



Department
for Transport

Action for Roads

A network for the 21st century



July 2013



Action for Roads

A network for the 21st century

Presented to Parliament
by the Secretary of State for Transport
by Command of Her Majesty

July 2013

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Foreword



We need to maximise every one of our economic advantages, and deal with every factor that holds us back if we are to succeed in the global race.

Transport is one of the most important factors in making our country prosper. As a densely-populated island, we should benefit from being better connected and more compact. This government has already committed to a major transformation of the rail network. However roads remain the most heavily used mode of transport for people and businesses and we need to give them the same attention.

Over decades we have learnt more about where we need to improve roads and where other forms of transport work best, and how to manage demand across different modes. We are also preparing for new technology and setting up the UK as a global leader in ultra-low emission vehicles.

In June, we announced in *Investing in Britain's Future* the biggest-ever upgrade of our existing roads, worth up to £50 billion over the next generation. We have approved or advanced 52 national road projects since 2010, and we are addressing some of the most serious problems on our network. We are putting in place studies so we can deliver results on long-standing problems, and funding the maintenance needed to keep the network as a whole in top condition.

But it is equally important that our roads are run well, so that the money we do spend has the biggest impact. That is why we will reform the Highways Agency, giving it the flexibility and the vision it needs to be the world's leading highways operator. More certainty, clearer instructions and less political interference will mean greater efficiency and a better service to motorists and the environment.

This deal needs to work for the individual motorist, for bus users and cyclists, and for the economy at large. It needs to work for local roads as well as national, and it needs to work for the environment. It needs to be a framework that can give the Highways Agency and its suppliers the foundations they need to invest for the future, meaning lower costs and long-term jobs.

The proposals laid out in this paper are the most radical change to the management of our highways in nearly half a century, and the biggest investment in improvements since the seventies. Together, they will transform the way our roads feel and function, securing delivery and driving growth for a generation.

A handwritten signature in black ink that reads "Patrick McLoughlin." The signature is written in a cursive, slightly slanted style.

The Rt Hon Patrick McLoughlin MP
Secretary of State for Transport

Executive summary

The growing challenge

1. The road network is vital to our nation and a crucial part of the national transport system. It provides real and direct economic benefits: to business, to workers, to consumers. Better connections support individual towns and cities and strengthen the country as a whole. Failures of the road network increase costs, stifle employment opportunities and make it harder to do business in the UK.
2. As a compact, well-connected island, transport should be one of our advantages. Instead, in recent decades we have been falling behind other countries. Since 1990, France has built 2,700 miles of new motorway – more than the entire UK motorway network put together. The UK is now ranked twenty-fourth in the world for roads, behind many other developed countries. Winning the global race means taking the challenges on our roads seriously.
3. Technology will have a radical impact on the way we drive in the years ahead, making cars easier to drive and reducing pollution. However, continued growth of the economy and population, together with improvements to the fuel efficiency of vehicles, means that traffic in many areas will rise in the coming decades.
4. The challenge is both to make best use of the network we have, and also to plan ahead to help the economy grow.

Transforming strategic roads

5. We have just announced the biggest-ever upgrade of our motorways and key A roads – our strategic road network. By 2021, spending on road enhancements will have tripled from today's levels, and we will have resurfaced 80% of the network. This is a genuinely transformational package, every bit the equal of the major investments we are making on rail and High Speed 2.
6. In June 2013, the Chief Secretary to the Treasury announced in *Investing for Britain's Future* that we would be:
 - Investing £15.1 billion in our strategic roads by 2021 to counter the effects of past underinvestment.
 - Adding a further 221 lane miles of extra capacity to our busiest motorways.

- Building 52 national road projects in this parliament and the next, subject to value for money and deliverability.
 - Investing more than £12 billion in maintaining our network, including over £6 billion to resurface over 3,000 miles of the strategic road network.
 - Identifying and funding solutions to tackle some of the most notorious and longstanding road hot spots.
7. This means new, improved motorways for the information age, building on pioneering managed motorway schemes to tackle congestion on our busiest links. We will take this technology, which has only been used on specific links, and apply it as a standard to some of our busiest national routes, including a 160 mile corridor along the M1 and M6 from London to the North West.
 8. We will begin treating our most important A roads as ‘expressways’ – roads that aim to provide high standards of safety and performance in the way we expect of our motorways. We want to roll this standard out across key parts of the strategic road network.
 9. Investment in improving roads must come alongside regular maintenance. We will replace 80% of the surfaces on the strategic road network over the next seven years, carrying out this work so as to minimise disruption to motorists and maximise environmental benefits.
 10. This is transformational investment in our roads – and the transformation must take advantage of improvements in environmental techniques. There are many outstanding environmental problems which can be reduced or solved through investment, using a host of techniques from deep-bore tunnels to quiet surfaces. Cooperation with environmental bodies has already helped to reduce the impacts of schemes in recent years.
 11. We also need to use this chance to prepare our network for the rise of ultra-low emission vehicles, to reduce air pollution as well as to combat climate change. To ensure we are able to lead the way towards a decarbonised future, we are currently investing £400 million to help the uptake of new vehicles, and will provide over £500 million of additional capital investment by the end of the decade.
 12. We also want to cycle-proof our network, and minimise the situations where major roads are a barrier to walkers and communities.

Managing our roads

13. Some of the problems faced by our strategic road network are not just a matter of funding. The Highways Agency is responsible for managing these roads for the Secretary of State for Transport. Alan Cook, in his 2011 review, *A Fresh Start for the Strategic Road Network*, highlighted several issues in the institutional relationship between the Agency and central government. We agree that there are problems that can only be resolved through reform.

- The Highways Agency lacks independence from central government, and historically central government has not given the Agency a clear and consistent picture of its long-term aims.
 - The annual funding of the Agency makes it more vulnerable than other parts of transport in difficult times. Stop-start funding makes it harder to secure efficiencies.
 - The Agency has to abide by rules designed for office-based civil service departments. This means extra red tape and limits its ability to attract technical workers and project managers.
 - The work carried out by the Agency lacks a clear yardstick to measure performance against, to help show where greater savings could be made.
- 14.** This makes our road network less efficient. It prevents construction companies from making long-term investments in people and in equipment to manage our strategic roads in the future. It also makes it harder to create a stable, sensible long-term plan for the future of the network.
- 15.** We want to address this challenge, and bring into force some of the key conclusions of the Cook Review. We also intend to provide new safeguards to protect the interests of road users.
- From 2015 onwards, the Highways Agency will have long-term funding certainty on its capital programme and resource maintenance, initially to 2021.
 - In parallel with this we will introduce a Roads Investment Strategy (RIS), setting out plans for construction and maintenance to 2021 and beyond, as well as performance criteria. It will also cover expectations for the operation and management of the network. This will be the first coherent, proactive investment strategy for roads in almost a quarter of a century, and will further drive down costs.
 - To avoid this being a plan without a firm foundation, we will guarantee the requirements of the funding settlement and RIS with legislation. Real certainty will enable savings of up to 20% on maintenance and improvement work, by allowing suppliers to commit to innovative working methods. It will also mean construction companies can invest more in apprenticeships and in training their UK workforce.
 - We will convert the Highways Agency from its present form as an executive agency into a strategic highways company. This body will be 100%-owned by the state, but will be free from many of the red tape requirements of being a part of central government.
- 16.** We will also continue to examine the case for potential further reform, to see whether new arrangements could improve the transparency and accountability of the Highways Agency. Any change needs to be one that motorists can trust, but experience from other sectors and other countries shows that there could be new ways of running the roads which might work for the benefit of all road users.

Supporting local roads

17. Locally-managed roads make up 98% of the road network, and almost every journey starts or ends on a local road. Valued in excess of £400 billion in total, these roads remain the responsibility of local councils. Keeping this network functioning is vital to promoting growth locally and nationally, and also has a daily impact on the lives of millions of people.
18. Local communities have a right to shape the future of their local transport – especially the roles to be played by roads, by different types of public transport and by cycling. We need to give local authorities the freedom, the flexibility and the capacity to make this happen, as well as the skills needed to run their roads efficiently.
19. We also recognise that local authorities need the resources to keep their networks in good condition. In June, the Chancellor announced that we would spend £6 billion over the course of the next parliament to tackle maintenance. This will make sure that we stop the local road network entering a long-term cycle of decline.
20. Since 2011, we have been supporting efforts by local authorities to share knowledge and best practice under the Highways Maintenance Efficiency Programme. We have also been encouraging local authorities to work together, to find opportunities where cooperation and common procurement can cut costs and reduce the pressures on council resources.
21. We continue to take steps to free up other money that local authorities use to fund larger projects. We are already working to reduce the strings attached to local funding for major schemes, and are decentralising decision-making to reduce the number of situations where councils need to get approval from Whitehall before starting work. We are strengthening the role for Local Enterprise Partnerships to shape transport policy. Following the Heseltine Review on economic growth, we are also freeing up local authorities to focus their investment in the problems that are most urgent in their area – including transport.

Fit for the future

22. Taken together, these reforms represent the biggest change to highways management in half a century. Coupled with the largest investment package in forty years, they mark the threshold of a new era for England's roads.

Our next steps

On investment:

- Invest in 52 schemes, including 16 new projects announced for the first time in June 2013.
- Start construction on five major road schemes by April 2014.
- Begin feasibility studies on five problem hotspots on the strategic road network, prioritising solutions.
- Continue with route based strategies for the whole network, to build a next generation of improvements and interventions.

On reform:

- Consult later this year on turning the Highways Agency into a publicly-owned strategic highways company.
- Publish a draft national policy statement for national networks in 2013, with the aim of formally designating the document in 2014.
- Introduce legislation in 2014, providing a stable funding basis for investment and legal powers for the new Highways Agency.
- Produce the first Road Investment Strategy later this parliament, guaranteeing roads investment to 2021.

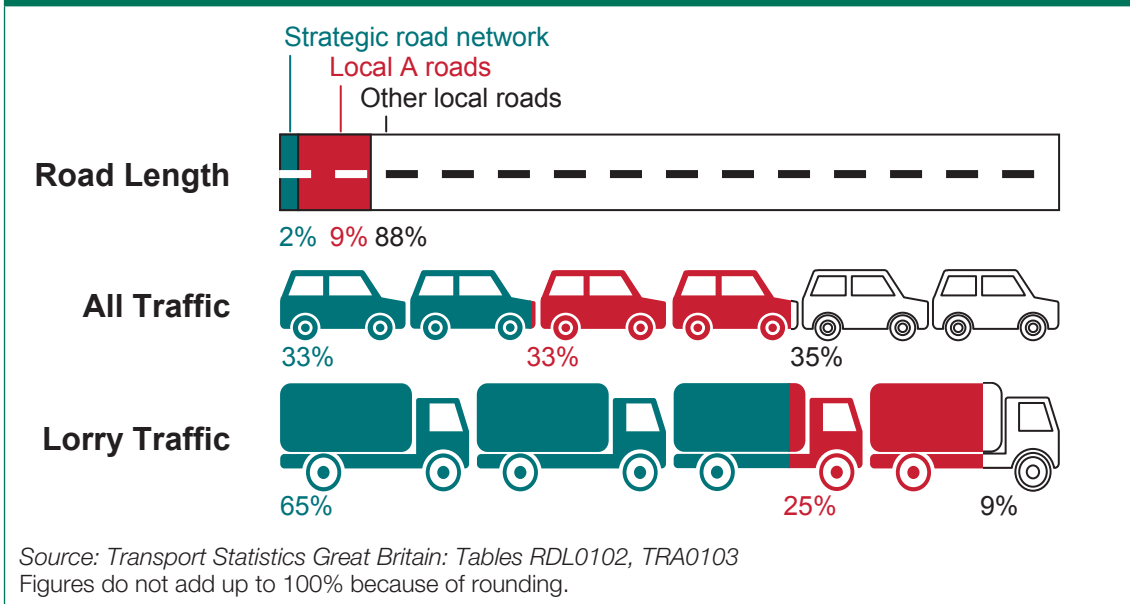
1. Roads and the economy

- The road network is vital to our economy and to our way of life.
- Other nations have invested more in their networks, and business figures surveyed by the World Economics Forum rate our roads worse than many of our European competitors. There are still significant weak points in the UK network.
- In the future, new technology will change the way we drive, but we will also have to deal with extra traffic. The strategic road network is particularly likely to face more pressure.
- The Highways Agency, which runs the strategic road network, needs more freedom and flexibility to deliver the efficiencies seen in other countries.
- Local authorities can benefit from sharing best practice on roads, to help improve maintenance.
- While there have been major gains in environment and safety in recent years, greater investment could mean big improvements in some locations.

- 1.1** Roads are the most heavily used mode of transport in England and a crucial part of the transport network. By volume, they currently account for 90% of passenger journeys and two thirds of freight. Every year passengers travel more than 440 billion vehicle miles by road in the UK.¹ Our factories depend on raw materials brought by road and our shops are filled by a fleet of lorries that is never still.
- 1.2** Central government is directly responsible for the busiest of these roads – the strategic road network. Even though this makes up only 2% of roads in England, these are the arteries of our road network and our national economy. They carry a third of all road traffic and two thirds of freight traffic; an overwhelming majority of long-distance journeys make use of the strategic road network at some point.
- 1.3** Local roads account for the vast majority of the road network and two thirds of all traffic. This network includes many of the busiest roads to city centres, factories and retail parks, as well as the roads to villages, farms and places of leisure. Local roads are the responsibility of local highways authorities, usually the local council.

¹ Transport Statistics Great Britain Table TSGB0101

Figure 1.1 – The road network



Why roads matter

- 1.4** Our road network supports all our daily lives, and everyone in the UK has benefited from the investment made since the 1950s.
- **Roads get us to work.** Two-thirds of all journeys to work are by car.² Recent decades have seen a growing number of commuters who travel long distances by car.
 - **Roads give us access to the goods and services we need.** Even those who never drive still rely on the roads. The network delivers food to supermarkets and goods to shops. It is also vital for those travelling by bus or bicycle.
 - **Roads connect us with family and friends.** As social networks and extended families become more dispersed, transport plays an ever-bigger role in holding them together.
- 1.5** Our road network is also the life-blood of the economy, performing a crucial function in supporting jobs and growth.
- **Roads provide critical connections.** They link major economic centres, and connect our major ports and airports. Many people use them to get to railway stations and to connect to other modes of transport. Four of the new stations planned under High Speed 2 will link to the motorway network.
 - **Roads support job creation and unlock new development.** They provide access to labour markets and unlock new opportunities for factories and businesses. More than 1 million jobs are associated with road transport.³ Factories and other businesses regularly consider access to good roads and other transport connections in making decisions about where to locate.

² Transport Statistics Great Britain, Table TSGB0108

³ Transport Statistics Great Britain, Table TSGB0116

Figure 1.2 – Roads and the economy



- **Roads help the UK compete internationally.** They make the UK a good place to do business, encouraging trade and attracting investment.
 - **Roads support business travel.** A large number of people drive for business. The most visible of these are lorry drivers, who need reliable roads to make their deliveries. But it also includes millions of other people in every part of the economy, from telecoms engineers fixing our broadband to farmers taking goods to market.
- 1.6 Well-connected road infrastructure with sufficient capacity for our needs is a vital component of economic success. However, our roads must overcome significant challenges if they are to keep supporting our economy and driving growth into the future.

Falling behind our competitors

- 1.7 One of the UK's greatest strengths is its compactness. It should be far easier to move between places on a densely-populated island than it is across a continent, and to build economically dynamic cities and regions. Even on a European scale, a journey from London to Manchester is less than half the distance between Berlin and Munich or Paris and Marseilles. Transport should be a comparative advantage of the UK, helping us to compete more effectively with foreign economies.
- 1.8 Instead, past underinvestment has threatened to turn it into a weakness. The World Economic Forum's Global Competitiveness Index ranks Britain twenty-fourth in terms of its road network – behind countries including France, Germany, Austria, Portugal, the Netherlands, Spain, Japan, Canada and the United States.⁴
- 1.9 While UK spending on roads slowed in the nineties and beyond, our competitors have continued to invest. Between 2000 and 2009 only 46 miles of new motorway opened in the UK. Over the same decade France opened over 850 miles, Germany 680 and the Netherlands 225.

Table 1.1 – Motorway networks in Europe

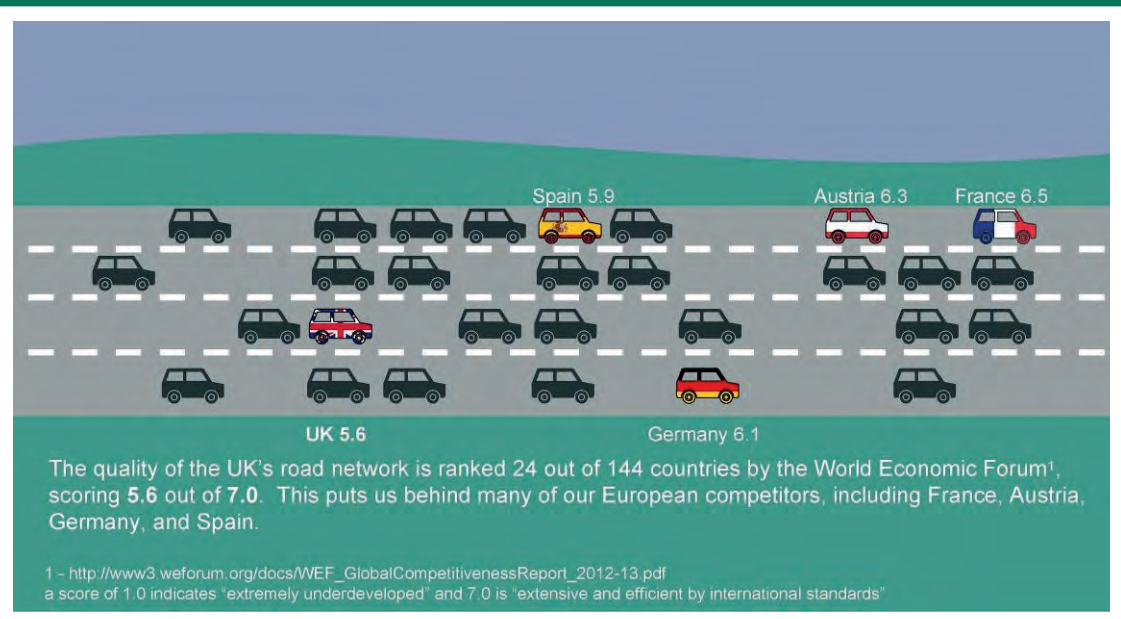
	Motorway network (miles)	Density of network (UK=100)	Motorways built (miles):		Traffic density on motorways (million vehicle miles/mile)
			Since 1990	Since 2000	
France	6950	115	2700	850	39
Germany	7950	237	1200	680	47
UK	2300	100	300	46	113

Source: *EU Transport in Figures: statistical pocketbook 2012*
<http://www.internationaltransportforum.org/statistics/investment/invindex.html>

4 World Economic Forum, *The Global Competitiveness Report 2012-13* p359
http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2012-13.pdf

- 1.10 This reflects how these countries continued to spend on their roads. In 2010, France spent 75% more per head than the UK, and Germany spent at least 40% more.⁵ While the British strategic road network was not too different from its European competitors twenty years ago, it now falls a long way short. Since 1990, the length of new motorway built in France is greater than the whole of the UK network. Further afield, Japan spent almost three times as much on their roads as we did, and Australia and Canada spent more than four times more. This partly reflects the size and topography of these countries – for example France is larger than the UK – but it also shows their commitment to their transport networks.
- 1.11 These countries have not been investing in roads to the exclusion of other modes of transport. Many have also invested in world-class public transport networks at the same time. Since 1990, France has also opened six new TGV lines, and the share of passenger journeys taken by train has increased.⁶ However, they have readily acknowledged the important role that roads play in an effective transport network.

Figure 1.3 – International comparisons



- 1.12 A recent survey by manufacturers' organisation EEF underlined how roads are seen as the most important transport mode for supporting business and manufacturing. More than 60% of overseas investors said that good road transport is critical or important to their investment decisions.⁷ Nearly all small, medium and large firms already in the UK said that road transport plays an important role in their business. For example, every large-scale car assembly plant in the UK is located next to a dual carriageway, in most cases with direct access onto the strategic road network.
- 1.13 However, while our international competitors invested more in their networks, investment in the UK continued to languish. Between 1990 and

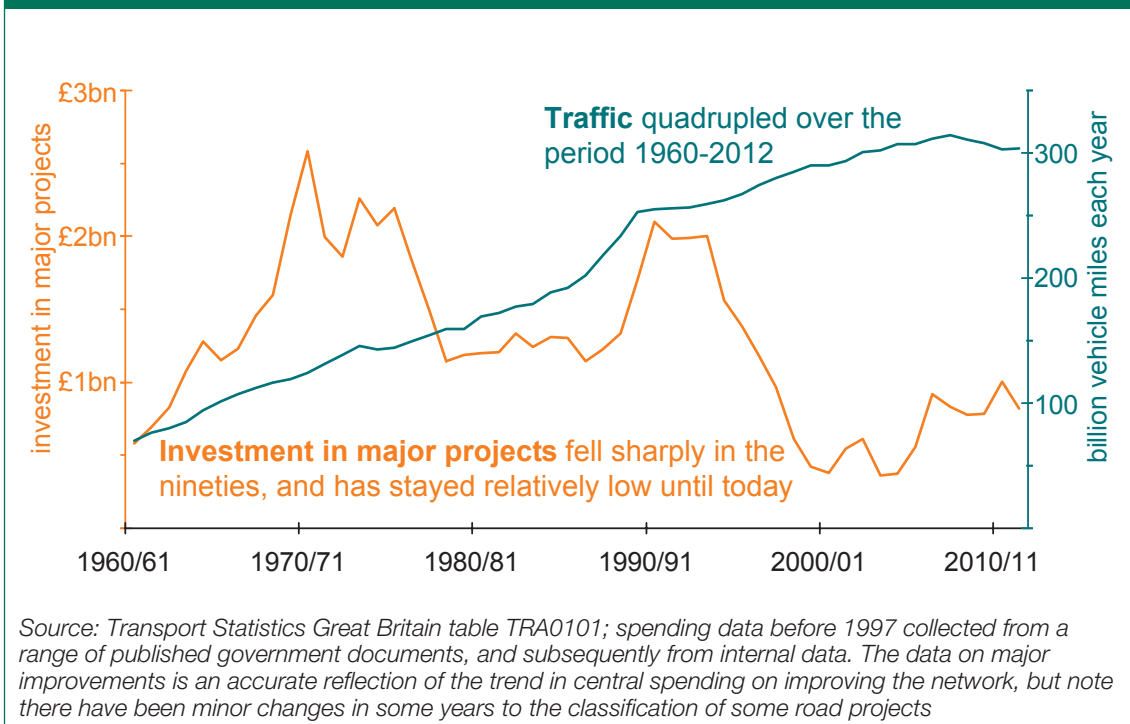
5 Data for Germany does not include expenditure on maintenance.
http://www.internationaltransportforum.org/statistics/investment/Country_Notes.pdf

6 Eurostat transport statistics: Modal split of passenger transport (dataset tsdtr210)

7 EEF: Transport for Growth, 2013

2001, annual spending in real terms on trunk road schemes in England fell from over £2 billion to less than £400 million. Traffic continued to rise, and unlike other nations we did not try to keep up.

Figure 1.4 – Spending on trunk road schemes



- 1.14** Many parts of the network perform very well, particularly those sections where there has been investment in recent years. But other parts have been left in an inadequate state.
- The first motorway link between England and Scotland only opened in 2009.
 - The motorway network does not reach Newcastle and Tyneside, despite decades of lobbying from local business leaders.
 - The entire county of Norfolk has no dual carriageway link to the rest of the road network.
- 1.15** In failing to keep up with other countries, we lost a key edge over our international competitors. This is why we have announced a radical increase in transport investment and a tripling of spending on national road schemes, as outlined in Chapter 2. Better transport, better infrastructure and better performing roads are all necessary if we are to win back the advantage and retake the lead in the global race.

Roads tomorrow

- 1.16** Computers play an increasing role in running our cars. Thirty years ago, the microchip had only just begun to make an impact on car design. Today fuel economy and pollution control equipment, safety features such as anti-lock braking and stability control, and driver information systems such as satellite navigation are commonplace, and are leading a quiet revolution in the way we drive.

1.17 This trend will only accelerate as data processors decrease in cost and increase in power. By 2040, experts expect a world of connected vehicles and road users, where ‘semi-autonomous’ and ‘autonomous’ control of vehicles will be part of life. Vehicles will communicate not only with the road infrastructure, but increasingly with each other. Innovative ways to make vehicles cooperate with one another, such as the ‘platooning’ approach for heavy vehicles on strategic roads, have the potential to make our roads work better for everyone.

1.18 Better information has the power to unlock more value from our road network. Already, drivers can get information about their journeys using the internet, smartphone applications and a dedicated customer information line, allowing them to plan ahead.



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Traffic information can be delivered into the vehicle, keeping drivers aware of changes to the network’s status while they travel. As technology becomes even more sophisticated, it will help drivers further. Advances in communication are also allowing greater flexibility in how we work and shop, with more people taking advantage of home working or online shopping – and some people are using this freedom to move further away from work.

1.19 New technology also carries with it the prospect of a new, greener vehicle fleet. Already, electrically-powered vehicles are a growing presence in the vehicle market. The internal combustion engine is also becoming more efficient in response to environmental concerns. Provided that these technologies are properly supported, ultra-low emission vehicles could eliminate much of the environmental damage from car travel. Drivers, currently beholden to the international fuel market, should see the cost of motoring fall.

1.20 This means that we are potentially on the verge of a great change in the way that we use the roads, and in the way that roads affect our economy and quality of life. New technologies will deliver huge benefits for individual users and for the network as a whole in the future.

New technology in vehicles

Systems are now starting to emerge linking technologies such as lane keep assist, advanced intelligent cruise control and advanced emergency braking. Working together, technologies such as these allow a vehicle to travel along major roads, maintaining a safe distance from the vehicle in front at a set speed and without deviating from its lane – all without the driver's input.

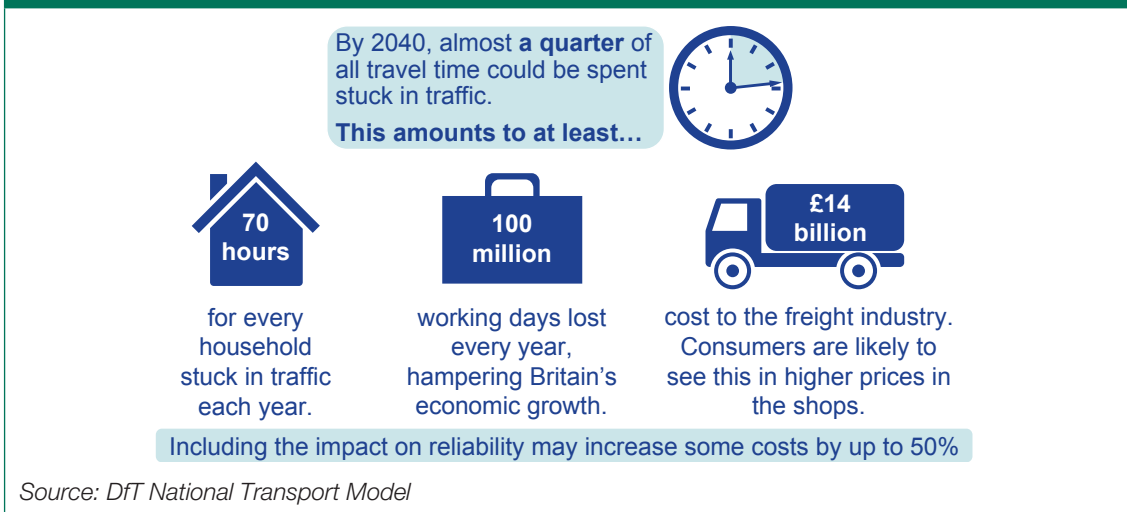
This technology is becoming cheaper and more widely available. By combining a number of intelligent functions in a vehicle using so-called “sensor fusion”, manufacturers are reducing the cost of technology and potentially opening the way for widespread use in mid-range vehicles.

Researchers at Oxford University are currently working with Nissan to use this technology to create semi-autonomous cars. These vehicles will have a driver present but are capable of driving fully independently, using knowledge of the environment in which they are driving. A ground-breaking trial of these vehicles on the road is expected to start later this year.

Fully autonomous cars remain a further step, and for the time being drivers will have the option (and responsibility) of taking control of the vehicle themselves. Vehicle manufacturers and their systems suppliers continue to explore the opportunities for full autonomy. Further progress will depend foremost on ensuring public safety and on updating the law to take account of the new technology.

- 1.21** At the same time, we also expect traffic on the road network to rise. In recent years, the performance of the economy means traffic has fallen. As we return to economic growth, rising prosperity, substantial population increases and a fall in the cost of car travel from fuel efficiency improvements, traffic and congestion are expected to grow. Improvements in technology, making car travel cheaper and more comfortable, may accelerate this trend.
- 1.22** Our latest estimates show that even in the worst economic circumstances and assuming low population growth, traffic levels on strategic roads will be 24% higher in 2040 than they are today. In our central case traffic will rise by 46% above today's levels.
- 1.23** Even under our lowest growth forecasts we would expect traffic growth to cause major increases in congestion, greater delays and more unpredictable journeys. Without action, growing demand will place unsustainable pressure on our roads, constraining the economy, limiting our personal mobility and forcing us to spend more time stuck in traffic. This will mean more pollution and more frustration for motorists.

Figure 1.5 – Costs of congestion in 2040



1.24 Strategic roads may be under more pressure than their local counterparts. Between 2000 and 2012, the last year for which there is confirmed data, motorists drove an extra ten billion miles on strategic roads, while traffic was steady on the rest of the network. Even in the current economic climate, there have been significant increases in traffic on the strategic road network – more than a billion extra vehicle miles since 2010 alone.

Table 1.2 – Traffic on the strategic road network

Year	Traffic volume (million vehicle miles)			Indexed traffic volume (2000=100)		
	Strategic road network	All other roads	All roads	Strategic road network	All other roads	All roads
2000	75.2	174.6	249.8	100	100	100
2001	77.8	175.5	253.3	103	101	102
2002	79.3	179.4	258.7	105	103	104
2003	80.0	180.0	260.0	106	103	104
2004	82.1	181.6	263.7	109	104	106
2005	83.0	180.7	263.7	110	104	106
2006	84.6	182.3	266.9	113	105	107
2007	84.9	184.2	269.1	113	106	108
2008	84.1	182.1	266.3	112	104	106
2009	84.4	179.4	263.7	112	103	106
2010	83.5	176.1	259.6	111	101	104
2011	84.5	175.8	260.3	112	101	104
2012	84.7	174.4	259.1	113	100	104

Source: Department for Transport traffic count data.

These figures take account of a large programme of detrunking that took place over the decade, and which reduced the size of the strategic road network by a third. These figures are for traffic on the network as it is defined today. Other published statistics by the Department for Transport give figures for the network as it was in the year in which the data was collected.

- 1.25** Without investment, conditions on the most important routes are expected to worsen by 2040. By then, around 15% of the entire strategic road network may experience regular peak-time congestion and often suffer poor conditions at other times of the day.
- Major national arteries will start to jam. For example, the M1 in Northamptonshire will start to resemble current conditions on the busiest parts of the M25. Travel from one region to another will become slower and more congested, hampering business.
 - Workers will find their job opportunities constrained by travel times. People travelling between towns and cities in areas like the North West will face significant delays, cutting the number of places where they can easily work.
 - Congestion will work against current efforts to help the economy grow. Enterprise Zones, potential housing sites and areas of high growth will be held back by bottleneck conditions.
 - British businesses will find it harder to access export markets as stress increases on roads to ports and airports.
 - Safety and the environment will also suffer, as congested traffic is more polluting and more at-risk of accidents.
- 1.26** We are investing in the whole of our transport network. We are making a transformational investment in rail, we are revolutionising the rules for local transport and we are finding the long-term answers for aviation. Continued investment in all forms of transport, particularly the railways, will help improve conditions on the roads, and new technology may help us to get more use out of existing capacity. There are some places where more spending on roads would be the wrong answer to local transport problems.
- 1.27** However, the numbers of extra people and the amounts of additional freight are too large to be removed entirely from the roads. The nature of many journeys means that other modes cannot always offer an alternative to car travel. Many people will continue to need to drive on our national network and to use the roads to access areas with the poorest alternative connections. We need to ensure that our transport network provides a good service across all modes.
- 1.28** An effective transport network must work on every level and, if we fail to deal with the problems of road congestion, there will be financial, practical and emotional burdens on us all, and our economy will ultimately bear the costs.

Figure 1.6 – Congestion on the strategic road network in 2010



Figure 1.7 – Predicted congestion on the strategic road network in 2040



Peak car

Recent years have seen a decline in traffic on many roads. Since 2007, road traffic in England has declined by 4%, and since 2010 overall traffic has been largely static. This has happened alongside a rise in the price of oil and poor economic performance, but some commentators have suggested that this is sign of a much deeper change in the nature of road travel. They argue that changes in the nature of travel mean that road traffic has reached a historic peak, and henceforth will remain static or decline.

These travel trends are covered in the recent report, *On the Move*, by a research team led by Professor Peter Jones.⁸ The work breaks down key trends between 1997 and 2010 and analyses key components:

- Driving licence holding amongst young men has fallen by 13%, in line with international trends – partly reflecting the growing costs of insurance and learning to drive.
- The proportion of the vehicle fleet consisting of company cars, which tend to be driven more than other cars, has fallen sharply.
- Traffic in London also fell at the same time as major reductions in road capacity, huge improvements in the provision and quality of public transport, parking constraints and the introduction of the congestion charge.

However, these groups make up less than 30% of the population. The other 70% increased their car mileage right up to the 2007 recession, and among women driving licence holding has risen by 14%.

These are significant developments, and they have resulted in a lower level of traffic than predicted in some earlier forecasts. However, the results do match what existing models would have predicted, had they known how the economy, population growth and the costs of motoring would behave in those years. Furthermore, some one-off causes – such as rises in the cost of insurance – have already had their effect. As growth returns, we still expect to see a return to nationwide traffic growth.

However, it is equally clear that traffic is not behaving in the same way in all parts of the country. The biggest urban areas, particularly London, are seeing very different trends from the rest of the country. One of the respects in which this diversity is most evident is in the difference between strategic roads and their local counterparts. As Table 1.2 shows, between 2000 and 2007 traffic has grown much faster on the strategic road network, and since then it has declined far less. Since 2010, while traffic has dropped on local roads, it has increased by more than a billion vehicle miles on strategic roads.

⁸ *On the Move*, December 2012, written for the RAC Foundation, the Office of Rail Regulation, Independent Transport Commission and Transport Scotland by a research team led by Professor Peter Jones at University College London.

Our latest forecasts, which we have published alongside this paper, support this analysis. They predict that by 2040 traffic on strategic roads will have grown by 46%, based upon central estimates of population growth, economic growth and the decline in the cost of motoring. We have also examined what could happen in a range of different scenarios. In situations where the economy grows faster than expected, where the costs of motoring fall and population grows more quickly, this could mean traffic could grow by as much as 72%. If economic forecasts were downgraded, if population growth stagnated and if motoring technology did not develop as fast as predicted, the increase would be smaller. However, the minimum forecast increase, 24%, is still a substantial rise on current levels.

Managing our strategic roads

- 1.29** To be ready to face these challenges, our strategic road network needs to be well-funded, with the right investment in the right places. However, it also needs to be well run. One of the reasons that Britain has fallen behind other nations in terms of the quality of its road network is because many other countries manage their strategic road networks differently. International comparisons show that other countries can run their roads more efficiently and with greater certainty, because they allow their operators more freedom and greater flexibility.
- 1.30** Many of the shortcomings of our system have already been identified. In 2011, Alan Cook led a review into the management of the strategic road network and suggested that action could produce efficiency savings of 15-20%.⁹ In 2010, Infrastructure UK published a report into reducing costs in major infrastructure projects, which drew particular attention to the negative effects of stop-start spending.¹⁰
- 1.31** Most European countries run their strategic roads at much greater distance from central government.
- In Sweden, the main roads are run by Trafikverket – a semi-independent body set up by the government. Government provides high-level instructions about what it wants to see delivered on the roads and provides funding; Trafikverket then has a large amount of freedom in how to go about delivering these objectives.
 - In Austria, the road network has been transferred to a state-owned company – ASFINAG. This company is funded directly by money raised from road users, with some additional support from government. Politicians are only involved in decision-making on new road schemes.
 - In France, much of the road network is leased to private operators, who are controlled by a series of concession agreements.
 - Further afield, New Zealand funds its roads through money raised directly from motorists, and which cannot be spent on other government activities.

⁹ Alan Cook, *A Fresh Start for the Strategic Road Network*, 2011

¹⁰ HM Treasury, *Infrastructure Cost Review*, 2010

- 1.32** In England, the strategic road network is run by the Highways Agency – an executive agency that forms a part of central government. Government and ministers are regularly involved in the day-to-day questions of running the road network.
- 1.33** Other countries often provide much greater certainty of funding for their strategic highway authorities. This is not the case in England, where funding can vary year-by-year. The Highways Agency is not able to plan ahead for spending in future years, for example by entering cheaper long-term contracts with suppliers.
- 1.34** Experience from the private sector and from abroad has shown that stability of funding helps a network operator to develop a closer relationship with its suppliers. This means that both sides can work together to drive down costs.
- 1.35** Uncertainty has a particularly serious effect on major projects – given that the largest improvements can take ten years to plan and deliver, unstable funding undermines much of the early work. Stop-start funding stifles innovation and prevents different projects from linking together to make shared savings.
- 1.36** The wider uncertainty in the market is especially unhelpful for companies in the construction sector. Road projects require suppliers to bring together large amounts of skilled labour and specialised capital equipment. Doing this for a one-off project is time-consuming and expensive, and a company has to develop a bid that factors these costs in. These costs also increase when companies factor in the uncertainty over whether a project could be delayed or cancelled. Where suppliers have more certainty about future investment, they invest in building a long-term capability, which allows them to cut their costs significantly. They will also be able to operate at higher levels of employment and invest more in training and apprenticeships, rather than employing more expensive temporary labour.
- 1.37** Countries in Europe and elsewhere tend to have a much clearer long-term vision for their roads. Denmark, Spain, Germany, Austria, the Netherlands and Italy all publish fifteen-year infrastructure plans, with five-year roads-specific sections. In France, all road projects are consolidated into a single plan many years ahead of delivery, and while changes in funding might accelerate or slow the overall rate of delivery, suppliers have a clear understanding of the scale of predicted work, where it will be located and what other work is likely to be going on at a similar time.
- 1.38** This kind of long-term planning also allows businesses and the wider community to consider wider questions of investment and planning, giving them a stable base on which to make decisions. However, for the past twenty years almost all roads investment in England has been reactive, and has not linked together into a single plan. As a result, the construction industry has reacted to new spending on a case-by-case basis, and has not invested in the equipment and skills that would create long-term jobs in roads construction.
- 1.39** There are also some problems that are unique to England's strategic road network.

- Much of the spending on other types of transport in England is locked up in long-term settlements. Railway spending is fixed every five years, and significant elements of local government funding are governed by long-term deals or formulae. Spending on the Highways Agency is one of the few areas where the Department for Transport spends a large amount of money with relative flexibility. This means that funding for the strategic road network is put under pressures that are not found in other areas, resulting in short-termism and uncertainty.
- The Highways Agency is limited by UK civil service rules on pay. This does not apply to any other infrastructure network, making it difficult for the Agency to attract all the specialists it needs. It makes it harder for the Agency to compete for the best project managers and procurement specialists. Instead, these experts often go to work on projects overseas. Those that stay in the UK often end up negotiating on behalf of suppliers, rather than working with the Agency to get the best deal for the taxpayer.

Supporting local roads

- 1.40** Valued in excess of £400 billion, the local highway network is the country's most valuable public asset. Taken together, England's local authorities have to manage over 180,000 miles of road, ranging from rural lanes to eight-lane urban motorways. These take in over 52,000 bridges – including icons such as the Tyne bridge – millions of street lights, roundabouts, safety barriers, signs and other equipment.
- 1.41** A well-maintained highway network, including its associated bridges, footways, cycleways and street lighting, is essential for a prosperous economy and a good quality of life. It is also necessary to support successful passenger transport systems, in particular the bus network. It can also help reduce traffic congestion by encouraging safe cycling and walking.
- 1.42** Maintaining this network has become harder in recent years, partly as a result of rising energy and oil prices. Highways maintenance is energy intensive, and oil-based products make up a big part of the materials used to fix or improve road surfaces. The severe weather the country has encountered over the last few years – snow, extreme low temperatures, flooding and, in some areas, drought – has also led to accelerated deterioration in the condition of the highway network. This has come at a time when some local authorities are facing significant financial pressures.
- 1.43** Without action, there is a real risk that the condition of the local highway network will deteriorate at a rate that cannot be checked. This would lead



to more road casualties, road closures, weight or width restrictions, longer journey times and more insurance claims from motorists, all of which have a negative effect on the economy and growth. The costs of fixing the roads will rise exponentially if problems are left unattended – so holding back from work is truly a false economy.

- 1.44** Local authorities know their own network better than any national body or outside observer, and they remain the people best placed to manage their assets. However, one consequence of this division is that a range of different approaches have grown up among the 153 bodies managing local roads. Different approaches to network management have proliferated and simple tasks, which are almost identical across every council, often get carried out in isolation.
- 1.45** The benefit of having numerous local authorities is that many of them come up with innovative approaches to managing their own network. However, these lessons are not always shared, and sometimes are not recognised for the opportunities they present for driving greater efficiency across the rest of the country. Without the proper opportunities to share information, the benefits of innovative ideas cannot be properly exploited.
- 1.46** Councils can also find themselves prevented from investing their own money in maintaining or improving their transport network by the strings attached to their funding. In some areas, an authority may know that the area desperately needs to tackle congestion or build better links to the outside world. However, until recently little could be done to free up funding if Whitehall had decided it should be spent in a particular way.

Environment and safety

- 1.47** Problems on the network are not limited to congestion. Roads and road travel also have significant impacts on the environment. Across the whole of the road network these can broadly be divided into those caused by road construction, such as landscape and biodiversity effects, and those caused primarily by traffic on and around the network, including greenhouse gas emissions, air and noise pollution.
- 1.48** The contribution of road traffic to climate change from carbon dioxide emissions remains a major challenge. Poor air quality also remains a major issue in some locations, and noise can have negative impacts on communities living near roads. Congestion and stop-start traffic, whether queuing for a junction or caught in a traffic jam, exacerbates harmful emissions and air pollution.
- 1.49** In many cases large volumes of traffic use roads that were set down long before the motor car had even been invented. Those roads that follow old routes through villages or sensitive ecological sites will have an ever greater impact on the wider environment.

Case study – A303 Stonehenge

The A303 is one of two strategic routes stretching from London to the South West. One section of the road runs very close to Stonehenge. The stretch of road can be badly congested, and the resultant noise and pollution does much to spoil the character of the World Heritage Site. On an average day, nearly 20,000 vehicles drive within 200 metres of the stones. The bottleneck also holds up traffic to the south-west.



© Peter Titmuss/Alamy

In the mid-1990s the government published plans to replace this section of the A303 with a tunnel. The existing road could then be removed from the site altogether. The scheme proved controversial with some environmental campaigners. While all were agreed that the existing road had a terrible impact on Stonehenge, opponents of the scheme thought that the tunnel needed to be longer and deeper, in order to reduce the traffic impacts even further. At the planning inquiry, opponents objected vigorously to shorter, simpler tunnels or bypass schemes that would direct the road further away. They argued that only the longest, deepest tunnelling option would be appropriate for the site.

In the face of rising costs and continued opposition, government cancelled the project in 2007. Traffic continues to blight Stonehenge. Only with the announcement in June 2013 of a new feasibility study on the A303 is there once again the prospect of a solution.

- 1.50** While the UK continues to have amongst the safest roads in the world, and fatalities and serious injuries are almost half the number they were 15 years ago, road deaths and injuries are a tragedy for all affected.¹¹ Collisions also have a major economic cost, estimated at over £15 billion a year, including insurance payouts and disruption to traffic.¹²
- 1.51** We must continue to push for greater safety, and avoid letting the improvements of recent years breed complacency. Particular attention needs to be given to motorcycling, walking and cycling journeys. While these may represent a relatively small proportion of total journeys on the network, they are the most vulnerable road users, for whom the risk of serious injury or death is greatest.

¹¹ Reported Road Casualties Great Britain: Table RAS30036: 2011 KSI rates compared to 1994-98 average

¹² Reported Road Casualties in Great Britain: 2011 annual report

2. Investing in our network

- We have announced the biggest-ever upgrade of our existing roads, with a massive investment to fix congested roads.
- This will include adding hundreds of miles of extra lanes on the busiest motorways, through the use of new managed motorway technology.
- On the rest of the strategic road network, we want to upgrade key roads to a new 'expressway' standard.
- To make sure that all of our network remains in good condition, we will invest over £6 billion in a major programme of maintenance, as part of a wider £12 billion programme, and will resurface 80% of the strategic network.

2.1 Our strategic roads are a legacy of the twentieth century. We want to take this network and make it work for the needs of this century as well. In order to make our road network truly world-class, we need to make real improvements, both to fix the bottlenecks on the existing network and to open up new opportunities for growth. Our motorways need greater investment, and the best of our A roads need to become corridors of opportunity.

Figure 2.1 – The strategic road network

1,850 miles of motorway

2,580 miles of trunk A-roads

Carries one third of all road traffic and two thirds of freight

85bn

vehicle miles travelled on the network in 2012

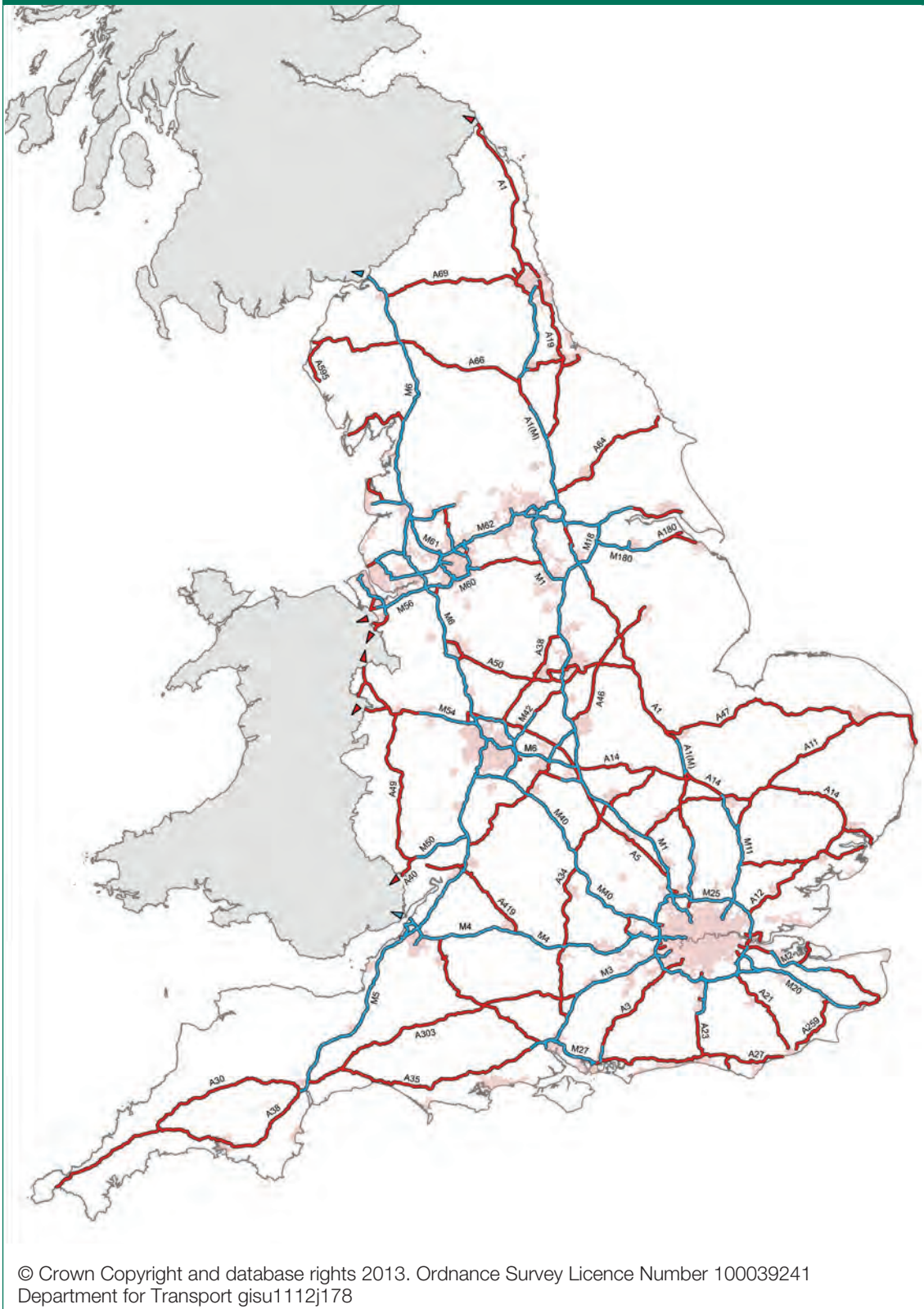
86%

of people use the network in any one year

£2bn

cost to the economy of congestion on the network
(not counting reliability effects)

Figure 2.2 – The strategic road network

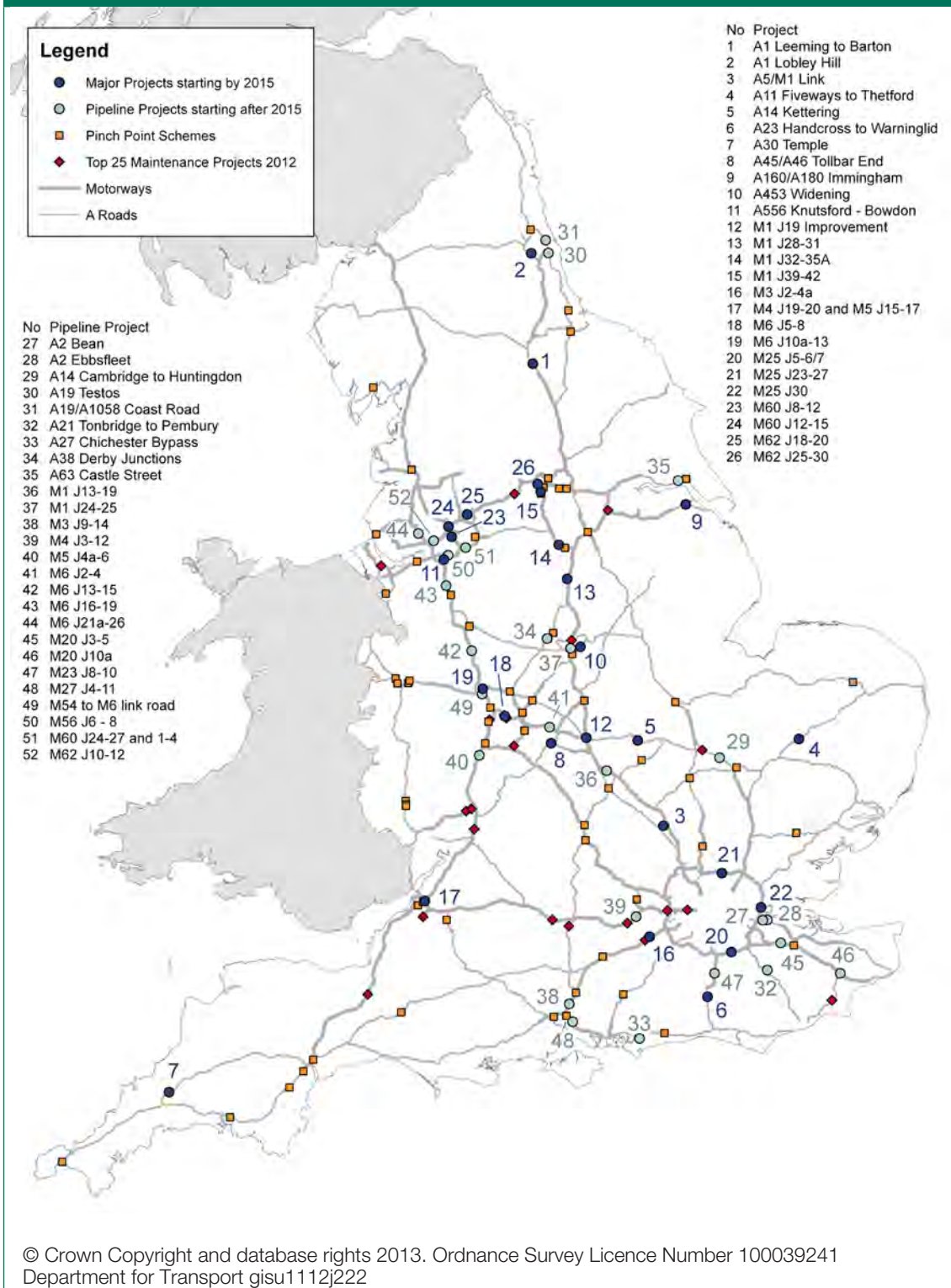


- 2.2** We recognise how important the road network is to the national economy. In June, *Investing in Britain's Future* announced the biggest-ever upgrade of the road network, with investment in improvements trebling by the end of the decade. This will mark the start of a generation-defining programme of works on the strategic road network, worth between £30 to 50 billion over a

10-15 year period. This will upgrade the nation's roads to an entirely new standard.

- 2.3** Since 2010, the government has steadily tackled some of the worst gaps in the network. In 2011, work began on the last section of the A11 needed to link Norwich and Norfolk to the rest of the dual carriageway network. In 2012, funding was approved for the missing link in the A1(M), creating the first all-motorway route from Newcastle and Tyneside to the rest of the network. This year, we have backed the schemes needed to create a four-lane managed motorway corridor nearly all the way from London via Birmingham to the North West. This matches the major commitments being made to the rail network.
- 2.4** Now we want to accelerate the pace further. We are adding extra lanes to more of the busiest motorways by opening up the hard shoulder. This is equivalent to adding at least an additional 221 miles of extra capacity to the busiest arteries of the country's transport network, on top of over 200 miles of existing planned investment.
- 2.5** We are going to build 52 national road projects, subject to value for money and deliverability considerations, in order to tackle the most congested parts of the network. These will include key strategic projects such as:
- Improving the A14 between Cambridge and Huntingdon – one of the most important links for freight to access European markets.
 - Introducing four lane capacity on the M4 from London to Reading – one of the most congested parts of the motorway network in the country and vital for providing access to Heathrow.
- 2.6** We are now building all of the outstanding projects in the Highways Agency's pipeline of future schemes, and have embarked on a series of route based strategies to develop the next generation of investment plans for the network.
- 2.7** We plan to upgrade the majority of the non-motorway roads on the strategic road network, with a large proportion improved to dual-carriageway with grade-separated junctions (where vehicles on the main road are able to drive over or under the junctions), to ensure freer-flowing traffic nationwide.
- 2.8** Some strategic roads, including some of the most notorious hot-spots in the country, have long been recognised as being in need of a comprehensive solution. We will identify and fund feasibility studies looking at problems on the A303 to the South West, the A27 on the south coast, the A1 north of Newcastle, A1 Newcastle-Gateshead Western bypass and trans-Pennine routes between Sheffield and Manchester. These will spotlight these routes for the capital investment needed to fix longstanding problems.

Figure 2.3 – Investment in the strategic road network



2.9 In addition to advancing major projects, we are already tackling over 120 smaller pinch-points, where small improvements at junctions, new sliproads or upgraded technology can make a real improvement to journeys.

2.10 Coupled with this, we have been making a sustained effort to keep the network well-maintained. Around a third of investment in our national roads is spent on maintenance and renewals, and we will commit over £6 billion between now and 2021 to replacing worn out road surfaces, bridges,

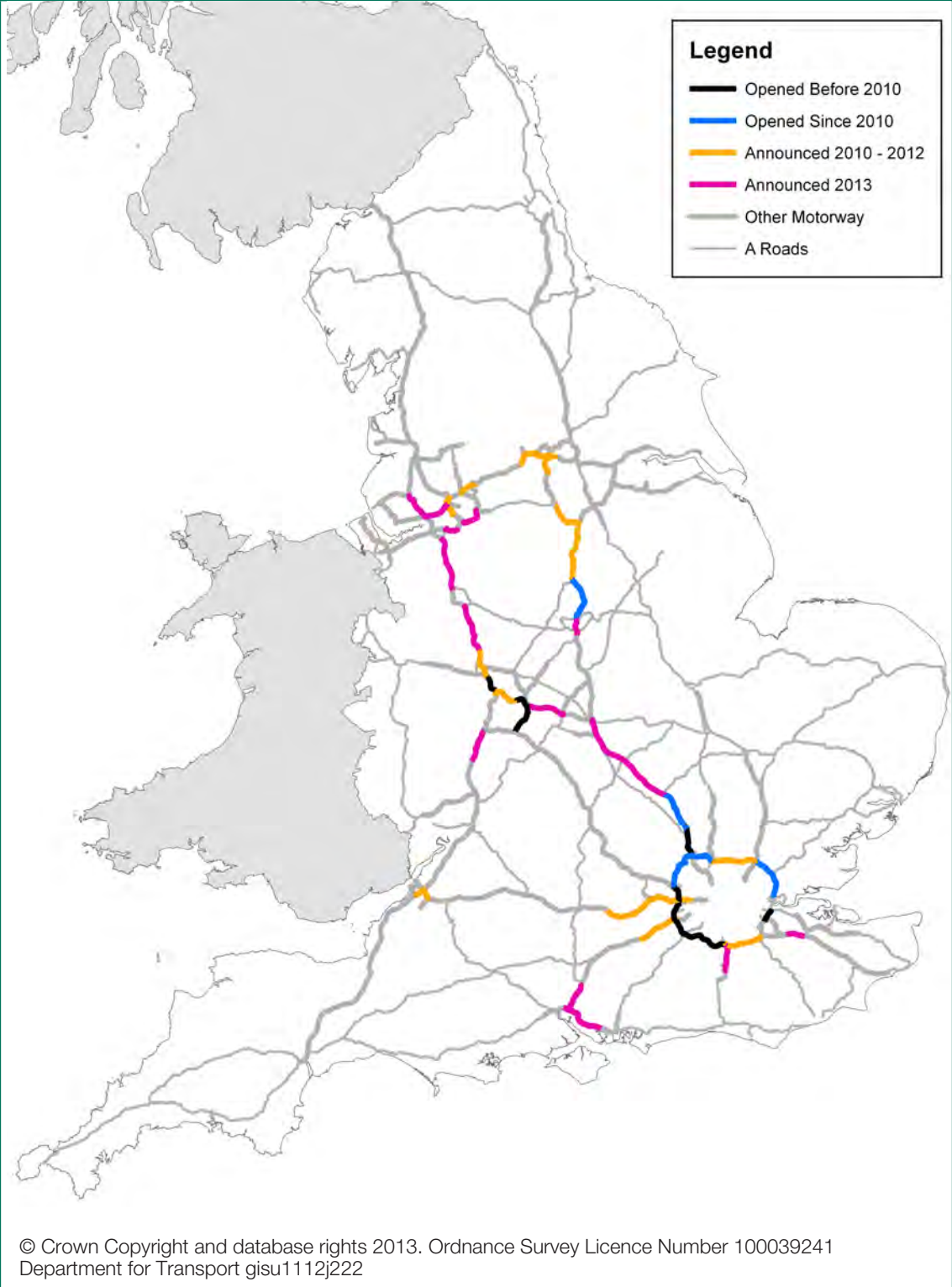
drains, lights and signs. We recognise that the needs of network maintenance will increase in the years ahead, as infrastructure built in the sixties and seventies continues to age. From 2015 to 2021, we will increase our investment in maintenance and resurface as much as 80% of the strategic road network.

- 2.11** This represents the biggest sustained commitment to road improvements in decades, and will decisively make up for the underinvestment of the past twenty years. When this is complete, we will have a network that is the envy of the world.

Motorways for the digital age

- 2.12** In recent years, we have become world-leaders in the use of technology and traffic management to improve the flow of traffic on our motorways – measures known collectively as managed motorways. This brings together many technology developments such as MIDAS (motorway incident detection system), variable messaging and a national state of the art communication system. Overall, managed motorways have been a great success story, improving traffic management and the safety of day-to-day operations while opening up a whole additional lane to traffic at busy times.
- 2.13** As a result, we are committing to this technology on a grand scale. Of the 26 new Highways Agency national roads schemes due to start work by 2015, 13 are managed motorway schemes.
- 2.14** Taken individually, these are isolated projects. However, the schemes announced in *Investing in Britain's Future* start to connect this together into a joined-up network of four-lane motorways that will link together England's core cities. Once these schemes have all been constructed, a 160-mile corridor of managed or widened motorway will stretch nearly all the way from London to Birmingham and the North West along the M1 and M6. This modernised, technologically advanced highway is the future of our motorway network, and in years to come similar connections will link cities in Yorkshire and the East Midlands.
- 2.15** Because of the way managed motorways work, they have many advantages over conventional widening. They can be introduced without the need to take large amounts of land. They have a significant impact on journey reliability and fewer environmental impacts. They can also be delivered at up to 40% less cost with improved safety.

Figure 2.4 – Managed and controlled motorways



Managed motorways – the results

In March 2011, results were published for the first three years of the first managed motorway trial on the M42. It showed that accidents had more than halved since hard shoulder running was introduced, that there was also an overall reduction in the severity of accidents and that there had been no fatalities whatsoever. The road was handling substantially more traffic, journey times were 24% faster and fewer vehicles experienced slow conditions. Reliability was much better, which meant that the emissions from individual vehicles went down and noise levels reduced.



Building expressways

- 2.16** Our major A roads play an important role in the economy, especially for freight. Roads like the A12 in the East of England, the A19 in the North East and the A30 west into Cornwall are vital to their communities, and just as important as motorways are elsewhere in the country. These routes make up a majority of the non-motorway strategic road network. They need as much attention as our motorways, and need to present motorists with a similar quality of journey.
- 2.17** Just like on a motorway we want to give motorists a clear idea of what they can expect from these ‘expressways’. As part of our investment programme, we will set clear expectations for what expressways should be able to deliver. They will be:
- **Expected to meet a minimum standard** – a dual carriageway that is safe, well-built and resilient to delay.
 - **Subject to much clearer expectations over performance** – so the Agency is held to account for how well traffic is moving.
- 2.18** This standard is already met in many places on the strategic road network. However, because the network has been built in sections rather than as a whole, there are many places where a road is partly at expressway standard and partly not. Even well-developed roads include sections that pre-date modern standards, and which were originally built for vehicles driving at a much slower pace than modern traffic. This inconsistency, particularly where it leaves a bottleneck in what would otherwise be an expressway throughout, can reduce the usefulness of the entire road.

2.19 We will prioritise fixing these problems. The exact pattern of investment will need to follow the priorities set down by the Agency's route based strategies, but following a programme of widespread interventions, expressways should be as visibly distinct from the rest of the road network as motorways are today. This means:

- **High standards**, with route and junctions selected to give a high quality of journey, and with the capacity to handle strategic traffic.
- **Introducing technology**, to better manage traffic and to provide more information to motorists.
- **Safety near motorway standard**, closing the gap between expressways and the very safest roads.
- **Good maintenance a top priority**, with problems dealt with at an early stage.



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Dealing with bottlenecks

The A11 is the main road into Norfolk, and since the 1950s individual sections have been upgraded to dual carriageway standard. By the mid-1990s, nearly the entire road was high-quality dual carriageway.

However, one section remained unimproved, and as a result Norwich and Norfolk had no dual carriageway connection to the rest of the country. This section has been a constant source of frustration to motorists in Norfolk, jammed with congestion and prone to gridlock. Work to fix this was prioritised in 2010, environmental works started in 2011 and construction began in January 2013.

This missing section is expected to cost around £105 million to build. Because this bottleneck is constraining travel on the whole of the A11 the benefits from constructing the scheme are estimated at almost £1,500 million, more than half of which will go to business and the local economy. When the scheme is complete, it will create a high-standard road from Norwich to Cambridge and beyond.

Fixing the network

- 2.20** Alongside investing in improving our network, it is imperative that we maintain the roads we have. Maintenance affects all aspects of road performance. Well-organised maintenance minimises the amount of time roads must be closed for repairs. Good quality surfaces keep roads safe and prevent damage to vehicles.
- 2.21** On our most important corridors, where hundreds of thousands of vehicles travel daily at high speeds, the need for maintenance is greatest of all. Therefore, one of the top priorities of extra investment will be a comprehensive maintenance programme.
- 2.22** Our network has been built for long-term durability, with bridges and tunnels built to last a hundred years or more. Yet our roads need continual attention to fix the impact of daily traffic such as replacing worn-out surfaces, repairing potholes and clearing drainage.
- 2.23** We are therefore making a major investment in maintaining our roads. On the strategic road network, we will have invested £6 billion in repairing and renewing the network by 2021, replacing 80% of the existing surfaces. This means that our major roads and motorways will be among the best-maintained in the world, and fit to last for another generation.
- 2.24** This will include replacing the road surface, but will also go further, amounting to a comprehensive strategy of deep maintenance. We will make sure that bridges and viaducts can continue to carry the heaviest vehicles. We will upgrade safety equipment, install new technology, fix lighting and carry out preliminary work for any future improvements.

Minimising disruption

Maintenance work is essential, and cannot be done without getting access to the surface of the road. Modern engineering techniques help keep disruption to a minimum.

In 2012, engineers upgrading the M1 had just completed a new bridge to carry the A5120 over the motorway. The old bridge – 17 metres wide, 41 metres long and weighing 1400 tonnes – needed to be demolished. The decision was taken to divert traffic and close the motorway overnight, from 8pm on Saturday to noon the next day.

Working through the night, ten hydraulic breakers demolished and removed the entire reinforced concrete structure, reopening the M1 to traffic thirty minutes ahead of schedule. Taking advantage of the wider closure, staff elsewhere on the route were able to resurface slip roads, remove lighting columns, erect two gantries and fix the central reservation barrier.



Top left and right: Saturday night and Sunday morning on the M1.
Bottom: teams working for the Highways Agency attack the structure overnight

3. A greener, better network

- Modern environmental management techniques have greatly reduced the impact of road schemes, and can help us to control and even reverse the impacts of the existing road network.
- We are driving forward the adoption of new low-carbon technologies, to cut the environmental footprint of road travel, supporting the rise of ultra-low emission vehicles with an extra £500 million by 2020.
- People should be able to choose how they want to travel, and the network should help cyclists and walkers as well as motorists. We are fixing 20 of the worst places for cyclists on the strategic road network.
- We are smoothing the path for the safe adoption of the latest motoring technology.

3.1 Our vision for the road network will have a major effect upon the national economy, and will safeguard good conditions for the next generation and beyond.

3.2 This upgrade is also a tremendous opportunity to make our roads fit for the modern world. New investment also offers a chance to fix deep-seated environmental problems, improve the way that the network works for non-motorists and tackle safety problems. Developments in the past ten years show that this can have a massive effect on surrounding communities and on the environment – and because we are investing on a large scale we will be able to unlock these improvements as a regular part of our work.

3.3 We also need to use this opportunity to prepare for forthcoming advances in technology. We need to maximise the benefits from new ultra-low emission vehicles, and we need to make sure that other technologies can be applied quickly and smoothly across the network.



Maximising green gains

3.4 Any improvements to the network must be made in a way that supports the nation's overall quality of life. This means that our vision for roads must:

- Be designed to minimise environmental impacts and, where possible, tackle existing problems.
- Build on existing cooperation with organisations like Natural England to find the best solutions to environmental challenges.
- Continue to work in a planning framework which protects the wider environment.
- Be matched with an aggressive policy of decarbonisation, to address the carbon consequences of motoring and move us to a lower-impact future.

3.5 We must plan a network that is able to support the needs of individuals and businesses and to facilitate economic growth, but which also respects the value of our natural heritage. Cheaply-built roads make compromises on environmental protection, but the scale of investment which we intend to deliver means that we can afford to invest in proper environmental safeguards.

3.6 Improvements in materials and design, together with new methods to mitigate and minimise the environmental impacts of roads, mean that there no longer has to be a choice between a well-functioning road network and a well-protected environment.

- The process of mitigation starts at the very beginning of design, finding a route that matches the local topography and tries to hide any new development behind existing features such as established woodland. To further reduce the visual impact, designers can use false cuttings and stands of new trees. In recent years, we have also tried to reduce the night-time impact by scaling back the amount of lighting so that it only covers safety critical sections of the road.
- All of our construction and resurfacing work now uses new, quieter tarmac to reduce the noise made by passing cars. This, together with improvements in engine technology, means that new roads are much quieter than they were thirty years ago. Where communities live close to the road, as on the M1 at Luton or the A14 north of Cambridge, we can also install noise barriers so that sound is deflected up into the sky.
- Early planning allows us to control the impact of road schemes on wildlife – both during construction and after the scheme has opened. When building, we start our mitigation measures well before construction. We work with the seasons to relocate affected animals with the minimum disruption, in some cases building entire substitute habitats for protected species. We also build features into our schemes that help wildlife to benefit from the scheme – whether this be boxes for bats or tunnels for badgers.

Habitats and highways

While we are very alert to the effects of road development on surrounding eco-systems, the verges of strategic roads have become useful patches of wilderness for many different species, particularly in areas with large amounts of mechanised farming. The central reservations of dual carriageways have also become favoured habitats for a number of small mammals – especially dormice – because of an absence of large predators. When we rebuild roads, we are also able to include tunnels to help animals crossing the road – which has helped substantially reduce the number of animals such as badgers and otters that are killed on certain sections of our network.

- 3.7** In many cases busy roads follow routes that were set down long before the motor car had even been invented. These can cut through villages or divide environmental sites, not because of any conscious choice on the part of road designers, but because patterns of road use have evolved and the investment required to take an alternative approach has not been made available.
- 3.8** Road upgrades, especially those in environmentally sensitive locations, will be designed to minimise or, where possible, reduce the impact on the surrounding area. Opportunities to bypass affected villages, redirect traffic away from protected sites or improve the general environment should be seized as a part of any new investment.
- 3.9** In recent years, organisations like Natural England and the RSPB have worked with the Highways Agency to limit the environmental impacts of road schemes. These partnerships have been immensely valuable in managing the effects of investment, and early engagement on scheme development and design has helped us to maximise the benefits of mitigation and compensation measures. Cooperation has helped us to achieve significant environmental improvements and ensure that network developments are delivered effectively and sensitively.
- 3.10** The planning process applies clear checks to make sure that all impacts on the environment, whether from water pollution, air quality or heritage impacts, have been considered before construction begins. We will also ensure that road upgrades are accompanied by a major programme of decarbonisation as explained in the following section.
- 3.11** We are also trying to manage the existing road network to reduce environmental disruption. We have switched off lighting on parts of the network during the quietest hours of the night, and also removed lighting where it is no longer justified. Our research shows this does not make the roads any less safe, but it does save energy and substantially decreases the visual impact on the surrounding landscape. We are also installing quieter road surfaces as part of regular maintenance, and will work to fix the problems identified through the government-wide process of noise action plans. We continue filtering water run-off to avoid pollution and managing our estate to provide habitats for a wide range of species.
- 3.12** We are also taking action away from the network to reduce the impacts of road travel. One of the most effective ways of improving the environmental

performance of transport has been through the introduction of emissions standards. Over the past twenty years, emissions of harmful pollutants from all vehicles have decreased sharply as a result of progressively stricter European standards. We expect further improvements in the future as ever-shorter limits come into force. We are also supporting efforts for greener buses and cleaner HGVs.

- 3.13** Environmental problems do not stop at organisational boundaries or national borders. We will continue to cooperate with local authorities to deliver shared environmental goals, and we are discussing with the European Commission how to best work towards goals for the environmental performance of transport.

A3 Hindhead Tunnel

The Hindhead Tunnel demonstrates how a well-designed road scheme does not have to choose between helping the economy and helping the environment. Over the course of the last century, the A3 has been significantly upgraded along much of its route. The main exception was a three-mile



stretch near Hindhead in Hampshire, where no improvements had been made, resulting in this site and the nearby village being blighted by a stream of heavy traffic. Here, the road ran next to the Devil's Punchbowl – a major local landmark and designated area of outstanding natural beauty (AONB).

In 2007, construction started on the A3 Hindhead improvement – a wholly new road to the south of Hindhead, which disappears into a pair of 1.14 mile tunnels and emerges to the north of the AONB to link up with the existing A3. This removed the last single-carriageway stretch on the road.

When the scheme opened in 2011, the Highways Agency set about closing the old A3. To the northern end of the scheme, the road was either converted to a bridleway or covered with spoil from the tunnel and allowed to return to nature. In other places, what had been a major trunk road between London and the south coast became the access road to a National Trust car park.

In addition to greatly improving journey times between London and Portsmouth and removing one of the network's accident blackspots, the ambitious design of the scheme meant that an AONB once blighted by traffic is now returning to its natural state.

A30 Bodmin to Indian Queens

The A30 is the main route by which traffic enters Cornwall, and single carriageway sections of the road are subject to heavy congestion, especially during the holiday season. Plans for upgrading the section between Bodmin and Indian Queens had been under discussion for several years.

The problem was complicated by the fact that the main bottleneck was on a single-carriageway section of road running through the middle of the Goss Moor Special Area of Conservation. The decision was therefore taken to increase the scope of the scheme, and to build a wholly new section of road, outside of the conservation area, allowing the old route to be returned to nature.

Work began in 2005, with the scheme opening in 2007. When opened, the bottleneck on the A30 was removed and previously-separated moorland was reunited. The Highways Agency also planted 7½km of Cornish hedges – traditional stone-and-hedge banks found only in Cornwall and Devon – to help reduce visual intrusion along the route.

Decarbonising roads

3.14 We remain committed to making sure transport plays its part in meeting carbon budgets and other environmental targets. Reducing carbon and other greenhouse gas emissions is at the heart of our vision for transport, and is a key component of sustainable economic growth.



3.15 We want to bring about the decarbonisation of travel in a way that is cost-effective, acceptable to users and makes the most of the economic opportunities for the UK. We support reductions in the UK's greenhouse gas emissions to at least 34% below 1990 levels by 2020 and at least 80% by 2050. We have backed this with a series of legally binding carbon budgets. Over the next decade, the biggest reductions in emissions from domestic transport are likely to come from efficiency improvements in conventional vehicles, driven primarily by EU targets for new vehicle CO₂ performance.

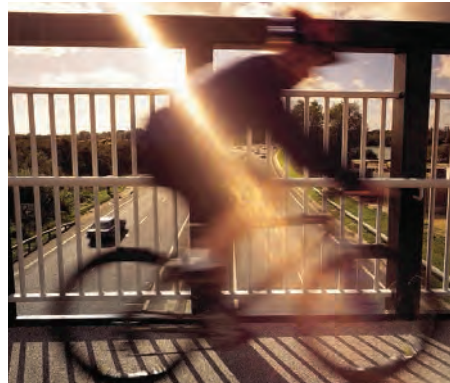
3.16 As technology develops, ultra-low emission vehicles (ULEVs), including pure electric vehicles, plug-in hybrids and fuel cell electric vehicles, will play an increasing role in the way we travel. These vehicles are now starting to come onto the market in significant numbers, and in the coming decade will become a common sight.

- 3.17** Not only is this an opportunity to greatly reduce the environmental impact of road travel – with benefits both to climate change and to local air pollution – but also, through encouraging rapid uptake in the UK, to attract a whole new generation of investment into Britain’s car industry and supply chains. Nissan has already invested £420 million in its plant at Sunderland to build its LEAF electric vehicle, showing the potential industrial benefits to the UK of becoming a leader in this new technology.
- 3.18** If we take the right steps now, Britain can be in the vanguard of a worldwide de-carbonisation of road transport. To make this happen, we will continue to foster the market for ULEVs in the UK. We have already committed £400 million to support the early adopters of new ULEVs. We will now go further, and commit over £500 million of additional capital investment by 2020 to continue supporting industry and consumers in the switch to the latest low-carbon technology. This investment will build the right conditions to establish a stable market for ULEVs in the UK, and allow for mass-adoption in the decades ahead.
- 3.19** Our ambitions to catalyse the transition to ULEVs in the UK constitute one of the longest-term and most comprehensive packages of support for this sector anywhere in the world. As part of this we will continue to back the UK’s world-class research and development in this area, securing jobs and generating economic value for the country.
- 3.20** An important part of managing the road network over the next thirty years will be preparing the infrastructure for a shift to these new types of vehicle. In the years ahead there is likely to be a need for wide-reaching networks of rapid chargepoints and hydrogen refuelling stations. The expansion of such infrastructure across the strategic road network will encourage consumer adoption of ULEVs. Whilst much of the investment is likely to come from the private sector, there may well be a role for government in supporting this in the early years – as demonstrated by the recent announcement of £37 million of government funding for plug-in vehicle charging infrastructure across the UK.
- 3.21** This programme of support will help to ensure that ULEVs are developed, built and used extensively in the UK, so that Britain can take advantage of the significant industrial and economic benefits that will come with this shift. If Britain can become a world centre for the development and manufacture of new technology, it will help to create and safeguard a generation of high-skill jobs across the country and attract valuable inward investment. This not only applies to the high-profile business of assembly, but also to the long supply chains that supports every plant.
- 3.22** Our support for ULEVs in the UK is not only about the industrial and environmental benefits that this shift will bring. It is also a key tool for securing affordable motoring for the long-term. Price volatility and the energy security risks associated with importing oil are real and growing challenges. There could be very real benefits to any country able to source an increasing proportion of the energy it needs for transport from within its own borders. Amongst other benefits, the result would be more stable (and potentially lower) prices for consumers.

- 3.23** The Government will publish its long-term strategy for ULEVs later this year, setting out how we intend to maximise the benefits to Britain of the ongoing global transition to ULEVs.

A network for walkers and cyclists

- 3.24** Cycling and walking are an important and growing part of our transport system. Not only do they improve health, but they reduce the environmental impacts of travel and can also help to cut congestion by reducing the number of cars on the road.



- 3.25** Most cycling takes place on, or alongside, the local road network, because these roads provides the most direct access to the places people want to go. We want to ensure that changes to local roads take better account of the needs of cyclists, whether they are happening as part of major enhancements, bespoke schemes or general maintenance.

- 3.26** We will continue to help cyclists by investing in the road network. Since 2012, we have provided over £107 million of funding for cycling measures, which has been further enhanced by extra support from other sources. This will help to improve cycle safety and infrastructure, link communities, roll out cycle rail and create a lasting legacy in our cities and National Parks. We are also building more cycling and walking provision into the newest schemes, and 95 of the 96 schemes in the £600 million Local Sustainable Transport Fund contain a walking and cycling element.

- 3.27** The vast majority of walking journeys take place on local roads, and the places where cars and pedestrians have the greatest interaction tend to be in city centres. We continue to provide clear advice to local authorities about how best to account for pedestrian safety, which helped make this one of the safest countries in the world for walking.

- 3.28** The strategic road network poses a different challenge. Many of the roads on the network are high-volume, high-speed corridors, purpose built for motor traffic. On motorways, non-motorised traffic is prohibited for safety reasons. Nonetheless, the network has an important role to play in supporting walking and cycling.

- 3.29** Firstly, the network can play an important role in making other roads and streets more attractive for non-motorised users. Many towns and villages are divided by a stream of long-distance traffic, creating social and environmental problems. Bypasses can reduce through-traffic and help reunite communities.

- 3.30** The best roads for cycling are frequently those run by local authorities – either because they are the most direct, or because they have the most pleasant surroundings. A well-functioning strategic road network helps keep long-distance traffic, including lorries, away from these roads and gives cyclists more space.

- 3.31** There is also a direct role for the strategic road network to play in helping walkers and cyclists. Some major roads, particularly those built in the early days of mass-motoring, can create a barrier between the two sides. Newer roads address this problem directly, with bridges, tunnels and other crossings.
- 3.32** As we begin the new programme of investment, we need to take advantage of the opportunity it presents to make even greater provision for cycling as a form of transport. We must start work to seek and correct historic problems, and retrofit the latest solutions and make sure that it is easy and safe for cyclists to use junctions.
- This year the Highways Agency will be tackling 20 places, mainly around junctions, where access for cyclists can be improved.
 - Further ahead, we will tackle more sites where there are safety issues.
 - We will continue to encourage highways engineers working for local authorities to think about the needs of cyclists in their designs for new schemes.
- 3.33** The Highways Agency will need to think strategically about how it can best support non-motorised traffic, to stop the network being a barrier for walkers and cyclists.

Embracing technology

- 3.34** We are living in a new age of innovation. Cloud computing, social networking, machine-to-machine communications and next generation mobile communications technologies all show the ever-increasing connectivity of people and devices, opening up a world of information. The experiences and choices of travellers, the performance and operation of vehicles and the management of transport systems are increasingly moulded by changes in technology.
- 3.35** We have already published an Open Data Strategy, which sets out how government will seek to maximise the benefits offered by effectively harnessing the power of transport data and create a dynamic market for transport data and applications.
- 3.36** The Highways Agency is developing new technology to provide traffic management information direct to vehicles, through standard mobile technology devices such as smartphones and satellite navigation devices. The project is looking to deliver a demonstrable system by 2014 and, if trials are successful, we will be looking to roll out and develop the system further to deliver a more comprehensive in-vehicle information service.
- 3.37** The benefits of new technology also extend outside of the vehicle, to help road operators and emergency services to work more effectively. A joint project between the Department for Transport and the Home Office has funded the introduction of new laser scanners for use at traffic incidents. These enable the police to save an average of over 40 minutes in investigation time for major incidents.

Laser scanners – reducing the delays caused by incidents

In just a few minutes, a laser scanner can capture vital information needed from a crash site, such as the position of vehicles and their relation to the wider road. This greatly reduces the lengthy police process of collecting evidence from the scene. This means that the road can be re-opened more quickly and long queues avoided. Latest figures show that use of laser scanners saves on average over 40 minutes in a typical investigation.

Thanks to a DfT grant of £2.8 million and grant-funding from the National Police Improvement Agency, 27 police forces have invested in the technology and are already reaping the benefits.

- 3.38** Looking further to the future, innovative technologies offer new opportunities to make the best use of road capacity. The benefits of doing this can be wide-ranging – improving safety, providing a better user experience, driving down costs, reducing environmental impacts and unlocking new opportunities for businesses. To make the most of these benefits, as well as to deal with any new risks that might come from change, we need to plan intelligently for the future.
- 3.39** Vehicle technology is advancing quickly, and systems that interact with their surroundings and with other vehicles are becoming increasingly common. These technologies create the opportunity for vehicles that can autonomously manage actions that are currently reserved for the driver and could, in the future, be able to carry out all of the driver tasks. The UK has a fantastic opportunity to be at the forefront of these developments. While the emergence of semi-autonomous and autonomous vehicles will not remove the need for investment now in our roads, they have the potential to transform the way we travel on roads.
- In 2012 an experimental ‘platooning’ system – where advanced technology allowed a group of vehicles to link to, and follow, a lead vehicle without driver input – was demonstrated in Spain and Sweden under an EU-funded project.
 - Researchers in Oxford are trialling a semi-autonomous car that can learn the environment in which it routinely travels and advise the driver when it feels ready to take responsibility for control of the vehicle.
- 3.40** These are exciting developments made possible by the clever use and integration of technologies. Our role is to ensure that we can make use of these developments quickly if they prove right for the UK. We will work with industry and the research community to encourage the development and introduction of advanced technologies, ensuring that systems are safe and reliable before allowing them onto our roads. Separately, we will be commissioning a scoping study to look at the barriers to implementation and explore opportunities for UK trials.
- 3.41** The development and deployment of traffic management systems and technologies, as well as the increased use of data and information, will help us to make the best use of our national road infrastructure. We will continue to watch developments in technology, to respond to emerging trends,

understand their potential impacts and capture their benefits, as well as to guard against possible negative effects.



Main photo: The Highways Agency Regional Control Centre for the M25 at South Mimms.
Inset: The previous control centre at Chigwell, in 1986.

- 3.42** Government has a crucial ongoing role in enabling industry and transport providers to work together to deliver the benefits of new technology, as well as supporting research, development and standards. Close partnership working between the public and private sectors will continue to be important in making the most of future innovations and delivering the benefits on offer.

A safer network

- 3.43** The safest parts of our road networks are those roads that have been built in the past half-century, purposefully designed to deal with the pressures of mass-motoring. Motorways are dedicated to traffic travelling at high speeds, but also have the lowest accident rates of any type of road. On the existing strategic road network, the worst safety problems are often on those sections where heavy traffic follows largely unimproved routes – particularly for vulnerable users such as motorcyclists.
- 3.44** The most important cost of collisions is the human impact, through the terrible damage that serious and fatal accidents have on the lives of those affected. There are also significant economic effects, especially where an incident causes the closure of a carriageway. A single incident that closes a three-lane motorway for four hours can cost several million pounds in lost time, and there are some 80,000 incidents that impact at least one motorway lane each year.
- 3.45** The government published its strategic framework for road safety in 2011. Investment in the network allows the continuous improvement of safety engineering and design – whether through fixing the worst accident sites on local roads or introducing new managed motorways.

- Dual carriageways are twice as safe as single carriageway roads, and motorways are six times safer.
- Reconstructing junctions and better signing can all decrease the likelihood of collisions.
- On the busiest roads, replacing an existing junction with a grade-separated junction can lead to safety improvements of 25–50%.
- Managed motorways have a substantially better safety record than conventional motorways, managing traffic using signals and speed controls which can deal with incidents before they become serious.
- Good maintenance ensures better skidding resistance on roads and reduces the risk of flooding from poor drainage.

3.46 As part of delivering this continuous improvement, the Highways Agency will need to ensure the safe design, management and operation of the network in a way that is mindful of the needs of users. In addition to improving the physical infrastructure, this would include:

- Improving data collection capability and instrumentation of the network. This can provide a better understanding of the network's safety performance and act as the basis for more effective investment. Ultimately, this information can lead to safety interventions that better reduce the frequency and severity of accidents, as well as the disruption and cost to the network.
- Developing technical innovations and behavioural measures to ensure road works are delivered safely.
- Developing safety practices, which can be shared with other highway authorities, including information on standard setting and best practice approaches to deliver low-cost schemes which improve road safety and driver behaviour.
- Working with the police, who will enforce traffic offences, to help make sure that all drivers behave safely.

3.47 The delivery of warnings of queues ahead, speed and lane control, through managed motorways, has already demonstrated how information provision can contribute to improving safety. Technological improvements also offer great opportunities to gather more comprehensive and sophisticated data on the network. This data can be used to understand better how the network is used and how it is performing, be shared with other operators and partners to support better joint working, and provide better information to motorists.

4. Improving the management of the network

- We will transform the way the Highways Agency is run, by turning it into a publicly-owned strategic highways company to give it greater day-to-day independence and to drive more commercial decision-making.
- To make the network work better we will provide funding certainty and a Roads Investment Strategy. This will give contractors the certainty to start expanding their capacity now, by investing in new techniques and training staff.
- This investment and these reforms will be underpinned by legislation to provide certainty to the public and industry that the government will not walk away from its commitments.
- The new arrangements will be held accountable by a new ‘motorists’ champion’.

4.1 Spending further money on the road network does not guarantee a world-class network. Many of the most important changes are not about increased funding, but about better management of what we already have. As we demonstrated in Chapter 1, experience from abroad shows that the quality of management plays a vital role in providing a good road network.

4.2 In order to fix these problems, we need to re-examine the ways in which the Highways Agency works. In 2011, Alan Cook led a review into the management of the strategic road network. He concluded that there was a powerful case for changing the way these roads are run, in order to secure greater efficiencies and deliver clearer outcomes. In particular, his review suggested:

- Making a clear break from short-termism and a stop-start culture – putting in place the structures, commitments and relationships to support a more stable infrastructure programme.
- A more independent structure – allowing the strategic road network to operate more like the best-performing infrastructure providers in other sectors.
- A clearer, more strategic role for government – providing a strong, certain framework against which the managers of the strategic road network could be held to account.

Overall, Cook argued that the result would be a more efficient, business-like organisation capable of planning for the long-term.

Figure 4.1 – Institutional challenges for the Highways Agency



Dependence

The Highways Agency is much closer to central government than other organisations providing national infrastructure.



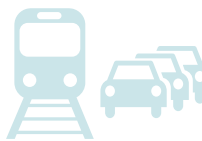
Strategic

Previously, government has not always provided the Agency with a clear vision of what it needs to achieve – either right now or over the longer term.



Stop-go

The Agency has had to deal with a yearly risk of budgets rising or falling – when its projects can take up to ten years to design and build. Schemes can start, stop, then start again, slowing progress by years and pushing up costs.



Modal

Roads spending remains one of the few areas of transport where government doesn't make long-term commitments, meaning that roads investment is more variable than other types of transport.



Bureaucracy

Unlike other infrastructure providers, the Agency has to deal with government regulations around procurement and contract management. This makes the organisation less efficient.



Personnel

The Agency offers its contractors performance-related pay, but cannot give comparable deals to its own staff. It also finds it hard to compete for staff on the international labour market.



Comparison

The Agency's performance is not scrutinised independently. It is hard to compare their work with best practice abroad, so learning from other countries and other sectors is limited.

- 4.3** In May 2012, we set out the first steps towards implementing the recommendations of Cook. This included a commitment to produce a long-term strategy and the start of a programme of route based strategies. In April 2013, we published the first performance specification for the strategic road network and the Highways Agency, setting out what the Agency is expected to achieve and what its performance will be measured against. In May 2013, we published three pilot route-based strategies, setting out the problems faced by sections of the strategic road network.
- 4.4** We now want to go further and build on the recommendations from the review. By making further changes we can deliver more with the money we spend.

Funding certainty

- 4.5** Without a clear picture of its future resources, the Agency has not been able to plan how to manage its network efficiently in the future. This in turn has undermined the ability of its supply chain to invest in its own capability, limiting their ability to create jobs and drive down prices.
- 4.6** This is in direct contrast to the position for railways, for many aspects of local transport and for all types of transport in London. This has placed strategic roads at a sustained disadvantage to the rest of the transport system.
- 4.7** Infrastructure UK, in its 2010 review, argued that greater budgetary independence fosters a more commercial attitude in infrastructure providers. It found that a fixed and stable budget makes an infrastructure provider more independent-minded, and makes them more likely to look for savings in their own organisations. Without the option of extra funding from central government, they have to fund their ambitions through setting their own priorities. Giving an infrastructure provider greater freedom also allows them to structure their activities around the wider expectations for network performance, rather than the narrow requirements of specific projects.
- 4.8** We want to provide a guarantee that forthcoming work will not be disrupted by short-term fluctuations in funding. This will mean that the roads programme will be a clear commitment and not simply a statement of intent, and that maintenance, once planned, will go ahead.
- 4.9** From this spending review onwards, we will therefore provide the Highways Agency with clear, long-term funding settlements of at least five years. The first of these funding settlements will apply from 2015/16 through to 2020/21. These settlements will cover all capital spending by the Agency as well as resource spending on maintenance.
- 4.10** Certainty over the Agency's capital budget will mean that it will be better able to plan ahead. This will mean quicker, more efficient delivery, as work will not need to deal with the threat of funding being removed at a critical stage in development. It will also be possible to make a sensible provision for the development of a pipeline of future work, ensuring long-term continuity in investment. Cook estimated the total value of these savings to be between 5 and 10%.

- 4.11 Certainty over the maintenance budget will also allow the Agency to plan its work for maximum effect. Instead of fixing roads whenever funding becomes available, they can plan long-term asset maintenance based on a clear understanding of what their resources will be. In the Netherlands, moving from a 1–2 year planning horizon to a 5–7 year vision resulted in savings of around 20% on maintenance spending.
- 4.12 Greater long-term certainty and flexibility of funding will enable the Highways Agency to make savings by approaching its work more strategically. Rather than approaching each task as an individual project, it will allow the Agency to deal with the whole of its work as a single programme.

Planning long-term investment

- 4.13 For over twenty years, roads spending has been almost entirely reactive, focused on finishing the ‘next’ project without considering what long-term vision these projects should help deliver. Schemes have also fallen victim to short-term changes in funding availability.
- 4.14 In the rail sector, the introduction of a five-year planning framework, known as the Rail Investment Strategy, has allowed the railways to deliver large-scale projects that must be coordinated across a large area over many years. Transformational investments, such as the wide-spread electrification of key lines, have become possible thanks to the Strategy.
- 4.15 Longer-term certainty of roads investment would allow construction firms to better plan their needs in terms of equipment and resources. Instead of preparing for each individual project tactically, maximising their profit from an individual piece of work, they can begin to think strategically about how they can get the best return from the market as a whole. This means that they will invest in skills, plant and equipment for the longer term, and can avoid hiring equipment in at short-term prices.

The costs of stop-go

A clear commitment to a plan of future investment would also insure firms against the costs of uncertainty. One engineering firm noted that when two major highways projects were cancelled, 50 of the 75 staff involved had to be made redundant, costing the firm over half a million pounds. This is a risk faced by all firms working in the highways sector, as well as for the people employed by them, and it also means that companies have to make up the cost from their other highways bids. Bringing this stop-go culture to an end will mean that there is much greater security for all involved; the result will be far greater efficiency and lower costs.

- 4.16 We will therefore introduce a comprehensive investment programme for roads – the Roads Investment Strategy (RIS). When fully in place, this will set out the next five years of roads projects, explaining how they will work together to support the economy and tackle congestion. It will also set out the level of maintenance that needs to take place during the same timeframe, as well as expected spending on operational matters.



4.17 The RIS will be built of three core elements:

- A broader roads strategy, articulating government's ambition for the roads network.
- The performance specification for the strategic road network and the Highways Agency, setting out specific expectations for future delivery.
- A statement of available funds, setting out how much can be spent on strategic roads during the lifetime of the RIS.

4.18 Based on the priorities identified in these documents, the RIS will determine the scale of major schemes, small-scale enhancements, maintenance work and operational priorities to be taken forward over the next five years.

- For major projects, this will include a list of the individual schemes identified by government to start construction over the lifetime of the RIS.
- For other areas, flexibility remains important to help react to emergencies and emerging economic trends. Work will continue to be needed to support development and promote safety. The RIS will therefore set the total level of investment in major areas of spending (such as maintenance or small-scale enhancements) for every year in the RIS period.

4.19 The RIS will not be focused on the strategic road network in isolation. It will need to form part of a wider, integrated approach to all modes of transport, and over time we are particularly keen for investment decisions on road and rail to happen in concert. It is also important to consider links to local travel. In some cases, improvements that benefit the strategic road network will straddle the local network as well, or may even be entirely separate from the strategic road network. Provided that schemes contribute towards the improvement of the strategic road network, the RIS should not be constrained by administrative boundaries.

4.20 Larger road schemes take several years to take from inception to opening, often beyond the five-year lifecycle of the RIS. This is especially true for more complicated problems, where a preliminary study is needed to confirm whether there is a need for capital investment. As such, any long-term plan must also provide a framework for identifying and developing future road

investment for the next ten years, so as to form a sensible pipeline of future projects. This can then form the foundation of the next iteration of the RIS.

- 4.21** The RIS also needs to provide a clear strategic framework further into the future. Clarity on investment over the next decade needs to be accompanied by an awareness of how the network might be improved over the next twenty to thirty years. There may be specific corridors or regions where there is a clear need for a coordinated long-term plan of investment. The RIS should make clear how the work that it sets out will help to deliver these long-term objectives.
- 4.22** The first RIS will be heavily influenced by the ongoing programme of route based strategies. As announced in May 2013, the strategies will identify operational, maintenance and enhancement priorities across the network, informing the selection of immediate projects and longer-term ambitions. This will give the RIS an evidence-based foundation for a comprehensive strategic view of the network.
- 4.23** All projects backed through the RIS will continue to go through the planning system and will need to uphold clear environmental standards. The RIS can also be a platform to make a commitment towards higher environmental standards, in line with the principles set out in Chapter 3.
- 4.24** The RIS will provide a clear plan for the future of the road network, providing a developed vision for how the road network should function. It will provide transparency and certainty to businesses, inward investors, local authorities and others, so they can build their own investment plans with certainty about road development. It will also ensure that proper provision is made for the maintenance and management of the network.
- 4.25** We expect to produce the first RIS later in this Parliament, covering the period to 2021 and taking into account the information collected through route based strategies. In the longer term, we expect to align the RIS with investment decisions for rail, and we envisage the RIS being revisited every five years.

Route based strategies

In May 2012 we set out plans for a new approach to investment planning for the strategic road network, known as route based strategies. These will bring together all of the different interested groups – local authorities, Local Enterprise Partnerships, motorists’ organisations, environmental groups and others – to discuss the future of a section of the strategic road network. All of the network will be covered by a route based strategy over the next two years.

This is a new way to plan the management and enhancement of our road network, taking into account local aspirations and priorities for growth and balancing national and local needs on the network. Each strategy will break down into two stages – the first exploring the performance issues on routes; the second proposing indicative solutions.

In May 2013, we published the first stages of three pilot studies, for the A1 near Newcastle, the M62 between Leeds and Manchester and the A12 from the M25 to Ipswich. Other sections of the network will be covered by 2014.

Providing certainty

- 4.26** Long-term investment plans and funding settlements will help provide certainty to the Highways Agency and its suppliers. In themselves they represent a big advance over the historic situation, where long-term investment could be run down to help balance annual budgets.
- 4.27** However, for future investment to be truly credible it must be backed by a clear, statutory guarantee. In the rail sector, one of the reasons that the Rail Investment Strategy has been able to provide greater certainty has been because it has a clear and secure underpinning in law. In order to ensure that the RIS can provide the same degree of certainty, we will legislate to create a similar legal foundation for the RIS settlement.

Promoting skills and jobs

Clarity over future funding will make a real difference to the construction industry and to the companies that supply them with equipment and raw materials, enabling them to invest in anticipation of future work.

At present, construction firms are unsure about future demand. This means they tend to bring together resources as and when they need them, paying extra to retain a degree of flexibility. For the most complex projects, firms often respond to new contracts by bringing people and resources from overseas, since they cannot be sure of sustained demand in England.



Several construction companies have said that greater certainty of highways spending would mean they would place a greater emphasis on expanding and training their British workforce. Stable investment in transport construction will mean more apprenticeships and more investment in training workers, to make sure that the sector is staffed to meet long-term needs.

Certainty of work programmes also allows the supply chain to change their working practices and adopt new techniques that otherwise would not be profitable. For example, 24-hour working becomes viable when introduced on a large scale in a way that it is not for an individual project. 40% of scheme costs are related to time, so developments like this could reduce the costs of maintenance and improvements and the impact on road users.

Longer-term funding can also support better relationships with suppliers and reduce unit costs. In Birmingham, long-term planning through a new highway PFI deal has provided a clear picture of future demand, allowing the contractor to place an order for one million tonnes of asphalt, reducing costs by at least 10%.

Independence for the Highways Agency

- 4.28** Providing a clear financial and strategic basis for the Highways Agency will make a real difference to the way in which the Agency is able to operate.
- 4.29** However, this still falls short of the independence that Alan Cook recommended in his review. Cook argued that without a clear change in the governance of the Highways Agency, making it more like a commercial organisation, few of the opportunities for potential efficiency would be realised.

The Cook Review

Alan Cook's review identified five ways in which transforming the Highways Agency into a government-owned company would lead to better outcomes for road users.

- More independence would mean that government had to step back and provide clearer strategic direction to the Agency. A clear 'contract' with the Agency would insulate it against short-termism and allow it to focus on providing a good service to motorists.
- Greater flexibility would allow management to strengthen the delivery culture at the Agency, allowing the Agency to go beyond the limits set by civil service terms and conditions in motivating staff.
- A more independent organisation would be better placed to be an 'advocate' for roads, in a way that Network Rail can promote the interests of railways.
- It opens up limited opportunities to attract private capital through joint ventures.
- Change does not need to involve the sale or surrender of the underlying network, which would continue to belong to the state.

In recommending this approach, Cook was clear that this was an essential part of bringing about wider efficiencies and not an optional extra.

“Without a clear change in the governance of the organisation and its relationship with government, few of the opportunities identified in this report would be delivered.”

- 4.30** We will bring forward proposals to reform the Highways Agency, to turn it into a publicly-owned strategic highways company – an entity that is 100% owned by government and ultimately accountable to the Secretary of State, but which has an organisational structure and daily independence that is closer to that of a private company. This will give it a status largely similar to the Royal Mint, with more independence for managers.
- 4.31** The present situation of the Highways Agency is unusual. Most of the other infrastructure that is operated within the public sector is the responsibility of non-departmental public bodies or government-owned companies who are encouraged to run the network much like a private firm. Meanwhile, government departments tend to focus on making policy and delivering services. The Highways Agency sits between these two worlds – so while it

tries to run its network as efficiently as possible, it also has to contend with a set of rules that have largely been designed for administrators.

- 4.32** This means that the Highways Agency has to deal with a range of controls which are of limited relevance (and often a real hindrance) to its role as an operator of the road network. For example, at one point the Agency had to follow rules for the purchase of new office software when installing the technology to open up the hard shoulder of the motorway to traffic.
- 4.33** Central government rules also make it increasingly hard for the Highways Agency to compete for skilled staff. The Agency relies on many specialists such as civil engineers and procurement professionals to run the roads effectively. When recruiting skilled engineers and project managers, the Agency is competing against international construction firms, other parts of the infrastructure sector and its own suppliers. However, the Agency is almost unique in having to deal with limits on benefits packages imposed by central government. These limits do not apply to airports and ports operators, or to private companies working in infrastructure. As a result, some of the most experienced staff choose to work elsewhere, or to go overseas to work in more lucrative posts.
- 4.34** These rules also prevent the widespread introduction of performance incentives. The Highways Agency already offers its contractors a share in any savings made through finding new efficiencies and developing new methods. Civil service rules prevent it offering the same opportunities to its own staff. Moving to a new model will give the new company the flexibility to offer staff the same incentives as their counterparts in the private sector.
- 4.35** This does not mean that senior managers should be free to award themselves bonuses in the face of declining performance. Independent monitoring could ensure that any move towards performance-related pay would be linked to very clear, public assessments of whether the new company had achieved its goals, driven down costs and presented users with a better service.
- 4.36** Creating a government-owned company will allow it to work in a more flexible way, with the tempo of its work set by the needs of users and the rhythm of its network. It will no longer need to keep one eye on its network and the other on



the politics of central government. The company can focus properly on the challenges of running a network.

- 4.37** There will also be benefits in terms of how the company organises its work. For example, government accounting rules have meant that the Agency loses any money that it has not spent by the end of the year. To avoid this, the Agency has had to carry out a large amount of work in February and March – the point in the year when weather is most likely to affect the quality of the work and lessen its operational life. These reforms, together with wider flexibilities announced in *Investing in Britain's Future*, will bring an end to this perverse behaviour.
- 4.38** In addition to the benefits for the company, this will also have benefits for government and taxpayers.
- The new arrangements should promote greater efficiency and better value for money, by helping the company to make decisions and operate like a business.
 - Arm's-length management will mean that the company is held to account for its performance and behaviour in a clearer and more transparent fashion.
- 4.39** We will consult on more detailed proposals, including how we intend to bring about this reform, later in the year.

Maintaining accountability

- 4.40** As the institutional structure of the Highways Agency changes, preserving accountability will be essential. The new company needs to remain transparent, and needs to be able to justify both its costs and its working practices. It must be seen to be delivering on the performance specification agreed with government, and must be made to answer if it does not.

Performance specification

In April 2013, the Department for Transport published the first performance specification for the strategic road network and the Highways Agency. This sets out the standards which the Agency is expected to meet in its work, against a series of key criteria.



The specification will form part of the wider long-term planning framework, in particular by forming part of the RIS. It will be refreshed periodically, to ensure that it properly matches users' expectations of the growing network.

The current specification can be found online at the following address:
<https://www.gov.uk/government/publications/strategic-road-network-performance-specification-2013-to-2015>

- 4.41** The company would continue to be responsible to Parliament for the spending of public funds. It will also be accountable to the Secretary of State for Transport through standard corporate governance channels. In developing the publicly-owned company model, we have considered what further ways the organisation could be held to account.
- Central government could continue to take full responsibility for monitoring the performance of the company. This would involve a more thorough oversight than at present, with a panel of independent experts and formal reviews of performance.
 - A small independent body, similar to Passenger Focus in rail, could keep a close eye on performance by checking with road users to see where the company is making a real difference. This could feed through to the performance specification and could allow the body to give independent feedback and drive improvements in performance.
 - A full economic regulator, in the style of OFWAT or OFGEM, could scrutinise performance and possibly influence decisions around funding settlements for the company.

None of these options would require the creation of a new organisation. The second and third options could be carried out by an existing body, such as Passenger Focus or the Office for Rail Regulation.

- 4.42** The choice between these different options includes trade-offs between costs and capability. An economic regulator would be a large organisation, potentially costing tens of millions of pounds a year in order to have the full range of technical and economic skills needed to prevent a monopoly abusing its market position. A small independent body would cost substantially less, possibly around £3 million a year. Government can continue to watch over the road network without incurring substantial additional costs. A 1% saving from the Agency's current budget would be equal to £25 million a year, and more as we move towards larger-scale investment.

- 4.43** Depending on the form the new oversight arrangements take, this 'motorists' champion' could carry out some or all of the following duties:
- **Championing users** – By surveying motorists, gathering their views and acting as a focus for concerns or complaints the champion could ensure that the new company actively worked to consider the views of users.
 - **Monitoring performance** – The champion could track the company's performance against the performance specification. This information can also be used as a clear and objective way to assess the performance of senior staff, to ensure that managers are rewarded only when they have delivered against government requirements.




- **Benchmarking** – At present, there is little clear information that can be used to compare the costs of building and maintaining strategic roads in the UK with that in other jurisdictions. Previous efforts have foundered on differences in construction standards and procedures. Research could cut through this complexity, and provide a clear sense of where there is scope for greater economy.
- **Supporting investment** – The champion could use research findings to help to determine what should form part of the Roads Investment Strategy.
- **Championing other duties** – Environment, safety, asset condition, engagement with local authorities and other stakeholders and other elements of road management could be scrutinised by the champion, with formal recommendations on how they could best be managed.

4.44 We will provide further details on how we plan to hold the new company to account in our detailed consultation on reform, later this year.

Creating the world's leading highways operator

4.45 Taken together, these measures will modernise the Highways Agency, making it more efficient, more independent and better placed to take a strategic view of what the road network must do. Reform will free the Agency from unnecessary red tape, give it the flexibility to match the best examples of highways and infrastructure management from other countries and sectors, and lead to its rebirth as a strategic highways company. The introduction of a clear, defined funding stream for the road network means that these benefits will go back to users, in the form of more investment in roads and further enhancement of the network. A definite programme of investment, set out in a Roads Investment Strategy and backed by a funding guarantee, means that the future of the strategic road network will be secure.

Figure 4.2 – Solutions to the institutional problems of the Highways Agency

 <p>Dependence</p>	<p>The Highways Agency will be set up as a publicly-owned strategic highways company. This will put it outside of the day-to-day control of ministers, leaving it free to run the road network.</p>
 <p>Strategic</p>	<p>The new performance specification, together with the roads investment strategy, will give a clear understanding of what government expects the Highways Agency to deliver.</p>
 <p>Stop-go</p>	<p>Funding certainty will allow the Agency and its suppliers to make plans until 2021, without the need to worry about cuts to budgets.</p>
 <p>Modal</p>	<p>The roads investment strategy will put spending on the strategic road network on a similar footing to rail. Similar legislation will secure the funding settlements of both modes.</p>
 <p>Bureaucracy</p>	<p>Setting up the Agency as a strategic highways company can free it from some of the red tape devised for an office-based Whitehall department.</p>
 <p>Personnel</p>	<p>A strategic highways company will be able to provide better incentives to staff, and has more flexibility to recruit the best staff from across the infrastructure world.</p>
 <p>Comparison</p>	<p>New oversight arrangements will mean costs at the Highways Agency can be compared with other infrastructure providers, promoting greater efficiency.</p>

5. Supporting local roads

- Local authorities will benefit from £6 billion invested in local road maintenance between 2015 and 2021 on top of contributions from other funding sources.
- We are helping councils to deliver better results by sharing best practice on maintenance, streamlining their work and partnering with their neighbours.
- Changes already announced include more flexible arrangements on funding, which mean that councils will have to get fewer approvals from Whitehall before taking action.

5.1 While the strategic road network plays a crucial role in national travel and for the economy, it is only one part of the picture. The rest of the road network is not as intensively used as the strategic road network, but nevertheless carries the majority of non-freight traffic. It also forms the start and end of almost every journey, meaning that any plan for world-class roads has to include the local road network. New links, better junctions and improved access are an integral part of supporting local development.

Central and local government

5.2 Local authorities are responsible for managing and maintaining their local roads. They are responsible for providing improvements, with supporting funding from central government for many larger enhancement and maintenance schemes. Overall, this arrangement is sensible and proportionate, and there is no need to redraw the boundary between local and strategic roads.

5.3 We recognise that local authorities need continued support, given the pressures that many of them face. Roads and transport are one of many issues that councils need to deal with and the consequence of delaying essential work on roads is often to increase the bill for fixing the problem in the future. Savings on maintenance work are often a false economy.

5.4 The role of central government is not to tell local authorities how to run their roads. Instead, we want to build the right framework to allow councils to tackle the problems they know to be most urgent and to avoid the need to keep seeking approval from Whitehall before they can go ahead with improvements.

5.5 We want to make sure that local authorities are working together, so that they can share their expertise with one another. We also want to encourage them to maximise the opportunity to save money by working cooperatively.

- 5.6** Central government needs to make sure that the local and strategic road networks are working smoothly alongside one another. Given the organisational reforms outlined in Chapter 4, we want to ensure that local authorities continue to work in partnership with the new, independent Highways Agency.

Fixing maintenance

- 5.7** We recognise that the local road network needs continued investment, to help it to continue to play its role in local life. The government will support local authorities to repair the local road network, investing nearly £6 billion over the next Parliament to tackle maintenance problems. This is the equivalent of filling 19 million potholes every year.
- 5.8** Together with the maintenance funding on the strategic roads, this investment in repairing the road network will sustain over 11,000 jobs through every year of the next Parliament, amounting to £12 billion spent on maintenance, even before taking into account the money that local authorities raise through council tax and other sources.



- 5.9** It is also vital that councils make the best use of the resources available. Therefore, we have been working together with councils and suppliers to develop the Highways Maintenance Efficiency Programme.
- 5.10** The programme is a collaborative effort to identify the most effective ways of maintaining the highway and sharing the results. Participating authorities share information on increasing efficiencies – ranging from advice on how best to fill potholes to standard-form contracts that can help them to cut their procurement costs.
- 5.11** This arrangement matches the wider goals for localism. The programme as a whole has been led by senior figures from local authorities and the supply chain, and not by officials in central government. However, the Department for Transport continues to provide support and funding to drive the process forward.

Highways Maintenance Efficiency Programme – initiatives delivered

- Potholes Review – A best-practice guide for how local authorities can deal with potholes, both in terms of engineering and wider roads management.
- Local Highway Authority Collaborative Alliance Toolkit – Guidance and selected case studies to help the development of new alliances between authorities and identification of the areas where they can achieve efficiencies.
- Shared Service Toolkit – Guidance for local highway authorities on how to share the delivery of their road maintenance services, with case studies showing their operation. Also identifies the level of efficiencies that can be achieved.
- Procurement Route Choices Toolkit – Web-based tool to guide authorities on the procurement options available, including their advantages and disadvantages.
- Standard Specification and Details – Advice on identifying common ‘best value’ maintenance materials and specifications for road maintenance, including resurfacing.
- Standard Form of Contract – A suite of documents to help local authorities tender and procure services without having to produce their own one-off document.
- Asset Management Lifecycle Planning Tool – A network-level analysis tool for all local authorities assessing how best to approach maintenance, factoring in challenging topics such as carriageway deterioration.
- Highway Infrastructure Asset Management Guidance – Guidance on how to promote better use of limited resources by taking a long-term view and preventing expensive short-term repairs.
- Guidance on the Management of Highways Drainage Assets – Provides an understanding of how to manage drainage to reduce the unit costs of maintenance and make better use of the assets.

More material can be found online at: <http://www.dft.gov.uk/hmep/>

- 5.12** The aim of the programme is to make sure that everyone involved in highways maintenance adopts an ambitious, long-term approach to the management of local roads. This means the creation of guidance on the best available methods, as well as tools to help councils assess their own maintenance needs.
- 5.13** To make this happen, it is important to continue fostering a mindset in which the whole sector is continuously looking for new and improved ways of delivering services to road users and to those managing highways assets. Everyone involved is encouraged to build collaborative partnerships, in order to improve processes and outcomes. One example of this is the South East 7 Partnership, stretching from Hampshire to Kent, which has brought down costs through uniting for procurement purposes and by sharing expertise.
- 5.14** The overall result should be a more sustainable balance between meeting the needs of road users, improving quality and minimising costs. Local

authorities still have to decide what works best in their area, but they will be able to do so with the best information and techniques available.

- 5.15** It has to be recognised that there is more to do to really embed best efficiency practices equally across all 153 local highway authorities. There is a huge range in both the level of challenge faced and our ability to meet the challenges across that number of authorities. It has also to be recognised that this programme needs to better engage at the level of senior decision makers if it is to truly transform the sector and realise the full potential for efficiency savings.

Investing in local roads

- 5.16** We are already providing significant funding for major road schemes promoted by local authorities, with £1.28 billion of investment earmarked. Of the schemes on which we have made decisions, two have already been opened and 14 are under construction. A further 14 are due to begin construction by 2015.

- 5.17** We are also freeing up longer-term investment funding, so that local authorities are better able to tackle transport problems in their area. Maintenance is meant to prevent the deterioration of the road network and is a constant task. By contrast, projects to improve the local network are one-offs, designed and funded specially. As a result, they thrive on flexibility.

- 5.18** Major local, transport schemes have traditionally been approved and funded on a project-by-project basis, with central government deciding where money should be spent. The previous government's Regional Funding Allocations (RFA) process took the initial scheme prioritisation away from Whitehall, but business cases for individual schemes were still required before central government would approve funding.

- 5.19** In September 2012 we announced that decision-making would be moved even closer to the local level, with responsibility moving to a series of 38 Local Transport Bodies. From April 2015 funding for major transport projects will be bid for by local areas through the Single Local Growth Fund, allowing local areas to determine and prioritise what is most appropriate for their areas. These bodies will be able to spend money in ways that are innovative and best able to meet the specific needs of local communities.



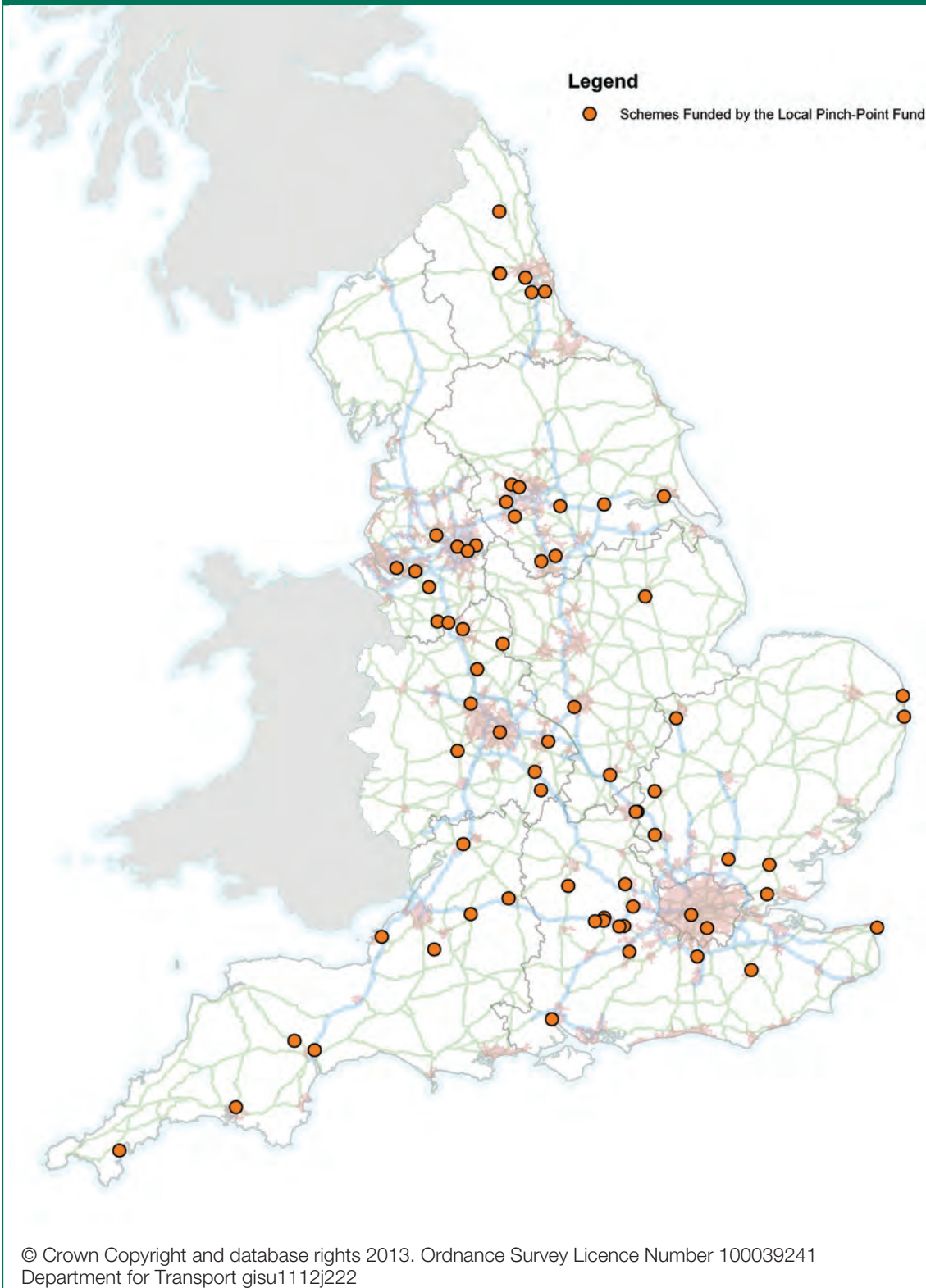
- 5.20** The response to the Heseltine Review, *Setting up the Single Local Growth Fund*, recognised that there is no one-size-fits-all approach to local growth, and that local authorities and local enterprise partnerships need to be able to react flexibly to the challenges in their areas.

- 5.21** These evolving reforms will ensure there is much greater scope to allocate funds to improving local roads, where this is judged to be an important local priority.
- 5.22** To further help tackle bottlenecks on the local road network and promote economic growth, the 2012 Autumn Statement announced the creation of a local pinch-point fund, on top of pre-existing funding. The fund has made £190 million available between now and 2015, which has been combined with local funding to provide over £300 million of investment into the network. We have approved 72 local schemes, including improvements and upgrades to vital roads and bridges, new access routes and enhancements to address congestion at local traffic hotspots. Many of the schemes will help enhance provision for buses, as well as improving facilities for cycling and walking.
- 5.23** This fund was designed specifically to produce quick results so that the effects, including new jobs in construction and better opportunities for growth, could be felt rapidly. The fund was designed to encourage contributions from local developers, who need transport improvements to unlock sites for business or housing.
- 5.24** This package of reform increases the freedom of local authorities to spend money on tackling transport problems, as well as providing extra resources to deal with the most pressing issues.

Supporting public transport and the door-to-door journey

- 5.25** We remain committed to multi-modal transport, and in particular to helping different types of transport connect. Our Door-to-Door Strategy, published in March 2013, focused on the links between sustainable transport modes – public transport, cycling and walking. A high quality local road network is key in joining up these different transport modes and taking account of all the ways that the whole journey can be made from door to door.
- 5.26** By ensuring that the local road network supports other transport modes, we can offer people more choice in how they travel. We want an inclusive, integrated and innovative transport system that works for everyone and helps to support society by providing an accessible means of travel.
- 5.27** This is particularly important given the transformational investment we are making in our rail network. People need to be able to access the station safely and easily, and many will rely on local roads to make the connecting journey.

Figure 5.1 – Local pinch-point schemes



5.28 Roads are also critically important for the bus network. Local buses depend on a well-functioning local road network: not only in terms of well-maintained infrastructure, but also in terms of traffic management and controlling congestion.

Roads in London

In July 2013, the Mayor of London's Roads Task Force reported on the future of roads in London. Space is at a premium across the city, and roads play a major role in defining the way that London as a whole fits together. The task force stressed that a well-functioning road network is vital for the whole of the urban transport system – especially bus users, cyclists and walkers – and defines the feel of London as a place.

“The task force has looked at what other cities around the world are doing. In successful cities, there is a clear trend towards reducing the impact of motor traffic to improve the quality of life and make them more attractive to live in and to do business. Exciting new spaces for city life have been created, and they have delivered high-quality cycling networks and made cities great for walking.

“At the same time, these cities are also improving and investing in their road infrastructure, roofing over ring roads and building tunnels to ensure people and vehicles can still get about the city.”

To make London more liveable, more mobile and more able to support a variety of different road users, the report recommended substantial investment in the road network. This would improve mobility, unlock capacity, protect the network and improve sustainability. In some places this would mean reducing the impact that cars have on a neighbourhood; in others it means fixing pinch-points to improve flow. Overall, the task force emphasised the importance of a coherent strategy to make roads work for all users.

The lessons of this task force apply across the whole of the transport network. A well-functioning, environmentally-sensitive network is an important asset for any community.

- 5.29** It is important that transport planning is integrated with land use planning so that transport facilities can be developed to meet future needs at the outset. Developers should ensure that local roads include sustainable transport measures such as high quality cycling and walking routes that link well with local amenities such as schools, shops and places of employment. This will reduce congestion and improve both public health and quality of life.
- 5.30** Door-to-door journeys also rely on the strategic road network. In order to encourage the travelling public to make greener transport choices it is important to consider how sustainable modes connect.
- Park and ride sites are frequently located at junctions with the strategic road network, where they can be accessed easily.
 - Long-distance coach travel relies heavily on the connections provided by motorways and trunk roads.
 - In recent years the number of parkway stations, which are adjacent to major roads to allow for an easy switch from car to train, has been expanding across the rail network.

- Subject to consultation, the proposed HS2 stations at Birmingham International, Manchester Airport, East Midlands and Sheffield will all be located close to existing motorways.

5.31 In many cases material improvements can be made to travelling conditions on the road through transport planning – helping local businesses to think through how their deliveries arrive and how their employees get to work.

Links to the strategic road network

5.32 Motorists almost always start and end their journeys on local roads, therefore decisions about strategic roads must take account of the impacts on local transport infrastructure. Equally, well-maintained and improved local roads are needed for a successful strategic road network.

Building links with local authorities

In September 2012 the government signed City Deals with eight of the largest cities in England, giving them more powers to help encourage growth and jobs in their area, as well as increasing their accountability for delivery. In Newcastle and Gateshead this meant a joint commitment to tackle transport problems in the local area to help pursue growth.

Under the deal, the Department for Transport and the Highways Agency made a joint commitment to develop new proposals for improving the A1 Western Bypass, which is seen as a key constraint on the local economy. Newcastle committed to improve the integration of local roads with the area's trunk roads, by investing money on small, local schemes and in better traffic management technology.

Focusing on the problem from both a national and a local perspective, central and local authorities working together stand a better chance of making their respective networks function better.

5.33 Effective management of networks and traffic on the national network and across interfaces with adjoining networks depends on a strong partnership between the Highways Agency and its successor, local authorities and other operational and strategic partners, such as the police and emergency services. This means thinking about the connections with, and impacts upon, local roads, as well as the relationship with other modes of transport.

5.34 For the relationship between the strategic highways company and local authorities to be a success, they must:

- **Plan together:** The Agency's programme of route based strategies (see Chapter 4) is already underway, linking together the pressures on the strategic network with the needs of local communities, with a view to arriving at shared solutions.
- **Invest together:** Cooperating to accelerate schemes such as the improvements to the A30 at Temple in Cornwall. Local Enterprise Partnerships and the local authorities who deliver local road schemes should have the option of directing their Single Local Growth Fund resources towards improvements on the strategic road network, allowing them to improve conditions and foster growth.

- **Deliver together:** Enabling the new company to invest where the strategic and local networks interact with one another, so that institutional boundaries do not stand in the way of better conditions for road users.
- **Operate together:** Linking together respective control centres and traffic operations arrangements, planning for winter, sharing data and coordinating road works in order to manage traffic flows better.
- **Manage growth together:** Recognising local and national plans for development, and promoting stronger cooperation in support of proposed developments.

5.35 We will make sure that there continue to be clear, effective channels for local authorities to work with the new company. Greater independence must not lead to any decrease in communication – in other countries with independent highways operators, maintaining a good relationship with local authorities remains an important part of their job.

6. Greater independence

- We have already proposed a programme of major reform, to drive investment and value for money on our strategic roads.
- Longer-term, we will continue to discuss with motorists' groups and others whether the roads operator should have even more independence.
- Any further reform will depend on finding a model which motorists can trust.

- 6.1** The proposals laid out in this paper are the greatest ever upgrade of our road network. They will unlock tens of billions of pounds worth of benefits and lead to real improvements for drivers in every corner of the nation – from those stuck on busy motorways to those living in under-served towns and cities. It will give our nation a road network that is the envy of the wider world.
- 6.2** The management reforms we have announced will transform the Highways Agency into a strategic highways company, with far greater independence, greater certainty of funding and a long-term strategic vision. All of these will drive down costs and increase the accountability of those who run the network.
- 6.3** In building this package, we have also considered options for further institutional reform, giving the roads operator even greater independence from government and leaving it to handle a specific remit on the management of the roads. Some models have the potential to bring in private finance, to help support investment. International experience, as well as lessons from the way other types of infrastructure are run in the UK, suggests that this could lead to more efficiency, quicker delivery and better forward planning.

Running the roads

At present, the strategic road network is operated as part of the state. This is unusual – no other major form of UK infrastructure (water, gas, sewerage, electricity or telecoms) is run by the government. In transport, airports, ports and railways are all run at least in part by the private sector.

While there have been challenges in transition between different systems, new institutional models have been capable of raising private finance, consistently leading to greater investment and more capacity. Handled correctly new models can also drive greater efficiency. Under certain conditions, it could also be an opportunity to create clearer accountability or give motorists more of a say over how roads are run.

Alternative models used to manage infrastructure include:

Contractual model

Currently, the Highways Agency holds 11 Design, Build, Finance and Operate (DBFO) contracts with private operators, under which a private company takes responsibility for the improvement and management of a section of the road network. The largest of these covers the whole of the M25 area. Many of the older DBFOs are too small to offer major economies of scale, but wider reform of strategic roads could offer the potential to use a DBFO-style approach to cover the rest of the strategic road network.

DBFO companies sign up to a defined contract about how they will manage the road and what sorts of improvements they will deliver. But within the terms of this contract, they are free to develop more innovative ways to deliver these outcomes. This can lead to significant improvements in efficiency, much of which is captured for taxpayers.

Regulated utility model

The water sector, like most infrastructure in the UK, is run as a regulated utility. The actual network is run by series of companies (private, state run and mutual/not for profit), but their actions are controlled by OFWAT as an independent regulator. Each company runs its section of the network under the terms of a licence, setting out the rules it has to follow.

While private companies can make a profit, their ability to do so is limited by the regulator. Every five years, OFWAT leads a price review, limiting how much the water companies can charge their customers based on expected operating costs, efficiencies and investment. OFWAT also monitors the performance of water companies to make sure they are meeting the conditions of their licences and are sufficiently robust to continue operating without any disruption to supply.

Trust model

A third model is one where a piece of infrastructure is handed over to a trust – an organisation designed to look after the network on behalf of its users. This is the approach used by the Canadian air traffic control organisation, Nav Canada. Nav Canada is an independent company, separate from government. However it is set up without shareholders or owners, so any profits have to be reinvested in the company or used to bring down prices.

Nav Canada is run by a board selected by the aviation community, government and unions. All of these groups have a clear incentive to ensure that the aviation sector is well-run, on a secure long-term footing and able to provide a good service to users. Partly for this reason, the model is particularly well-insulated against the risks of profiteering. It has also been effective at driving efficiencies and holding the cost to users steady.

- 6.4** We are not bringing forward plans to adopt any of these models. However, we recognise that further reform might have real benefits for motorists.
- 6.5** We will therefore continue to examine whether there is a case for further change to the way we run the strategic road network in England. We will want to hear views from motoring groups, businesses and other people who might be affected by any change, to see whether there is a model for reform which all can trust.

7. Next steps

- 7.1** This paper has set out a vision for the future of the road network. In order to improve our roads and support the economy, we are taking decisive action:
- To make a transformational investment in the road network – the biggest ever upgrade of our existing roads – supporting the economy and environment, and building a network fit for the future.
 - To free up local investment funding, so local authorities can commit more spending to the most urgent transport needs.
 - To reform the way in which we plan investment on the strategic road network, to provide greater certainty and a clearer vision.
 - To modernise the way the strategic road network is run, to make the money which is spent go further.
 - To improve the experience that people have on our roads.
- 7.2** We will begin to implement this vision over the coming months. This will begin later this year when we set out greater detail on the process and timetable for reforming the Highways Agency into a publicly-owned strategic highways company. These are major changes and we will consult on the key elements of the proposals.
- 7.3** Administrative measures, which can be handled wholly within government, will proceed separately. We have already guaranteed certainty of funding for the Highways Agency, so that it can begin to capture the resulting efficiency gains as early as possible.
- 7.4** We will consult on a new National Policy Statement (NPS) on National Networks later in 2013. Subject to the results of this consultation, we expect to formally designate the NPS in 2014. This will help to ensure that investment in the network can continue through the planning process quickly, after meeting all of the requirements for economic and environmental appraisal.
- 7.5** We bring forward legislation, to make the different elements of this reform package legally enforceable. Given the importance of certainty in driving efficiency in the sector, it is right that the most difficult elements of reform should be backed by the strongest guarantee that government can provide.
- 7.6** We will also begin work on the first Roads Investment Strategy. This will cover investment in major schemes over the period to 2021 and will give construction companies the certainty they need to begin preparing for large-scale work.

Continuing the discussion

- 7.7** This paper represents the start of a large-scale package of reform. We will be consulting on a number of the individual elements as reform moves forward, particularly those areas that will have an effect on the existing staff at the Highways Agency.
- 7.8** However we are also keen to widen the conversation about the future of the road network. We will keep working with a range of different organisations to help foster an informed discussion:
- **Motoring groups** such as the RAC Foundation, RAC Motoring Services and the AA, representing the interests of drivers.
 - **Freight and hauliers'** representatives such as the Freight Transport Association and the Road Haulage Association, as well as individual haulage firms.
 - **Businesses**, both directly and through bodies such as the CBI and FSB. As organisations that often bear the costs of poor roads, they understand the need for improvements to our network.
 - **Local authorities and local bodies** including Local Enterprise Partnerships, who understand how their roads affect local economic performance.
 - **Environmental groups** and advocates of **sustainable travel** to understand how to include proper protections for the environment and vulnerable road users.
 - **Professional engineering and transport associations** to understand in detail what our future need for infrastructure is likely to be.
 - **Academics** working on the future of transport.
- 7.9** We will also be interested in the views of members of the public throughout the process.

Contributing to the discussion

In addition to contributing to consultations on specific elements of reform, we are also interested in hearing views about the wider process of roads reform. It is important that roads reform reflects the interests of everyone affected by the road network. This discussion needs to take account of the views of a wide range of different road users, as well as those whose lives are touched in other ways by local and strategic roads.

We will be setting out some of our proposals in greater detail in the year ahead. However, we would welcome any views on the issues contained within this document, particularly during July and August.

You can contribute by email to roads.reform@dft.gsi.gov.uk, or by posting your views to:

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