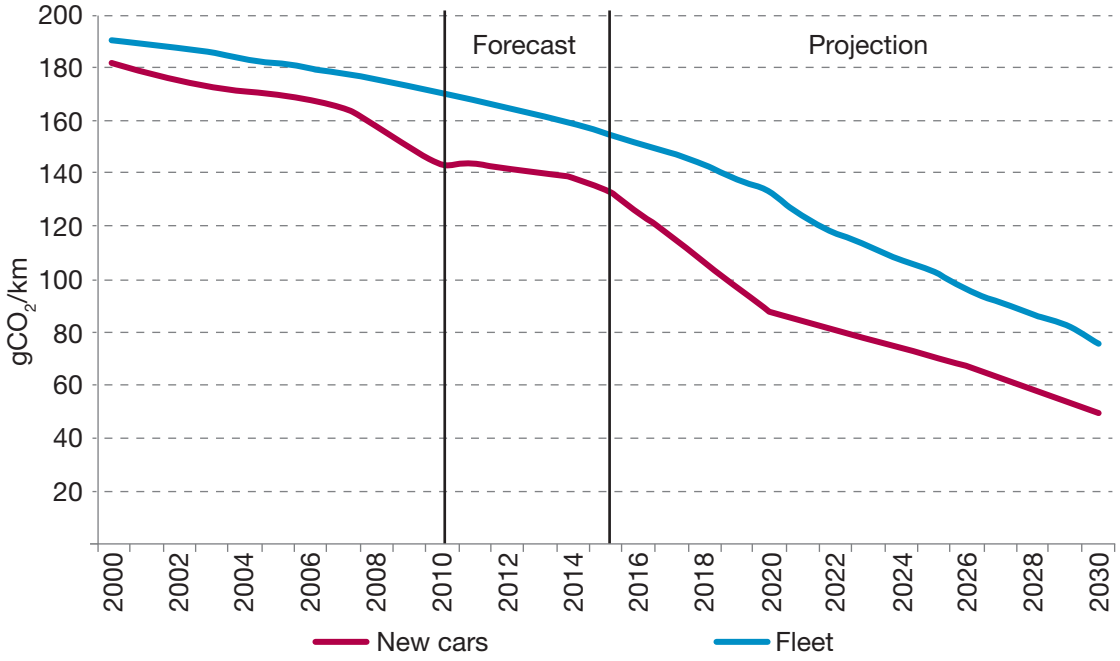
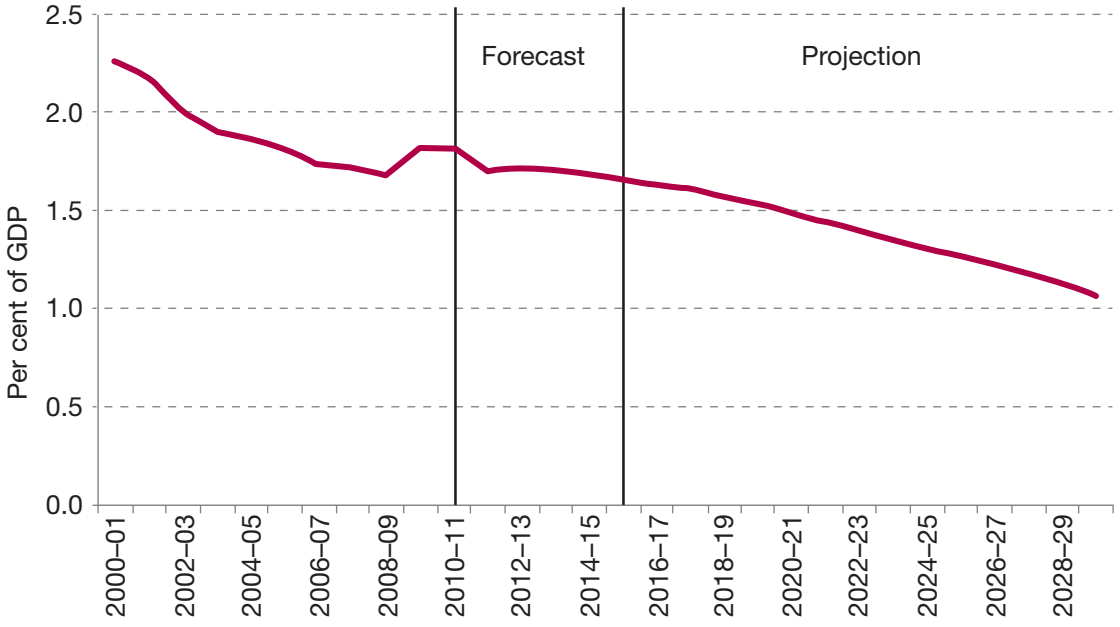



**Figure 12: Historical and future fuel duty receipts[78]**




77 ibid.

78 ibid.

The current motoring taxation system is in danger of creating a serious distortion and inequity between users of pure electric vehicles and those owning vehicles which use petrol or diesel. Viewed over a number of years of ownership, electric vehicles may appear affordable to consumers in spite of their higher initial purchase price (which is due to the cost of the batteries), because electricity is much cheaper than conventional fuel. This is a largely artificial difference due to the fact that hydrocarbon fuels carry a high rate of duty whereas electricity does not: an electric vehicle owner, charging their car at home, will only pay 5% VAT on their 'fuel',[79] whereas their neighbour using a petrol or diesel car will be paying 57.95p per litre in duty, and VAT at 20% on top of that. As electric vehicles come to be more common it will become harder to sustain this distortion, yet if the differential is reduced then the buyers of electric vehicles may begin to feel that they have been misled.

Clearly, an alternative long-term method of collecting revenue from drivers, such as Pay As You Go, should be appealing to the Treasury. But what's in it for drivers?

The crucial point about any pay-as-you-go system is that it would for the most part be a replacement for – or a variation on[80] – the current tax regime endured by motorists, rather than simply an addition to it.

There are myriad permutations,[81] but under most of them drivers would see a reduction in, or the near abolition of, vehicle excise duty[82] and a significant cut in fuel duty, if not its complete elimination. To ease its introduction, the system might initially be run on a voluntary opt-in basis.[83]

It might be limited to the Strategic Road Network, or implemented across all roads. It might be based simply on distance and time travelled, or might also

79 Though there is likely to be a carbon element within the price, as most electricity generating companies will have had to pay for carbon credits through the EU's Emissions Trading Scheme.

80 The RAC Foundation has published two discussion papers – one by Brian Wadsworth and the other by Phil Carey – which suggest creative ways in which a pay-as-you-go system might first be introduced – see www.racfoundation.org/assets/rac_foundation/content/downloadables/moving_on-wadsworth-171011.pdf and www.racfoundation.org/assets/rac_foundation/content/downloadables/a_fairer_way_to_drive-carey-181011.pdf

81 Some of those permutations are discussed and illustrated in the RAC Foundation paper *Funding Strategic Roads* (forthcoming).

82 To encourage the purchase of low-carbon cars, there might be a large-scale, close to revenue-neutral, feebate system in operation that would subsidise purchasers of the greenest models and surcharge those opting for more fuel-hungry vehicles. Feebates have already made a large impact in France. According to the Institute for Public Policy Research: 'While it [the feebate scheme] has drawn criticism for offering overly generous rebates and not charging high enough fees, its emissions-related benefits appear to have been significant, with the French fleet average falling by 11 per cent between 2007 and 2009 (that is, since the scheme's introduction).' – www.ippr.org/images/media/files/publication/2011/10/untying-the-knot_Oct2011_8106.pdf

83 When developing a pay-as-you-go pricing system it will be important to factor in the 'rebound effect' which might result in some drivers travelling much greater distances by car because it has suddenly become much more affordable for them to do so.

reflect the green credentials of the vehicle being driven, as seen in the proposal for a national scheme in the Netherlands:

> 'The fixed car taxes (motor vehicle tax and vehicle purchase tax) will be eliminated. In the future, you will only pay for the miles you actually drive. A base tariff per kilometre driven in the Netherlands will apply. The amount of the base tariff will be based on your vehicle's $CO_2$ emissions. In addition, you may pay a per-kilometre surcharge on driving particularly busy routes during rush hours.
>
> As we start driving smarter and paying more attention to $CO_2$ emissions, we will be reducing traffic and helping the environment. If we can reduce the number of cars on the road during peak commute hours by 10%, we can eliminate traffic jams.'[84]

The principle of the need for a national scheme seemed to be accepted by the majority of Dutch drivers. According to a survey of 400,000 of its members, the Royal Dutch Touring Club (ANWB) found that:

> 'Paying for use is still regarded as a fair way of calculating costs. A majority accepted it as a logical development that this would lead to higher costs for those who drive a lot.'[85]

It has been argued that a pay-as-you-go system would be an infringement of people's privacy because their movements would be tracked. An opinion poll for the RAC Foundation suggests otherwise. The survey, conducted by Ipsos MORI, found that of all the possible concerns associated with pay-as-you-go road charging, privacy came at the bottom of the list.[86]

It is not as if the RAC Foundation is alone in calling for pay-as-you-go charging to be considered. Others who have – to a greater or lesser degree – identified its potential merit include:

- **The CBI:** 'We need ministerial decisions that get spades in the ground and people working now. There are large amounts of business capital waiting to be unlocked if the Government achieves a step-change on transport, for example with the introduction of road tolls. Capital investment must return to pre-recession levels at the earliest opportunity.'[87]
  'Charging has merits despite public concerns. The CBI has long

84 www.racfoundation.org/assets/rac_foundation/content/downloadables/road_governance_faqs.pdf

85 The scheme was put on hold after a change of government, but the principle is now being reconsidered.

86 www.racfoundation.org/assets/rac_foundation/content/downloadables/road_use_survey-rac_foundation-062010pdf.pdf

87 www.cbi.org.uk/media-centre/press-releases/2011/09/investment-in-infrastructure-would-kick-start-uk-growth%E2%80%93new-cbi-kpmg-survey/

recognised that road pricing (whether through local congestion charging or a national road pricing scheme), could have business benefits as part of a comprehensive policy to tackle congestion.'[88]

- **Chartered Institution of Highways and Transportation:** 'The current pressures on UK public spending combined with an improved public understanding of what is required have created an opportunity to consider the introduction of road pricing. CIHT believe that road pricing at both the national and local level stands out in its potential to deliver economic, social and environmental benefits.'[89]
- **Committee on Climate Change:** 'There is a good economic rationale to introduce road pricing and thereby reduce congestion.'[90]
- **The Eddington Transport Study:** '[the size of the potential benefits from road pricing] is so striking that it has to be taken seriously as a policy measure to support economic growth.'[91]
- **Freight Transport Association:** 'We support road pricing schemes that benefit businesses and contribute to tackling traffic congestion.'[92]
- **The Institute for Public Policy Research:** 'From 2015, the next government should begin voluntary trials of road-user charges for cars and vans in which participants are given fuel duty relief, so that they do not have to pay twice to use the roads.
  At the same time, the government of the day should look to build out from these trials, gradually offering more UK motorists the opportunity to "pay-as-you-drive", with variable charges according to vehicle $CO_2$ emissions and the distance and time of the journey.'[93]
- **RAC Motoring Services:** 'RAC supports the use of road user charging as one of a number of measures to tackle congestion on the busiest roads in the UK. However, it is vital that motorists are provided with realistic alternatives to travel by car. Upfront investment is needed to provide a safe, affordable and reliable public transport system.
  RAC believes that the prime objective of any road pricing initiative should be to ease congestion on the busiest roads at peak times. Fairness, transparency, privacy and accessibility should be principles which underpin any scheme.'[94]
- **Tony Blair:** 'I know many people's biggest worry about road pricing is that it will be a "stealth tax" on motorists. It won't. Road pricing is about tackling congestion.'[95]

88 http://webcache.googleusercontent.com/search?q=cache:http://www.cbi.org.uk/pdf/20100315-cbi-tackling-congestion.pdf

89 www.ciht.org.uk/en/media-centre/news.cfm/ciht-supports-cbi-call-for-investment-in-uk-infrastructure

90 www.theccc.org.uk/sectors/surface-transport/behaviour-change

91 http://collections.europarchive.org/tna/20100408160254/http://www.dft.gov.uk/adobepdf/187604/206711/volume3.pdf

92 www.fta.co.uk/policy_and_compliance/road/road_network/road_pricing.html

93 www.ippr.org/images/media/files/publication/2011/10/untying-the-knot_Oct2011_8106.pdf

94 www.rac.co.uk/press-centre/media-library/factsheets/road-pricing.html

95 www.guardian.co.uk/commentisfree/2007/feb/21/thatemail

Yet conspicuous by its absence from this list is the Coalition Government. When he was Secretary of State for Transport, Philip Hammond consistently dismissed talk of road pricing on the current road network – though, it should be said, not on new roads. In July 2010 he told the Transport Select Committee:

> '…the Coalition Government has ruled out the introduction of national road user charging during the current Parliament other than for heavy goods vehicles, where we have a commitment to introducing a lorry road user charge. This is for existing road infrastructure. We are, however, completely open to the suggestion that entirely new roads could be funded by private capital supported by tolling or charging for the use of those roads.'

More recently his Coalition partners have said the same thing. Business Secretary Vince Cable told the Guardian newspaper on 16 September 2011:

> 'I'm tiptoeing around the coalition agreement here, which says that existing roads [will not be tolled] but there is no reason why new roads shouldn't be financed that way.
> The important priority is that we get our infrastructure improved… and that's a sensible way of doing it.'[96]

Sensible perhaps, but still only a start. So while the Pay As You Go files gather dust in the Department for Transport's Marsham Street offices, the situation on the roads gets ever worse.

96 www.guardian.co.uk/politics/2011/sep/16/vince-cable-urgent-economic-stimulus

# 13. The Final Word

The first and foremost conclusion of this paper is that there is a major problem on the road network – congestion. And it is set to get worse.

To many people it is obvious. To the RAC Foundation it is obvious. But judging by the lack of a long-term strategy to deal with it, it is still not a priority for politicians. This is not merely an observation about the current government; it has been a general truth for decades.

Part of the reason for this political myopia is most likely a lack of cross-party consensus on what a comprehensive solution might look like.

Another part of the reason is that there is little short-term advantage in being the politician who instigates potentially difficult change. You get all of the aggravation with little or none of the reward – that is reserved for a successor down the line.

So, given that the challenges of maintaining the nation's mobility will not be overcome overnight, the risk is that they will not be overcome at all – or at least not until they get very much worse, by which stage the damage done will be much larger, the costs of reform greater, and the time in which to act shorter.

A further part of the reason is that the problem of congestion tends to increase steadily, not seismically. The decline in standards has tended to be gradual rather than precipitous, and so drivers have – to some extent – come to grin and bear it. This is not to say that they aren't deeply frustrated and fearful of the future, or that they do not want to see action taken.

Take Natalie for example. She lives near Watford, is a mother of two and has a part-time job. Her life revolves around car journeys: taking the children to and from school; getting to and from work; going shopping. No two days ever seem to be the same on the roads she uses.

> 'I don't really have a choice other than to drive. Sometimes it's OK road wise, but other times it can be an absolute nightmare. It really can be: road closures and that sort of stuff. I mean I have turned up to work before at 10 o'clock because of traffic. It really just depends.'

The uncertainties lead to frustration and tension.

> 'When I have got the children with me and they are like "Mum, I am going to be late for school!", that's what stresses me out. Well, I can't do anything about it, but it certainly adds stress and it's horrible.'

Over time she has noticed more people on the roads; more cars, more traffic.

> 'You look at some of the motorways sometimes and you are like, what? Look at them. It's bumper to bumper. It's crazy. Obviously there are too many cars on the road. But it is also accidents, road works. There are literally too many cars on the road. Simple as.'

Nigel lives 100 miles north-west of Natalie in Birmingham. He is a sales engineer who in the course of his job covers around 35,000 miles a year on some of the nation's busiest roads: visiting clients; going to his company's factory in Warrington; travelling to and from the head office in Welwyn Garden City. Over the 20 years or so he has been driving, traffic conditions have worsened.

> 'The volume has increased, certainly. There are a lot more vehicles on the road now. It is a lottery, you can't be sure that you are going to get around the place in the time you think it is going to take you. It is frustrating. You can sit in a queue of traffic for 40 minutes and then suddenly the traffic starts to move. You just don't know.'

Nigel acknowledges that investment has improved certain parts of the network. The M6 relief road, for example, has been beneficial.

> 'A lot of people like me who used to go up the A38 now go up the toll road. It's nice! And then you rejoin the M6 and it is almost like walking from a nice area to a bad one. It's just not the same.'

He doesn't understand why road maintenance can't be carried out on a preventative rather than reactive basis.

> 'You know carriageways are going to wear out, so why wait for the potholes?'

Nigel encounters congestion most days of the week, but it is invariably worst on Fridays. So much so that he usually chooses to spend the day working from home.

> 'Friday afternoons are a no-no in this town, and probably most of the country really. We have a telephone sales conference call every Friday morning and then we tend to do our admin because it is just pointless trying to get around the region: the traffic dictates our activity.'

There is little in current transport policy that will make either Nigel's or Natalie's driving experience significantly better in the years ahead. In fact, despite their stoicism, things are set to deteriorate. Which is not just bad news for them, but also the rest of the nation's 34 million drivers and the whole economy.[97]

97 Natalie and Nigel were interviewed on behalf of the RAC Foundation by Ipsos MORI. You can hear more of their thoughts at www.racfoundation.org/research/mobility/keeping-the-nation-moving.

The Royal Automobile Club Foundation for Motoring Limited is a charity which explores the economic, mobility, safety and environmental issues relating to roads and responsible road users. Independent and authoritative research, carried out for the public benefit, is central to the Foundation's activities.

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