A fresh start for the Strategic Road Network

Managing our roads better to drive economic growth, boost innovation and give road users more for their money

Alan Cook

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Foreword

Dear Secretary of State,

The importance of England's motorway and trunk road network to our daily life and our economy is enormous. It is impossible to conceive of a modern and successful British economy without it. Our economy, society and patterns of land use are now entirely dependent on, and inseparable from, these roads. So to call England's motorway and trunk road network 'priceless' is not to use a metaphor – it is to state a simple truth.

So it is strange that, in our national cultural and political conversation, we rarely hear motorways and trunk roads – and the people who build, maintain and operate them – being celebrated and valued. When motorways and trunk roads are discussed, it is usually in negative terms – as a story of congestion, stress, noise, pollution and emissions, deaths and injuries, and costly and disruptive works. Our leaders have – quite understandably – focused on mitigating these problems; they have given less attention to the positive possibilities and opportunities motorways and trunk roads can offer our economy.

Our current economic and financial challenges demand a change in our approach. I believe the managers of this network can do much more to support future growth, prosperity and jobs – actively and positively. We must not take our attention away from accidents, congestion and the environmental impacts of roads – but, by focusing too much on these negative aspects of motorways and trunk roads, we may already have missed important opportunities. We cannot afford to miss more.

The programme I set out below aims to achieve, embed and reinforce a new optimism about motorways and trunk roads, as one of the foundations of our country's future prosperity. It will work by unleashing the creativity, energy and ideas of everyone who works to make these roads better places – and it is to them that I dedicate this report.

Alan Cook

Executive summary

Challenges and opportunities

1 The network of motorways and trunk roads in England is one of the country's most important pieces of economic infrastructure. The strategic roads network (SRN), managed by the Highways Agency (the Agency), carries nearly a third of all traffic and two-thirds of freight traffic, despite making up only 3% of the total road network.

2 Operating, maintaining and enhancing this network effectively is crucial to our country's economic performance. For example, a recent single incident which closed Junction 7 of the M25 at rush hour is estimated to have cost the economy £1.74 million, or £62,000 an hour.[1] Pressures on the network will increase in coming years. By 2035, traffic volumes are projected to be 46% higher, and average delays 54% longer, than in 2003. At the same time, constraints on public funding make it imperative that the industry achieves more with less.

3 The Government has set challenging efficiency targets for spending on the network as part of the 2010 Spending Review, with a headline reduction in spending of 20% over four years. Total spending (net of savings) is planned to reach £2.1 billion in 2014/15, compared to actual spending of £2.66 billion in 2010/11. Savings are to be achieved mainly through better procurement, rather than changes to the Agency itself, or its relationships with the Department for Transport (DfT) and the supply chain.

4 Based on the evidence I have gathered for this review, I believe that there is significant scope for additional efficiencies, saving around £200 million a year after five years from maintenance and operations activities, following implementation of a programme to reform structures, relationships and responsibilities. There are also opportunities to secure further savings from the major schemes programme.[2] These savings could be reinvested in the network, or used for other government priorities.

5 Even more importantly, the same set of reforms would help align decisions on maintaining, enhancing and operating the network much better with the needs of the economy. A clearer, more rigorous and challenging performance framework would improve peoples' journeys by more effectively preventing delay and disruption around the network, and saving more of the estimated £1.6 billion a year impact on the economy of congestion on the SRN.[3]

[1] Highways Agency data, 2011.

[2] This represents 20% efficiency gains across £1 billion of the Government's annual spending on maintenance and operation of the network. The value of the Government's planned annual cash expenditure on the maintenance, operation and enhancement of the strategic roads network at the end of SR10 (2014/15) is approximately £2.1 billion. Excluding PFI service payments, which are a contractual commitment, gives planned expenditure of some £1.6 billion. We have also excluded the £600 million spend on major projects in 2014/15, where the scope for savings is likely to be lower, following funding reforms applied at SR10; however, we expect that our recommendations would also bring additional efficiencies here, in the region of 5–10% or £30–60 million. We have excluded depreciation and non-cash Annually Managed Expenditure.

[3] Department for Transport data from 2003, as used in the Eddington Study.

6 These reforms also set a new direction for the network manager, creating a more commercial organisation that would be more adaptable to future strategic challenges and potential alternative business models.

Where we are now

7 Opportunities of this scale arise because of the unique history of the Highways Agency. The SRN is now the only major item of economic infrastructure in England still run by the civil service, with annual budgets allocated by the DfT. Since the Agency's creation in 1994, when it was seen primarily as a road builder rather than an asset manager or network operator, it has had to adapt to an unpredictable 'stop–start' investment climate and a range of changing political priorities.

8 We now have an organisation that is flexible and responsive to those changing priorities, with a dedicated workforce and a strong public service ethos. In the past few years, it has made strides towards becoming a more commercially-minded organisation.

9 But the unique position of the Agency, and its relationship with government, has failed to reflect the wider interests of our economy. The close proximity of the Agency to the DfT means that there has historically been little pressure for the Government to take, or stick to, long-term decisions for investment in the network. Governments have tended to put their own short-term needs, as service providers and funders, ahead of the long-term interests of taxpayers and road users. Perceptions of political pressure, and constraints on civil service recruitment and rewards, have also created an over-centralised working culture that is unnecessarily 'risk-averse'. Unlike in the regulated sectors, there is no continuous external pressure for efficiency. Successive changes of approach and agenda have also created duplications and inefficiencies between the Agency, its supply chain and local authorities.

10 The perceived need to secure flexible terms across the Agency's business activities adds to costs – and means opportunities for efficiency are overlooked. The Government has been buying the wrong kind of flexibility and is paying a hefty premium.

A new approach

11 Better infrastructure is at the heart of the Government's economic growth agenda – but, if motorways and trunk roads in England are to meet the needs of a growing UK economy, we must make a clear break from this pattern of short-term thinking and 'stop–start' investment. We must instead put in place the structures, commitments and relationships that can support a more ambitious and forward-looking infrastructure programme – one that enables, rather than constrains, economic activity.

12 My central recommendation is for a transformation in the management of the network, to bring it in line with the best-performing infrastructure providers in other sectors. At the heart of this is a model that empowers and enables the network manager – with a new, independent Board – to make better, freer commercial decisions, with greater financial certainty and control, while being more closely aligned with local priorities and held much more robustly to account by the

Government over its medium- to long-term performance. The DfT should lead the process of reshaping and forming the new independent Board, moving it away from its current advisory role to align it with commercial best practice. This should start with the formal selection of a non-executive Chairman and recruitment of industry leading non-executive Directors to outnumber, challenge and assess the executive teams' future delivery capability.

13 My intention in setting out my wider recommendations is not only to present a 'one-off' set of opportunities for efficiency. It is also to enable and encourage culture change throughout the organisation and its supply chain, ensuring that achieving better economic value, in the interests of road users and taxpayers, always comes first. Achieving this culture change will be challenging, requiring a fresh start for the organisation, with a much more focused and commercial remit. This requires commitment from the DfT, the Agency and HM Treasury to implement a full package of reforms.

14 This package has been designed to be relatively quick and cheap to implement, while giving this infrastructure business the environment it needs to succeed – a clear purpose and set of priorities, more predictable funding, and sustained pressures for high performance. It aligns closely with wider government policy on public service reform, by enabling 'front-line' initiatives and local innovations.

15 The package also envisages a new strategic role for the Government – a role that puts road users and taxpayers first. Ministers would have new tools to set much more robust, lasting goals for the medium- and long-term performance of the network – for example by setting through its specification much clearer requirements on reducing unnecessary delays – and to put greater pressure on the Board. Crucially, it also requires the Government to support the Board through meaningful long-term commitments. This would bring about a much more businesslike relationship between the Government and the Board, based on a 'contract' that both sides must aim to comply with – not a weak 'New Year's resolution'. The new Board would remain directly accountable to ministers – their 'shareholders' – for their performance in meeting the 'contract terms'. Ministers would remain able to take appropriate action in the event of sustained or serious failure.

16 This more businesslike approach would bring substantial benefits for taxpayers and for road users. My assessment of the opportunity for annual efficiencies worth £200 million a year after the first five years is based on both 'top-down' and 'bottom-up' evidence:

- many of my recommendations reflect the characteristics of leading infrastructure businesses in the regulated sectors. These businesses have typically been able to achieve year-on-year cost efficiencies of c. 3–6% per year on average over an extended period of time; implying annual efficiencies of c.15–35% efficiencies after five years; and
- opportunities for savings of this magnitude are also supported by evidence from across the Highways Agency's business areas. For example, a number of contractors have identified opportunities from a new model for maintenance contracting in the region of c. 20–40%; and the Agency has estimated potential savings from greater funding certainty and financial flexibility for its renewals programme of c.15–20%.

17 Although my recommendations draw from best practice in the regulated sectors, the model I am proposing is different from a regulated model such as that for the rail or water industries. Under this model, the network manager remains directly accountable to the Secretary of State as its sole shareholder, who also takes on a new, more strategic role in setting goals for network performance on behalf of road users and holding the network manager rigorously to account.

Recommendations

18 Achieving the new approach requires action from the Government, the Highways Agency Board and the supply chain. The actions set out below must be delivered as a package, in order to bring about sustained and lasting culture change and deliver the cost savings set out above.

> **Recommendation 1.** Within six months of the Government's response to this review, the Department for Transport (DfT) should publish a long-term strategy for motorways and trunk roads.

19 This would provide a long-term strategic direction for the network, the network manager and the wider industry, set in the context of the Government's wider transport strategy and policy agenda.

> **Recommendation 2.** Within 12 months of the Government's response to this review, the DfT should set out a predominantly outcome-based specification for the current network, detailing firm commitments for the next five years. The specification would set out the levels of capacity and performance, and the safety and environmental standards, that the Government intends to secure from the network manager over that period, along with a challenging target for financial efficiency modelled on an 'RPI – X%' type approach, reflecting the interests of taxpayers.

20 This 'performance contract' would give ministers the opportunity to provide a clear strategic vision for the future performance of the network, alongside a robust and transparent performance challenge to the network manager, modelled on similar mechanisms in the regulated sectors.

> **Recommendation 3.** Ministers and the DfT should focus on a distinctive new strategic role as the champion of road users. The DfT should ensure that its specification for network performance reflects the experiences and reasonable aspirations of road users. The DfT should challenge the network manager on an ongoing basis to ensure that its specification is consistently achieved, aiming to provide similar pressures to those on comparable infrastructure companies in the regulated sectors.

21 The DfT should ensure that its specification clearly and transparently sets out the service levels and standards that road users should expect from the network, based on engagement with road users and representative bodies. Consistent with a new, more strategic role, ministers should focus their efforts on obtaining the best possible outcomes for road users, with the network manager's Board taking responsibility and accountability for the day-to-day operational and commercial decisions it makes to achieve those outcomes.

22 This new role requires a degree of culture change in the DfT, which needs to develop a much more businesslike and challenging relationship with the network manager, and to demonstrate transparently that it is putting the interests of road users at the heart of its activities.

Recommendation 4. With the support of HM Treasury, the DfT should set out a funding package for the existing English motorway and trunk road network, committed for five years to accompany the specification, which represents the Government's best assessment of the economic and efficient cost of that specification. The network manager should be given the commercial freedom to manage its own budget, including access to a working capital reserve, allowing the smoothing of investment and expenditure between budgetary periods and effectively ending the constraint of annuality.

23 This opens up significant potential for efficiencies by giving the network manager the ability and flexibility to plan investment over the long term and to obtain better value from the Agency's contractors by contracting with greater certainty.

Recommendation 5. If ministers decide that new routes and connections, not provided by the current network, are required, the DfT should examine the business case for building and operating these as private toll roads in the first instance, using the new network manager as an expert adviser.

24 The strategic road network is largely complete, and there are likely to be few opportunities for entirely new connections: the focus should be on improving existing routes. The DfT should take responsibility for proposing any major new routes, with the network manager focusing on managing the existing network. To minimise the fiscal cost of any new connections, and the risks to economic funding of the existing network, the DfT should consider providing any new connections as private toll roads in the first instance.

Recommendation 6. The DfT should initiate and complete the process of remodelling the Highways Agency to reflect best practice in successful infrastructure companies and provide greater independence from government, including:

- re-shaping the Board to create a majority of non-executives in line with commercial best practice;
- formal selection of a non-executive Chairman; and
- reforming the status of the network manager in order to provide a catalyst for change, so that it can operate with more certainty in its funding settlements, greater commercial flexibility, and less ministerial intervention on a day-to-day operational basis.

25 This would create greater clarity of roles between the Government as funder and 'customer' for the network, and the new Board. It would also impose stronger commercial disciplines on the Board, increase the credibility of the DfT's commitment to the network by enhancing the Board's independence and provide a necessary catalyst for cultural change. The precise corporate status of the new organisation is less important than creating the right characteristics and relationships with the DfT, its customers and its supply chain: there is likely to be a spectrum of potential governance solutions which could create this environment. A government-owned company, or an executive non-departmental public body (NDPB), would be potential options. A government-owned company could be established relatively quickly, at moderate cost, and should require no new legislation.

Recommendation 7. The Board should devise and lead a change programme in the Agency and subsequently the new organisation.

26 This would aim to embed a commercially-driven culture of efficiency, high performance and continuous improvement in the network manager, without which there is little chance of strategic reform leading to greater efficiency or performance. It would also refocus the network manager on achieving its client's specification and position it as an expert enabler, commissioner and standardiser of highways and highway services, consistent with the Government's broader ambitions for public service reform.

Recommendation 8. The network manager, working with local authorities and Local Enterprise Partnerships, should initiate and develop a new generation of route-based strategies.

27 These would provide clarity for local authorities and Local Enterprise Partnerships over the Government's plans for the SRN, and provide a means of coordinating the interests of the DfT – set out in its performance specification – with local interests, potentially alongside new, localised mechanisms for financing and delivering improvements on the strategic road network, and achieve greater coordination with local road networks.

Expectations for the new Board

28 As a result of these reforms, I would expect the new Board to make a number of changes to the way it does business. My recommendations to the new Board include:

a) **Taking a new approach to road users,** including:
   - setting clear performance expectations for customer service;
   - taking a pro-active approach to influencing driver behaviour where this provides a cost-effective way of achieving its performance specification; and
   - driving better enforcement on the network from stakeholders such as the police, through greater transparency of performance data.

b) **Refocusing its information strategy to place less emphasis on providing bespoke information services itself.** It should instead focus on providing accurate, real-time information about the network for use by third parties, enabling a wider range of products and services, more relevant to the needs of individuals, to be developed.

c) **Embedding an optimum whole-life approach to asset management throughout the business**, seeking relevant accreditations within four years and ensuring this approach is reflected in all relevant business decisions.

d) **Achieving substantially greater value for money from future asset management contracts by changing the geographical size, scope, length, standards, reporting requirements and risk transfer of its maintenance contracts**, and thereby challenging and enabling the supply chain to deliver unit cost savings for maintenance works of at least 25% over the first five years.

e) **Implementing a study of its Traffic Management Services, to report within six months of the Government's response to this review on the optimum procurement model for delivery** – in particular by:
   - exploring outsourcing options to reduce duplication with its asset management contractors; and
   - aligning traffic management operations more effectively with asset management works.

f) **Investigating and reporting, within six months of the Government's response to this review, on the potential for a new approach to supporting network enhancement through route-based programming of smaller, incremental projects, procured through capacity and reliability milestones,** to reduce the distortion of investment priorities and potential for delay associated with delivering network enhancements through 'major projects'.

Structure of this report

29 **Part A** sets out an overview of the network, the Agency's role, and the context to the review. **Part B** sets out my analysis of the challenges facing the network, the potential drivers of efficiency and performance in comparable sectors, and the options for reform. **Part C** sets out my vision for a new approach and my specific recommendations for delivering this.

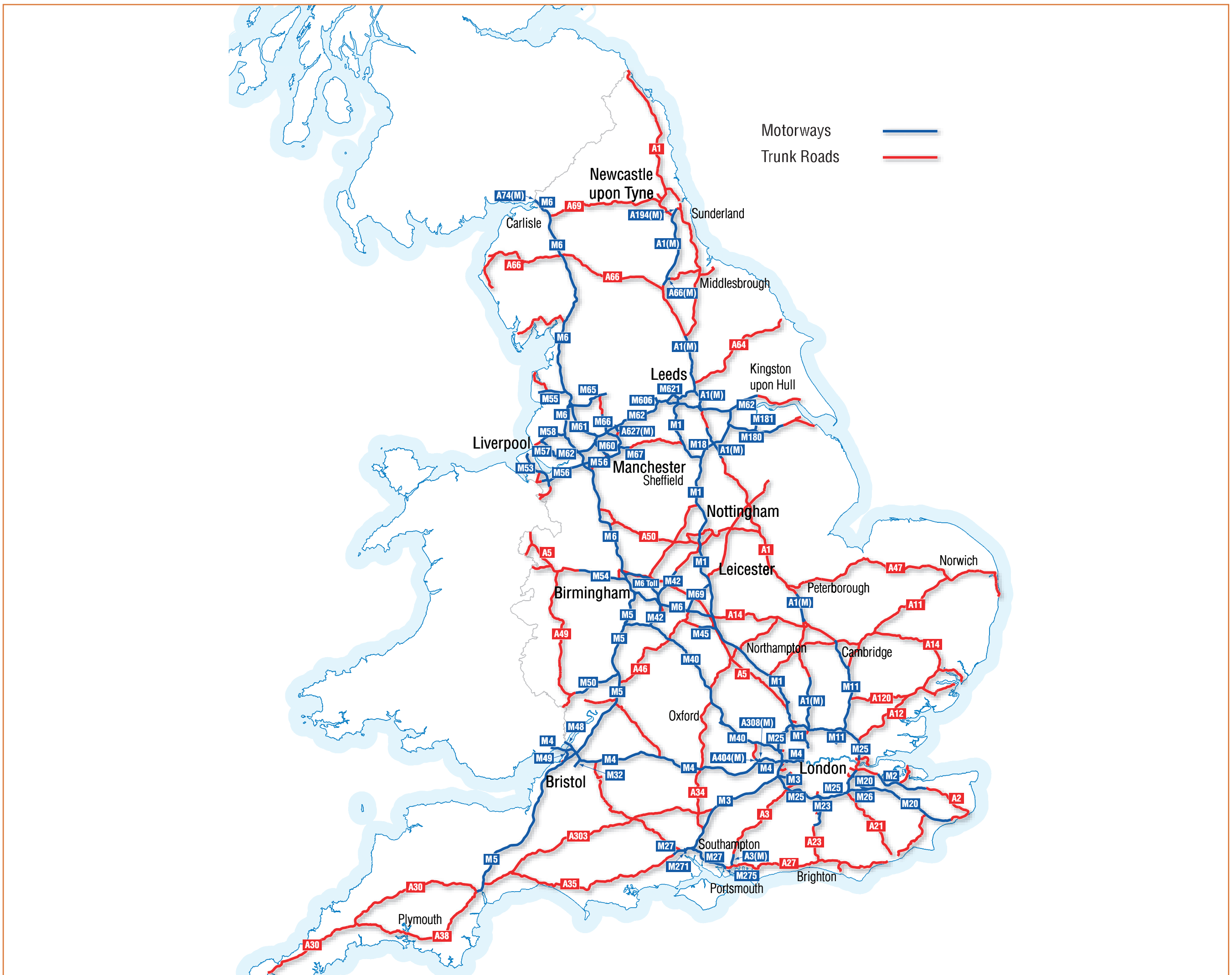
Part A:

Introduction and background

1 Economic importance of the strategic road network

1.1 The strategic road network (SRN), shown in Figure 1.1, consists of nearly 7,000 kilometres of motorways and all-purpose trunk roads in England. It makes up 3% of the total roads in England, yet carries nearly a third of all road traffic and two-thirds of large goods vehicle traffic. It is the single largest physical asset owned by central government, with an estimated value of approximately £99 billion.[4]

Figure 1.1: England's strategic road network in 2011



Source: Highways Agency

[4] *Highways Agency Annual Report and Accounts 2010/11,* Highways Agency, July 2011.

1.2 This network is a key enabler of economic prosperity, productivity and social wellbeing. Roads carry over 91% of passenger transport in the UK.[5] A well-functioning network enables growth by reducing business costs, improving access to markets, enabling competition, improving labour mobility, enabling economies of scale and agglomeration, and helping attract inward investment.

1.3 The management of the road network also has an impact on people's quality of life: reducing journey times, opening up new opportunities for travel and leisure, decreasing the impact of traffic on the environment they live in and around, and influencing the impact of road accidents: between 2000 and 2010, for example, there was a 41% reduction in the number of people killed or seriously injured on the SRN.[6]

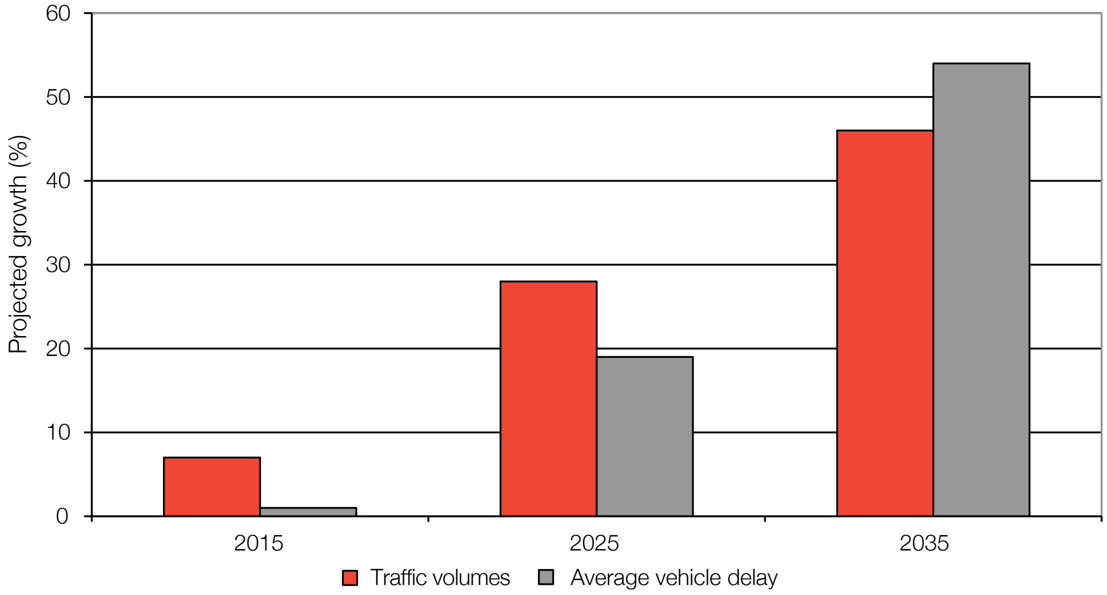
1.4 The roads network is also important for the 'rebalancing' of the economy, as a key engine of labour mobility and trade between different regions of the UK. The use of roads also has an impact on the environment: for example, cars currently contribute around 13% of carbon dioxide emissions in developed countries, one of the largest contributions from a single source after power generation.[7]

1.5 Improving the performance of the existing road network was one of the top priorities identified by the Eddington report on *Transport and the Economy*, which estimated in 2006 that a 5% reduction in travel time for all business and freight travel on the roads could generate around £2.5 billion of cost savings – around 0.2% of GDP.[8] A recent incident that closed Junction 7 of the M25 at rush hour is estimated by the Highways Agency to have cost the economy £1.74 million, or £62,000 an hour.

1.6 Traffic volumes on motorways and trunk roads in England have fallen just over 2% since the start of the global economic crisis in 2008. However, over the longer term, growth will continue to put increasing pressure on the capacity of the network. As Figure 1.2 shows, DfT models project motor traffic on Highways Agency interurban roads to rise by over 45% between 2003 and 2035.[9]

[5] *Transport Statistics Great Britain: 2010,* Department for Transport, November 2010.
[6] Highways Agency data, 2011.
[7] *The King Review of Low-carbon Cars: Part II,* J. King, HM Treasury, March 2008.
[8] *Transport and the Economy,* R. Eddington, December 2006.
[9] *Transport Statistics Great Britain: 2010,* Department for Transport, November 2010.

Figure 1.2: Projected growth in traffic volumes and vehicle delay on Highways Agency interurban roads (compared to 2003 levels)



Source: *English Regional plus Welsh Traffic Growth and Speed Forecasts*, Department for Transport, May 2010

1.7 The Organization for Economic Co-operation and Development (OECD) recently included improving road transport infrastructure network as one of three key barriers to UK growth requiring action from government, and the UK continues to compare poorly internationally on business perceptions of transport infrastructure, with the quality of roads infrastructure ranked twenty-sixth on the World Economic Forum's Global Competitiveness Report, comparing poorly with countries such as France (first) and Germany (tenth). Nearly 90% of UK businesses in a 2008 CBI survey reported that poor reliability of the road network is having an impact on their productivity.[10] At the same time, despite the relative protection for transport infrastructure in the 2010 Spending Review, there are substantial pressures and opportunities to achieve better outcomes with fewer resources: £2.1 billion of investment in the network is planned for 2014/15, compared with nearly £2.7 billion in 2010/11, and a number of reports have identified inefficiencies in government procurement of infrastructure and construction of at least 15–20%.[11]

[10] *Going For Growth 2011*, OECD, 2011; *Global Competitiveness Report 2011–12*, World Economic Forum, September 2011; *Tackling congestion, driving growth,* Confederation of British Industry, March 2010.

[11] E.g. *Infrastructure Cost Review,* Infrastructure UK, December 2010; *Government Procurement Strategy,* Cabinet Office, May 2011.

2 The current management of the network

2.1 The Highways Agency (the Agency) is the executive agency of the Department for Transport responsible for the maintenance, operation and enhancement of the strategic road network (SRN) on behalf of the Secretary of State.[12] The Secretary of State is legally responsible for the network, as both the Highway Authority and Traffic Authority.

2.2 The Agency has approximately 3,500 employees, consisting of over 1,800 office-based staff and around 1,700 in the Traffic Officer Service. Its workforce is spread across England, including a small corporate centre in London, seven regional offices, seven regional response centres and 32 outstations.

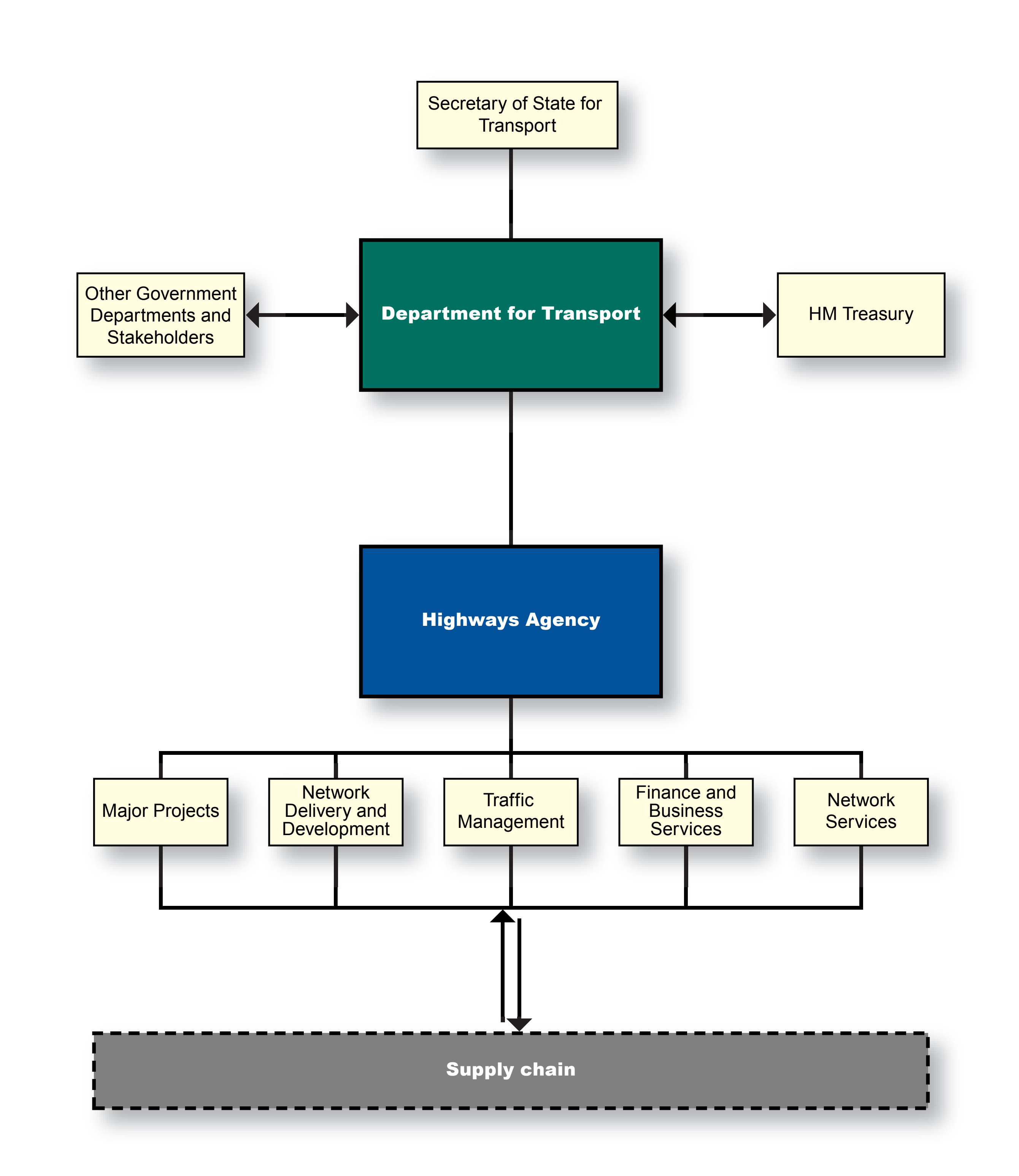
2.3 The Agency was established in its current form in 1994. There have been some significant changes to its purpose and priorities since then:

- the Agency's core purpose has shifted from being a 'predict and provide' road builder with a focus on creating new motorway and trunk road connections, to being a network operator and asset manager, primarily concerned with effective management and enhancement of the existing network;
- as the existing network became more intensively used, the Agency established a range of new traffic management services and programmes – including a dedicated Traffic Officer Service, introduced in 2004, which now manages and clears an average of 26,500 incidents each month; and
- the size of the Agency's network has decreased, with much of its network being transferred to local authorities – the current network of around 7,000 km compares to approximately 10,000 km in 1998.

2.4 Figure 2.1 summarises the current governance of the SRN.

[12] The relationship between the DfT and the Highways Agency is set out in the Highways Agency Framework Document, July 2009.

Figure 2.1: Governance of the strategic road network



3 Background to the review

3.1 As part of the Department for Transport's Spending Review settlement in October 2010, the Secretary of State agreed to carry out an independent review to examine whether Government has the right approach to operating, maintaining and enhancing the strategic road network. The Terms of Reference for the review, which started in April 2011, are set out in Annex A.

3.2 The review has also been informed by the Government's wider plans for the economy, public services, the infrastructure and construction sectors, and other transport sectors, each of which have been clearly set out in recent publications:

- The *Plan for Growth*, published in March 2011, set out the Government's plans to enable strong, sustainable and balanced growth, with a clear role for government in removing barriers to private sector growth: "to act in a way that supports growth rather than hampers it," including the introduction of a presumption in favour of sustainable development in the planning system and reduction of regulations on business;[13]
- The *Open Public Services White Paper*, published in July 2011, set out the Government's strategy for modernising public services, based around five principles: increased choice; decentralisation to the lowest level; openness to a range of providers; fair access; and accountability to users and taxpayers.[14] These sit alongside the Government's wider commitments to promote greater localism;
- Infrastructure UK's *National Infrastructure Plan* and *Infrastructure Cost Review* set out plans to improve government's role as an infrastructure client, identifying an opportunity to realise savings of at least 15%;[15] and
- The *Government Construction Strategy,* published in May 2011, set out a series of actions to help the public sector become a better client in the construction industry.[16]

3.3 Each of these documents has helped shape my recommendations in this report, which in itself forms only one part of a broader transport reform agenda. The Government is driving forward its plans for High Speed Rail, which aims to transform the country's economic geography. Separately, a recent review of the rail industry led by Sir Roy McNulty identified a number of actions to help deliver greater efficiency from the rail industry.[17] This has a number of parallels with my own findings in this review.

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13 *The Plan for Growth*, HM Treasury and Department for Business, Innovation and Skills, March 2011.

14 *Open Public Services White Paper*, HM Government, July 2011.

15 *National Infrastructure Plan 2010*, Infrastructure UK, October 2010; and *Infrastructure Cost Review*, Infrastructure UK, December 2010.

16 *Government Construction Strategy*, Cabinet Office, May 2011.

17 *Realising the Potential of GB Rail: Report of the Rail Value for Money Study*, R. McNulty, May 2011.

Part B:
The case for change

4 Current challenges

4.1 Any review of the motorway and trunk road network must include an analysis of the current Highways Agency (the Agency) and how it could work better. I have also had a clear mandate to consider possible alternative institutions and structures. Understanding the advantages of the current Agency's status, the problems and challenges it poses and the opportunities that reform could bring, has been crucial for this task.[18]

4.2 The current Highways Agency is a unique institution. Its position as an executive agency of central government sets it apart from all other major infrastructure and transport businesses in England, following a series of reforms to those businesses from the 1980s onwards. The Agency's status also contrasts with many international examples where strategic road networks are managed at a distance from central government: for example, much of France's and Austria's motorway networks are operated by independent (private and government-owned) toll road operators.[19]

4.3 There are many good reasons why the business of motorways and trunk roads should have distinctive features. This business is a 'natural monopoly', operating an 'open' network that forms an integral and indivisible part of a wider transport system. The business gives rise to serious safety hazards and environmental issues, and requires a very long-term approach to planning and investment. However, other businesses with some or all of these features operate successfully under a wide range of business models – none of these reasons provides a compelling argument for the business to be run directly by central government.

4.4 There are two other explanations for the current status of this business. First, most other infrastructure networks exist solely to provide a secondary commodity or service to consumers (water, electricity, train trips). For users of road networks, the infrastructure is the service. However, as road users have no direct relationship with the infrastructure provider at the point of use, they must instead rely on democratically accountable public authorities to ensure their needs and concerns are taken into account by the infrastructure provider. This is important, but it does not follow that the public authority and the infrastructure provider must be part of the same organisation. For example, some UK local authorities, such as Birmingham City Council, have outsourced their own highways services, representing road users' interests through agreeing a performance contract.

[18] Several external commentators have recently addressed these questions, raising a number of the issues covered by this review. See for example: *Tackling Congestion, Driving Growth*, CBI, March 2010; and *Governing and Paying for England's Roads,* RAC Foundation, July 2010.

[19] A number of international examples of alternative governance and funding models are discussed in *Providing and Funding Strategic Roads: An International Perspective with Lessons for the UK*, J.W. Smith, A. Jan and D. Phillips (Arup and RAC Foundation), November 2011.

4.5 The second explanation is that the current status enables ministers to give specific directions to the infrastructure provider on the management of the network. This enables them to respond quickly, decisively and with clarity to specific public, Parliamentary or media concerns. They may also take direct action to support wider policy objectives – for example, to direct the Agency to support wider transport integration initiatives, or to amend investment programmes quickly in response to changing economic and financial pressures.

4.6 The Agency has in turn placed a correspondingly high value on its own flexibility and responsiveness, driven by the need to accommodate changing ministerial priorities and directions. It has repeatedly proved able to accommodate change through successful organisational change programmes, and within the roads and transport industries, the Agency overall has a reputation as a constructive and helpful business partner, comparing favourably to counterparts elsewhere in transport. Examples of recent successes include:

- following the implementation of the recommendations of the Nichols report in 2007,[20] an increasingly strong reputation for delivering major schemes with agreed deadlines and budgets, by working collaboratively with the supply chain;
- a Traffic Officer Service dealing with 26,500 network incidents a month, a large number of which would have previously been dealt with by the police;
- innovations to deliver extra capacity, improved reliability and reduced emissions through pioneering managed motorway schemes;
- success at incorporating lean working practices;
- a strong record on road safety, with a 41% reduction in people killed or seriously injured on the network over the past ten years; and
- progress on promoting sustainability, as a public sector leader in carbon accounting principles.

4.7 So the key question for this review is not how to fix a failing service – but whether these successes at the Agency have allowed us to overlook strategic opportunities to get a better deal for road users and taxpayers. Based on evidence from comparisons with other infrastructure businesses, I am convinced that the public is not getting a good enough deal and the current model is an inadequate way of running one of the UK's most important pieces of economic infrastructure. This is because:

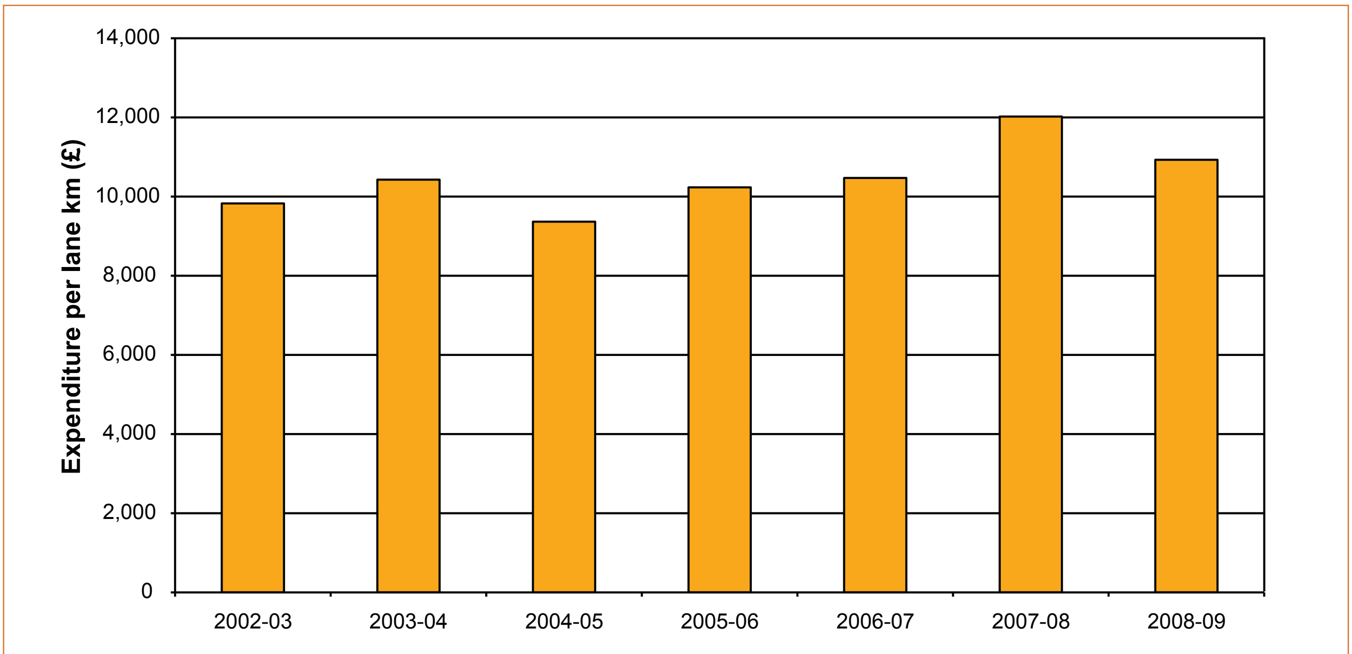
- there are insufficient sustained and external pressures on the Agency to secure improvements in **value for money** across its programme;
- the need to put flexibility first leads to sub-optimal decisions about **resource allocation** and network management, which do not reflect the country's long-term economic interest; and
- mechanisms for identifying the specific needs of road users, and translating those into incentives to meet those needs and provide excellent **customer service**, are weak.

[20] *Review of Highways Agency's Major Roads Programme*, M. Nichols, March 2007.

Value for money

4.8 There is strong evidence that the current governance arrangements for the strategic road network (SRN) are not currently delivering the best value for money from public investment. While international cost comparisons across road networks are difficult, the limited comparative cost data and anecdotal evidence available suggest that the UK pays more for highways infrastructure than international best practice. Benchmarking of eight roads projects between the UK and the Netherlands by Infrastructure UK indicated that the UK examples were on average 10% higher, based on the unit costs per lane kilometre. A previous study undertaken on behalf of the Highways Agency in 2009 indicated that the UK was up to 32% higher than the Netherlands per lane kilometre, although this was based on tendered prices rather than actual costs.[21] Recent National Audit Office (NAO) analysis of maintenance schemes also shows that unit costs have risen in recent years well above the rate of inflation, as Figure 4.1 shows.

Figure 4.1: Routine maintenance expenditure per lane kilometre adjusted for general inflation (£, 2008/09 prices)



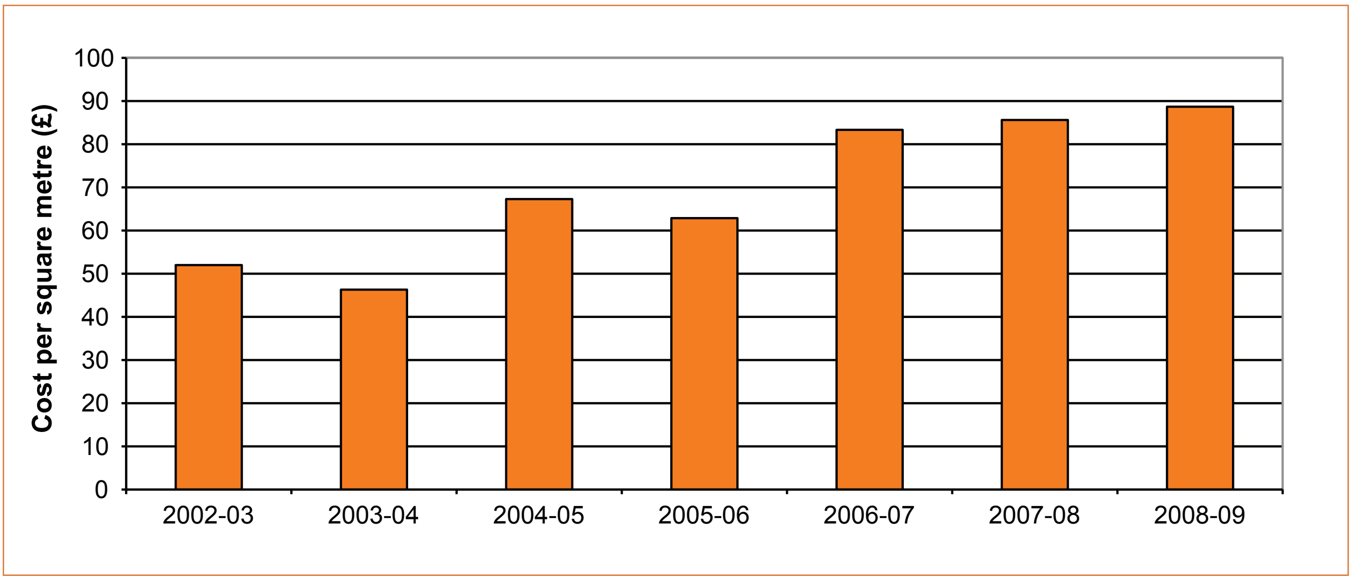
Source: *Highways Agency: Contracting for Highways Maintenance,* National Audit Office, October 2009.

4.9 Spending on planned renewals of roads per square metre resurfaced also rose by 70% over the same period, as shown in Figure 4.2.[22]

[21] *Infrastructure Cost Review*, Infrastructure UK, December 2010, and *European Cost Comparison – Cost differences between English and Dutch Highway Construction*, EC Harris and TRL, December 2009. The latter study made a series of technical and cultural adjustments to the UK costs which – as noted by Infrastructure UK – together reduce the difference to a figure comparable to their findings.

[22] This figure includes spending on items such as barriers, lighting and drainage which do not yield a resurfaced area – the Agency said this type of spending has represented an increasing proportion of the total. The Agency's own estimate of spending on resurfacing per square metre treated indicates an increase of 17% above general price inflation between 2004/05 and 2008/09, but the NAO was not able to fully validate this estimate. See *Highways Agency: Contracting for Highways Maintenance,* National Audit Office, October 2009.

Figure 4.2: Total cost of road renewals activity per square metre of resurfacing, adjusted for general inflation (2002/03-2008/09)



Source: *Highways Agency: Contracting for Highways Maintenance,* National Audit Office, October 2009.

4.10 There is also evidence that until recently the Agency and the Department for Transport (DfT) have (a) historically been slow to adopt standard practices that enable continuous value for money improvements, and (b) have tended to take risks and innovate only in response to external pressures or reviews, rather than because they had independently identified an opportunity. For example:

- a 2009 report by the National Audit Office (NAO) showed that the Agency was not exploiting the potential for regional benchmarking of maintenance contracts, to help drive down costs.[23] Since this report, the Agency has substantially improved its capability for regional benchmarking;
- a 2009 report by the House of Commons Committee of Public Accounts highlighted the Agency's need to build its asset management capability as part of becoming a more informed customer.[24] While the Agency is improving this, its capability is still considerably short of best practice in leading infrastructure businesses, based on its own internal assessments of its capability relative to the PAS55 asset management standard;[25]
- the Agency's settlement for the 2010 Spending Review (SR10) included projected savings of 20% from managing major schemes at a portfolio level, with full funding; this approach was not adopted in previous years before fiscal consolidation created a greater drive for efficiency, despite the size of the prospective savings;

[23] *Highways Agency: Contracting for Highways Maintenance,* National Audit Office, October 2009.

[24] *Highways Agency: Contracting for Highways Maintenance,* House of Commons Committee of Public Accounts, December 2009.

[25] PAS55 is the British Standards Institution's (BSI) Publicly Available Specification for the optimised management of physical assets.

- internal analysis from the Agency indicates a number of further opportunities for efficiencies from reform that have not been implemented within the current structure and are not planned as part of the SR10 programme. For example, the Agency estimates that the benefits of greater funding certainty for the renewals programme could be in the region of 15–20%; and
- a range of contractors contributing to the review said that the Agency can be resistant to potential innovations, owing to an institutional lack of incentives for civil service staff to deliver financial efficiency, by comparison with the perceived 'downside' risks of making a decision which could prove politically contentious.

4.11 The organic evolution of the Agency in response to successive political changes of agenda since 1994 has also led to clear inefficiencies, including considerable duplication, complexity and 'man-marking' between the Agency and the supply chain. For example, while the creation of the Traffic Officer Service in 2004 has helped traffic management of incidents on the network, it has also created duplication with existing incident support units run by maintenance contractors, who also have responsibility for responding to incidents. While the management has recently begun taking steps to address a range of these inefficiencies, for example through the Traffic Management Directorate's 'Future Operating Model', these have again required the external impetus of fiscal pressure to introduce.

Resource allocation

4.12 The evidence we have considered shows that, despite the long-run importance of the roads network to the economy, and the value of the SRN as a public asset, decisions on funding the network are more vulnerable to short-term pressures than in other transport modes or infrastructure sectors and are unlikely to reflect the optimum long-term economic interests of the country as a whole. This is driven by a number of factors, including:

- the absence of any external pressures or contractual requirement for central government to provide long-term policy or funding commitments to the road network (unlike other major transport public spending programmes);
- the absence of strong independent advocates for the SRN, able to build a political and economic case for sustained investment in motorways and trunk roads to sit alongside the case for other transport spending priorities; and
- different accounting practices for roads capital investment by comparison with rail or other network infrastructure (which can be financed by borrowing against a regulated asset-base (RAB), so carry a lower initial capital cost for government).

4.13 These factors ultimately reflect decisions about how the Government develops transport policies and priorities. I have therefore considered opportunities to improve allocation of resources through improvements to the Government's policymaking processes.

4.14 The current system also promotes a lack of focus on the contribution of roads to economic performance. As set out in Chapter 1, the strategic roads network is a vital enabler of economic growth; by contrast, congestion on the network can be a major drag on the economy. But there is currently no mechanism for the Secretary of State to set out, on behalf of road users, a high-level performance challenge for the network which would challenge and enable the network manager to prioritise resources on delivering maximum economic value from the asset.

4.15 There may also be opportunities to allocate new investment more effectively. This is largely because the Agency's road-building heritage appears to have left its investment programme over-dependent on a single 'major scheme' investment model. Delivering investment through specified, separately financed, 'all or nothing' major schemes is perfectly appropriate when creating new routes. However, it seems less appropriate when the priority is incremental improvements to the capacity and performance of existing routes. The major schemes process may be too inflexible and time-consuming for that type of investment – and thus inefficient. I have therefore considered, with reference to other infrastructure businesses such as London Underground and the water industry, different models that may be better suited to this new priority and that could create attractive new investment options for ministers.

Customer service

4.16 Road users and taxpayers are the ultimate customers of the services provided by the Agency. The DfT clearly has an important role to play in representing their interests, as customers, to the Agency. The Agency also has a direct relationship with road users, in particular through its role as operator of the network. However, this role seems underdeveloped, and neither the DfT nor the Agency has defined in a meaningful way the service or performance levels customers can expect in return for the funding they provide, or has sought to give road users an active role in influencing those services.

4.17 This reflects the evolution of the Highways Agency since 1994 from a 'predict and provide' roadbuilder to a network operator. With the growth of the Traffic Officer service, over half of the Agency's current workforce are now employed in operational roles that are directly visible to customers. However, compared to other intensively-used public services, the volume and depth of interactions between the Agency and road users is low, and some Agency services aimed at road users seem little-known and under-used. Furthermore, as most services on the network are delivered through contractors, responsibilities for handling customer contacts can become duplicated or confused.

4.18 Customer surveys suggest that most network users have a broadly positive experience of motorways and trunk roads – in 2010/11 the Agency achieved a customer satisfaction score of around 75%.[26] However, there is little sense on either side that customers are actively and directly helping to shape and influence services and priorities. This may reflect a perception that they are passive recipients of the service, rather than active and demanding customers.

[26] *Highways Agency Annual Report and Accounts 2010/11*, Highways Agency, July 2011.

The policymaking process

4.19 The lack of progress on value for money, resource allocation and customer service is partly due to weaknesses in the policymaking process. This process is – in theory – defined by the Highways Agency Framework Document, which sets clear expectations for, and limitations on, the roles and responsibilities of ministers, DfT civil servants and key Agency personnel. The Framework Document envisages a clear separation between policymaking and prioritisation functions (decided by ministers with advice from the DfT) and operational and delivery functions, carried out independently under the leadership of the Agency's Board and Chief Executive. The aim is to achieve efficient and effective behaviours by ensuring that all key issues are considered and decided by those best placed to do so. However, in practice, those roles and responsibilities are frequently blurred and this clear separation is not apparent. There are a number of reasons for this:

- there are pressures on ministers to intervene directly in the Agency's business, if they are able, and whenever this seems likely to improve performance or manage political or presentational pressures;
- the Framework Document envisages the DfT policy team carrying out a strategic role, advising ministers on investment priorities, performance targets, budgets and governance, and achieving coordination with wider government policy. In practice this small team frequently becomes drawn into discussions on specific schemes and programmes, and operational matters – driven partly by a perceived need to stay well informed;
- the Framework Document does not set out clear principles to distinguish between specific matters that must be referred by the Agency to ministers for decision, and matters that Agency staff may decide for themselves. Different parts of the Agency have made their own judgements on where to draw those boundaries, taking account of previous – and predicted – ministerial interest; and
- the Agency's Board, with its advisory rather than decision-making role, has not had a mandate or powers to guard the Agency's independence as envisaged by the Framework Document. This independence has been eroded; Agency staff tend to look to ministers to make decisions on operational and delivery matters, rather than the Board.

4.20 The combined effect of these trends has been that the focus of recent policymaking has been on high-profile local matters, specific schemes and programmes, and operational and methodological techniques in areas such as traffic management, information services and operational reliability measures. There has been much less recent strategic thinking, at the national level, about value for money, overall resource allocation or the customer experience.

4.21 There has been no substantive recent work to define and articulate the outcomes the Government will aim for around the network – including the levels of road capacity and reliability we need to support economic growth, or the safety and environmental standards we should aim to achieve. Outcomes such as these are rarely discussed outside the context of a specific major scheme proposal. Where no such proposal exists, there is no clear mechanism to help people wanting to understand what government policy means for issues of importance to them – like congestion on the A27, noise from the M60, or safety concerns on the A1. This seems unsatisfactory, and a stark contrast with the much clearer long-term vision being offered for other infrastructure businesses such as water, electricity and railways.

4.22 It is clear that the Framework Document has not achieved the envisaged separation: the Agency remains too dependent on government decisions about matters it is capable of deciding independently, and the DfT has not carried out its strategic policymaking functions effectively, or put the big strategic questions to ministers for decision, because its attention has been largely captured by those same matters.

4.23 The direction and programme of the Agency also overwhelmingly reflect a Whitehall view of economic and policy priorities. The Government has been clear that our future national prosperity will come from economic development growing from the 'bottom up', through the cumulative actions of businesses and individuals, and that the planning system should be more responsive to such growth. This implies that our motorway and trunk road programme needs to be able to accommodate more of this kind of incremental growth and development, as it happens, without artificially constraining it. We may be missing an opportunity to have systems and processes that make better use of local knowledge and insights, not as a rival to national policymaking, but as a complement.

4.24 This principle – that the best ideas and opportunities for improving the network will come from people closest to the issues – has emerged as a theme of this review, reflecting the thinking set out in the Government's *Open Public Services White Paper*. The White Paper envisages a much more diverse, creative and entrepreneurial public service environment, in which central government and nationwide bodies would focus on enabling, commissioning, providing information and, where necessary, setting minimum standards – not necessarily providing the public service directly.

4.25 Applying this approach to motorways and trunk roads could be hugely beneficial. I have received plentiful evidence that people working in the Agency and in the supply chain are full of good ideas for doing various things better. They frequently say that getting those ideas implemented involves a struggle against inflexible rules, standards and bureaucratic requirements imposed from the centre, in order to meet the demands (both actual and perceived) of an over-centralised system, designed around anticipating and accommodating shifting central government priorities. This problem has been recognised by the Agency – recent Design Build Finance and Operate (DBFO) contracts and the new generation of Asset Support Contracts explicitly aim to leave a much wider range of issues to contractors. But there is a limit to how far this process can go, because the Agency needs to retain the power to direct and control many activities around the network, in case the Government's needs and requirements should change.

Opportunities from a more strategic role for government

4.26 So a different, more strategic role for the Government could potentially unlock much greater innovation and efficiency at the 'front line'. This translates at the working level into less reliance on centrally-imposed and inflexible regulations, standards and directions – and greater trust in the professional skills and expertise of people working on the roads. Professional skills and expertise have not always been as highly valued in the roads sector as they have in other UK transport and infrastructure sectors: structures enabling professionals to invest in, and share, information and evidence are relatively weak. That problem goes much wider than the scope of this review, but we may have missed opportunities to manage the SRN to help build more confident, innovative roads professions that can develop those structures, and more easily attract and retain talented people.

4.27 A more strategic role does not mean the Government doing less; it means it must grapple harder with issues it has tended to neglect. For example, there is a well-established principle in transport policy that funding certainty over the long term enables better transport planning which supports economic growth, supports more efficient procurement and smarter allocation of risk, and enables more economic management of assets. The DfT has set, and has largely stuck to, long-term commitments in other parts of its spending programme – recognising that these commitments help local authorities and railway companies to plan ahead more effectively, and agree better and more efficient deals with suppliers. These commitments have been driven to some extent by the fact that these bodies are in a position to demand those sorts of commitments from ministers and defend their independence. So the DfT's commitments to the railways, local authorities and London are inherently difficult to break.

4.28 However, the DfT has not been required to make similar binding commitments to motorways and trunk roads. The SRN therefore carries a disproportionate burden of the DfT's funding risk. This uncertainty means that the Agency's programme is in a state of near-constant flux. This reduces the Agency's ability to secure efficiencies in two main ways – first, by hampering its ability to strike long-term agreements with suppliers that could offer better value for money and, secondly, by requiring the organisation to have both a stock of worked-up schemes and programmes ready to be brought forward if necessary and the ability to delay or cancel other programmes (which of course can lead to abortive design and procurement work). In particular, the Agency has found itself unable to adopt rigorous optimum whole-life asset management principles, or sign contracts with suppliers reflecting those principles.

4.29 This lack of commitment is paralleled by a lack of specific commitments to road users. There is nobody in the current system whose main role is to define and champion the needs of road users and apply pressure where necessary to get those needs met. This is a potentially rewarding and attractive new role for DfT ministers, but in the current structure they are hampered from taking on this role effectively because they are also directly responsible for the service and any failure to meet customers' expectations.

4.30 There is compelling evidence from other infrastructure businesses that:

- committed long-term funding;
- a clear sense of strategic direction and clear long-term objectives; and
- active championing of the needs of customers

can lead to dramatic improvements to efficiency, while achieving better quality infrastructure and improved service quality.[27] There is no reason why the same cannot be achieved for England's motorway and trunk road business – but it is an unrealistic aim under current structures, which constantly divert the Government onto tactical matters rather than strategic objectives. Structural change, to reinforce these new roles and responsibilities, embed continuous improvement and encourage culture change would enable us to break out of the current directionless cycle, where ad-hoc external reviews are needed to identify missed opportunities.

Limitations on reform options

4.31 When considering options for the future, I have taken account of the limitations set by the characteristics of this business and by political realities. I have not anticipated any fundamental change over the next ten years or so in the way that motorways and trunk roads are paid for by the public, or in the nature of the relationship between the network manager and individual road users. I have assumed that the network will remain funded principally by taxpayers and that accountability for the use of taxpayers' money should therefore remain with government ministers.

4.32 Ministers must therefore have meaningful ways to give effect to that accountability – by leading the key strategic choices about the SRN. It is also in the national interest that ministers can continue to make decisions about major transport investments in a way that is consistent with the wider planning and economic policy context and is coordinated with wider transport and infrastructure investments. Reform options should be sufficiently adaptable to future policy and technological innovations – and should be achievable in reasonable time as well as in a way that shows that the costs and risks of transition are small compared to the benefits and opportunities.

4.33 The following chapters set out the reform options I have considered as part of this review, with those principles in mind. I have concentrated on reform options that could practicably be implemented within five years of the publication of this review. Some of those reform options may open up further reform possibilities, looking out over the ten years beyond that, which currently do not look feasible.

[27] This is consistent with Infrastructure UK's Cost Review Charter, published in June 2011.

4.34 For example, one powerful technique for improving the performance of any business is the principle of payment by performance – that part of the funding should directly reflect the success a business has achieved, giving the business a strong incentive to improve. Currently, on motorways and trunk roads, the Government's required service and performance levels and success criteria are not well specified, so could not justifiably support the allocation of significant amounts of public money. There are corresponding problems with the collection, availability and quality of performance information. However, if wider reforms can solve these underlying problems over the medium term, it could be worth revisiting the potential of performance-based funding at some point in the future.

5 Drivers of better efficiency and performance

5.1 Chapter 4 set out some of the main challenges and opportunities facing the management of the strategic road network (SRN). This chapter provides an overview of some of the main lessons from other infrastructure sectors and businesses in the public and private sectors on the potential drivers of better performance and efficiency for the network.

5.2 Given the importance of the SRN to economic growth and constraints on public spending, delivering the best outcomes possible from available resources is a clear priority. This section therefore focuses on economic efficiency. This means ensuring that resources are allocated to the most productive uses ('allocative' efficiency) and that these resources are spent in a way that maximises value for money ('productive' efficiency). Table 5.1 provides a summary of the drivers of efficiency covered in this chapter.

Table 5.1: Drivers of economic efficiency

Drivers of value for money	Drivers of efficient resource allocation
Customer pressure • clarity of service expectations • separation of ownership and customer functions • 'regulatory' pressure • certainty of funding *Ownership pressure* • financial flexibility • 'shareholder' pressure • public sector constraints *Market structure* • competition • scale • benchmarking *Relationship with the supply chain*	*Alignment of investment decisions with economic objectives* *Alignment of accounting practices across transport modes* *Independent advocacy*

Drivers of value for money

5.3 Over 95% of the Highways Agency's work is delivered under contract by the private sector. The key issue for the efficiency of the existing network is therefore whether different structural arrangements could enable greater value for money from the Agency's contractors. The main structural relationships that can influence the efficiency performance of the supply chain include:

- pressure from the **customers** on the service provider;
- pressure exerted on the network manager by its **owners** or shareholders, and the constraints of different ownership models on the commercial freedom of the provider;
- the **market structure**, including competitive pressure from other providers and the impact of this on economies of scale; and
- effective incentivisation of and collaboration with the **supply chain**.

Customer pressure

a. Clarity of service expectations and separation of ownership and customer functions

5.4 It is impossible to assess or achieve good value for money without first having clarity over the outcomes that the customer or funder wants the network manager to deliver. Clarity of expectations also improves value for money: improving the transparency of the 'contract' between the network manager and government for public challenge; removing incentives for providers to provide services that the customer does not require; and allowing service providers to obtain better value for money by responding to customer demands proactively rather than reactively.

5.5 When the Government procures services from private-sector providers, there is an explicit separation of the 'customer' from the 'owner' of the network manager. This puts responsibility on the customer to provide clear expectations of the level of service required and to negotiate for best value, separate from the responsibility of the shareholder to scrutinise its commercial efficiency. Each role requires different skills: in the case of the SRN, the customer needs to decide what transport services it should buy and at what price, the owner how to oversee efficient financial management of the company.

5.6 The Secretary of State is both the 'customer' and the 'owner' of the SRN, on behalf of road users and taxpayers respectively. At present there is no separation of these functions within the Department for Transport (DfT), with a single 'sponsor team' managing the Agency's relationship with ministers. This contrasts with a number of executive agencies and government-owned companies within government where the roles are formally separate, even where both roles are held by the same department. In many cases, the 'ownership' role is provided or supported by the Shareholder Executive. For example, the Department for Business, Innovation and Skills is both 'owner' and 'customer' for the Ordnance Survey, but the roles are exercised by different teams, reporting to different junior ministers within the department. Similarly, within the DfT, management of the Government's shareholding in NATS (National Air Traffic Services) is separated from its aviation policy team, with different reporting lines.

5.7 Partly as a result of this lack of separation between 'customer' and 'owner,' the outcomes that the Government expects the SRN to deliver are at present poorly defined, which undermines efforts to secure value for money. While a wide range of performance measures are reported on annually as part of the Agency's business planning process, these are not connected to high-level or long-term expectations for asset condition, network performance or cost efficiency, and can be superseded in practice by shorter-term political priorities. This lack of clarity has a number of consequences for the performance of the network:

- lack of pressure on the Agency to develop the evidence base needed to make economically optimal asset management decisions. CIPFA has estimated that improved long-term value for money from proper asset management planning could be equivalent at least to 5% p.a.[28] By contrast with most regulated utilities, the Agency leadership does not currently have an evidence base to make informed decisions on the optimum balance of resources between maintenance, operations and enhancement and, although asset management has been identified as a priority by the Agency, its capability still lags significantly behind the regulated sectors, despite the exceptionally high economic value of the asset being managed;
- lack of transparency: there is no clear statement of the quality of service that taxpayers should expect from the network as a result of their financial contribution, restricting their ability to scrutinise the Agency's performance or the DfT's funding allocation decisions.[29] Under the rail sector's HLOS, by comparison, there are clear expectations of the volumes of passenger demand that the network is expected to accommodate;
- lack of strategic direction on which services are required by the customer, creating the potential for low-value spending; and
- uncertainty over future policy direction and political priorities, which inhibits long-term planning and promotes higher-cost 'reactive' spending rather than better value for money from 'proactive' planned investment.

b. 'Regulatory' pressure for efficiency

5.8 In most markets, customers can switch provider if they are unhappy with the price and quality of the goods or services being provided – so customer pressure provides a strong incentive on the provider to keep costs under control, while improving performance. This is not the case for 'natural monopolies' such as the SRN. In regulated utilities such as gas, water and rail, economic regulation is used as a proxy for competition, with the regulator acting in the interests of consumers by applying pressure for year-on-year efficiency improvements, typically using an 'RPI – X' target for financial performance where 'X' represents the regulator's estimate of the real efficiency gains achievable by the service provider.

[28] *Local Authority Transport Infrastructure Assets: Review of Accounting, Management and Finance Mechanisms,* CIPFA, June 2008.

[29] One example of a perceived lack of clarity of service expectations, raised by a number of contributors to the review, regards standards for the amount of litter on the network.

5.9 There is evidence that this 'regulatory' approach has been successful in driving down unit costs in other infrastructure sectors. An empirical survey by NERA (2006) argues that "distance from government…enabling effective formal economic regulation" is one of two key drivers for cost efficiency across different corporate forms for infrastructure businesses, alongside the involvement of private investors.[30] While there is some dispute over measurement issues and appropriate comparator industries, a 2008 review of evidence from other regulated industries (prepared for the Office of Rail Regulation by Oxera) suggested a range of reductions in real operating expenditure of 4.0–6.2% per year, on average.[31] The size of these gains varies across industries and individual firms, as shown in Table 5.2.

Table 5.2: Efficiency gains in selected industries subject to economic regulation

Ownership	Company/timescale	Opex efficiencies (average % p.a.)
Private	England and Wales water industry average (1992/93–2006/07)	1.8
	England and Wales sewerage industry average (1992/93–2006/07)	1.7
	Electricity distribution industry (1990/01–2006/07)	4.0
	BAA (1987–1998)	4.4
	NGC (1990/91–2006/07)	4.9
	BT (using call minutes, 1997/97–2006/07)	6.2
	BT (using exchange lines, 1997/97–2006/07)	4.8
Not for dividend	Welsh Water (2001–2006)	Slower than E&W average
	Network Rail (2003/04–2008/09)	6.4
Partially privatised	NATS (2002–06)	5.1
	NATS (2006–09)	2.5
Government owned	Royal Mail (2002/03–2005/06)	2.9
	Melbourne Water (1995/96–2000/01)	2.5
Stautory corporation	Scottish Water (2002/03–2005/06)	8.8
	Sydney Water (1996/6–2000/01)	No positive evidence[32]

Sources: *Network Rail's scope for efficiency gains in CP4, Oxera,* November 2008; *Office of Rail Regulation: Regulating Network Rail's Efficiency,* National Audit Office, April 2011; NERA (2006); Utilities Regulator Northern Ireland; Ofwat.

[30] *Corporate Forms, Financial Guarantees, and Efficiency performance:* Expectations and Evidence, NERA, December 2006.

[31] *Network Rail's scope for efficiency gains in CP4*, Oxera, November 2008. This is only one of a number of reports that provide similar ranges for regulated industries: for example *Corporate Forms, Financial Guarantees, and Efficiency performance: Expectations and Evidence*, NERA, December 2006, estimates average efficiencies in the regulated, privatised and debt-financed utilities at c. 5% per annum. There is considerable debate about the degree of comparability between industries and price control periods. See, for example, *Assessing Network Rail's Scope for Efficiency Gains*, LECG, April 2008.

[32] Based on analysis in NERA (2006).

5.10 It can be difficult to unpick the effect of economic regulation from the impact of changing ownership – the introduction of regulation has often coincided with privatisation, and all these comparator industries have had freedom to borrow. However as Table 5.2 indicates, there are several examples of comparable efficiencies being generated in publicly-owned companies subject to economic regulation, such as Scottish Water, Welsh Water and Network Rail.

5.11 The impact of regulation depends on the 'starting point' of the industry being regulated – with initial one-off gains being greater for industries where work has not been subject to price competition. However, it is notable that in 'mature' regulated sectors such as the water industry there is still evidence of continued significant annual efficiencies. More generally, analysis by LEK Consulting and Oxera shows that, for a selection of privatised and regulated industries, there is evidence of continued efficiencies, with an average of 2.9% annual efficiencies still being achieved 11–15 years after privatisation.[33]

5.12 Case studies of individual companies also show that 'top-down' pressure from a regulator to achieve cost or performance reductions is a key driver of efficiency and 'step-change' efficiency performance. For example, interviews with Anglian Water, currently one of the top-performing water companies in England and Wales, indicated that regulatory pressure for cost and carbon reductions was a key driver for its innovation in the last regulatory period (2005–2010).

5.13 The SRN differs significantly from most regulated utilities in that the Highways Agency is almost entirely dependent on government grant funding, and as a result the DfT is the single 'customer' for the network. One exception to this is the example of Northern Ireland Water (NIW), which is a government-owned company subject to economic regulation, but which receives nearly 80% of its income from the Government as a customer subsidy. As Box 5.1 shows, NIW has improved its efficiency performance significantly since becoming subject to economic regulation in 2007.

[33] *Assessing Network Rail's Scope for Efficiency Gains over CP4 and beyond: a preliminary study,* LEK and Oxera, December 2005.

Box 5.1: Case study – Northern Ireland Water Ltd

The water industry in Northern Ireland became subject to economic regulation in April 2007, having previously been run by a government agency. NIW is now a government-owned company, with 100% of shares held by the Department for Regional Development (DRD) of the Northern Ireland government. By contrast to England and Wales, there is currently no household water charging in Northern Ireland: approximately 79% of the company's revenue is in the form of a customer subsidy provided by DRD.

This contrasts with other UK water companies, who have had a regulatory system that incentivises performance for around 20 years. Over its first three-year Strategic Business Plan period, between 2007 and 2010, NIW has delivered significant improvements to its performance, including:

- closing its operational efficiency gap with the most efficient water companies in England and Wales by 9% over 2007–2010, from 48.7% to 39.7%. The projected cost efficiency gap is 26% by 2012/13;
- outperforming its 2010/11 budgeted operational cost base by c. 5%;
- delivering one of the largest business change programmes in the UK over the 2007–2010 period, with the aim of transforming NIW into a "modern, customer-focused, regulated utility company"; and
- achieving the best-ever compliance performance for drinking water quality in Northern Ireland in 2010.

There have also been criticisms of NIW's wider performance over this period, in particular following:

- an internal inquiry which found that major contracts were awarded without competitive tendering, leading to the dismissal of four senior executives in March 2010; and
- severe weather conditions across Northern Ireland in December 2010, during which 450,000 consumers had their water supplies interrupted. NIW's Chief Executive subsequently resigned, and the Executive Committee of the NI Assembly asked the utilities regulator to carry out an investigation of NIW's handling of the crisis.

Sources: *Strategic Business Plan,* Northern Ireland Water, May 2007; *Annual Report and Accounts,* Northern Ireland Water, July 2011; BBC.

5.14 As the single customer, the DfT has a much stronger buying power than individual customers in regulated markets, reducing the case for an independent regulator if the DfT were to take on a 'quasi-regulatory' role. However there is little evidence of the DfT currently applying top-down 'regulatory' pressure on the Agency to reduce costs on behalf of taxpayers. This is inhibited by:

- the lack of a clear output specification for performance;

- lack of resources within the current DfT sponsor team to adequately specify and monitor performance – the sponsor team has a full-time staff of 2.5 people, by comparison with a staff of over 250 at a regulator such as the ORR; and
- changing political priorities, which make departmental pressure for cost efficiencies contingent on political and fiscal priorities (for example, the current emphasis on fiscal consolidation, reflected in the 2010 Spending Review) to a much greater extent than in regulated sectors.

c. *Certainty of funding*

5.15 Analysis by a number of organisations, including CIPFA, the Institute of Asset Management, and Infrastructure UK, indicates that, when coupled with robust asset management and commercial capability on the part of the service provider, greater visibility of the 'pipeline' of future roads investment enables cost efficiencies for the service provider and supply chain. For example, greater certainty of funding enables economies of scale from procurement of materials for larger programmes of work, reduced labour costs by allowing contractors to plan for and smooth out peaks and troughs of work, and greater investment in new technologies and processes which become cost-efficient with greater certainty over future work.

5.16 The theoretical case is supported by some empirical evidence. Infrastructure UK's *Infrastructure Cost Review* indicates that extending funding certainty has been associated with unit cost savings of 10–20% in other sectors and countries, particularly for routine maintenance and renewals work. For example:

- the Scottish Government's long-term road maintenance contracts, lasting up to 10 years, have been associated with significant savings from giving contractors a pipeline of work that incentivises investment in year-on-year improvement, for example reducing labour cost through improving productivity by 20%;
- the *Rijkswaterstaat* in the Netherlands generated savings of 20% in roads, by extending contract terms from 1–2 years to 5–7 years and by bundling more maintenance activities together in the same contract; and
- within the Birmingham Highways Maintenance PFI, the ability to plan long-term provided certainty of requirement for 1 million tonnes of asphalt, which allowed them to procure this more effectively, reducing supplier and subcontractor costs by at least 10%.[34]

5.17 In the regulated infrastructure sectors, greater certainty over the investment pipeline has been achieved through five-yearly cycles of investment planning, over which the regulator sets prices in the industry. However, research by Infrastructure UK indicates that, even in the regulated sectors, the five-yearly reviews create a line of uncertainty in investment around the review point, which means that potential efficiency savings continue to be lost, estimated by one water company to be in the order of 10–15% in the water sector.[35]

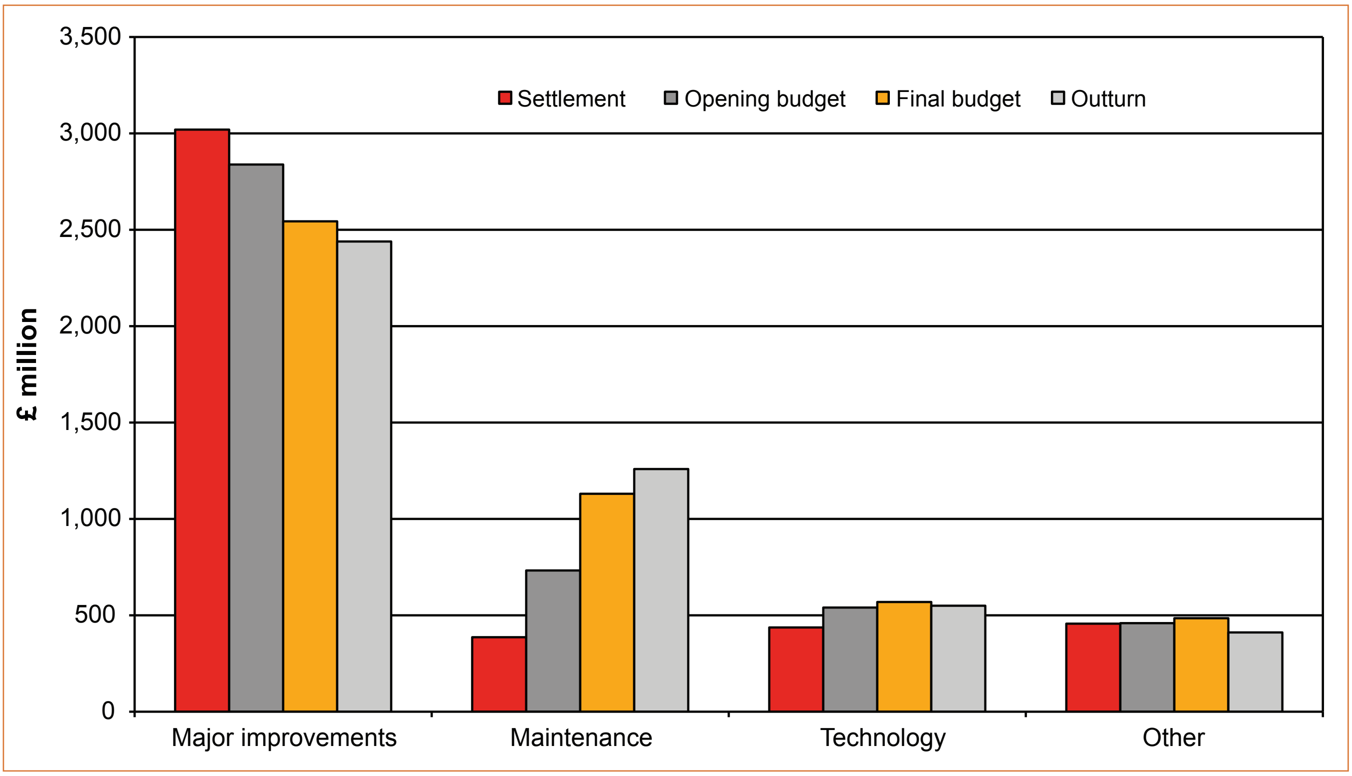
[34] *Infrastructure Cost Review,* Infrastructure UK, December 2010.

[35] *Infrastructure Cost Review,* Infrastructure UK, December 2010.

5.18 There is evidence that the recent decision to give funding certainty for the Agency's major schemes programme over the 2010 Spending Review period (SR10) is contributing to efficiencies, primarily from scale economies arising from the ability to manage major capital schemes as a portfolio rather than as a series of individual projects. The Agency estimates that this approach will help achieve 20% efficiencies over the SR period – although these have yet to be delivered, early indications of performance against target costs are encouraging. There is, however, some concern from stakeholders that political commitments to funding certainty within the current structure are still vulnerable to subsequent change, as the Agency's budget remains part of the wider DfT budget.

5.19 Maintenance and renewals work, which made up over £800 million of spending in 2010/11, around a third of the Agency's total budget, is still largely funded through annual budget allocations. This has involved considerable uncertainty over funding, even within four-year spending review periods, which inhibits the Agency from planning an optimal forward programme for maintenance and renewals. For example, as shown in Figure 5.1, during the 2007 Spending Review period (SR07) the amount of capital expenditure available for maintenance more than doubled, partly as a result of fiscal stimulus in 2009/10.

Figure 5.1: Comparison of planned and actual capital spending during SR07

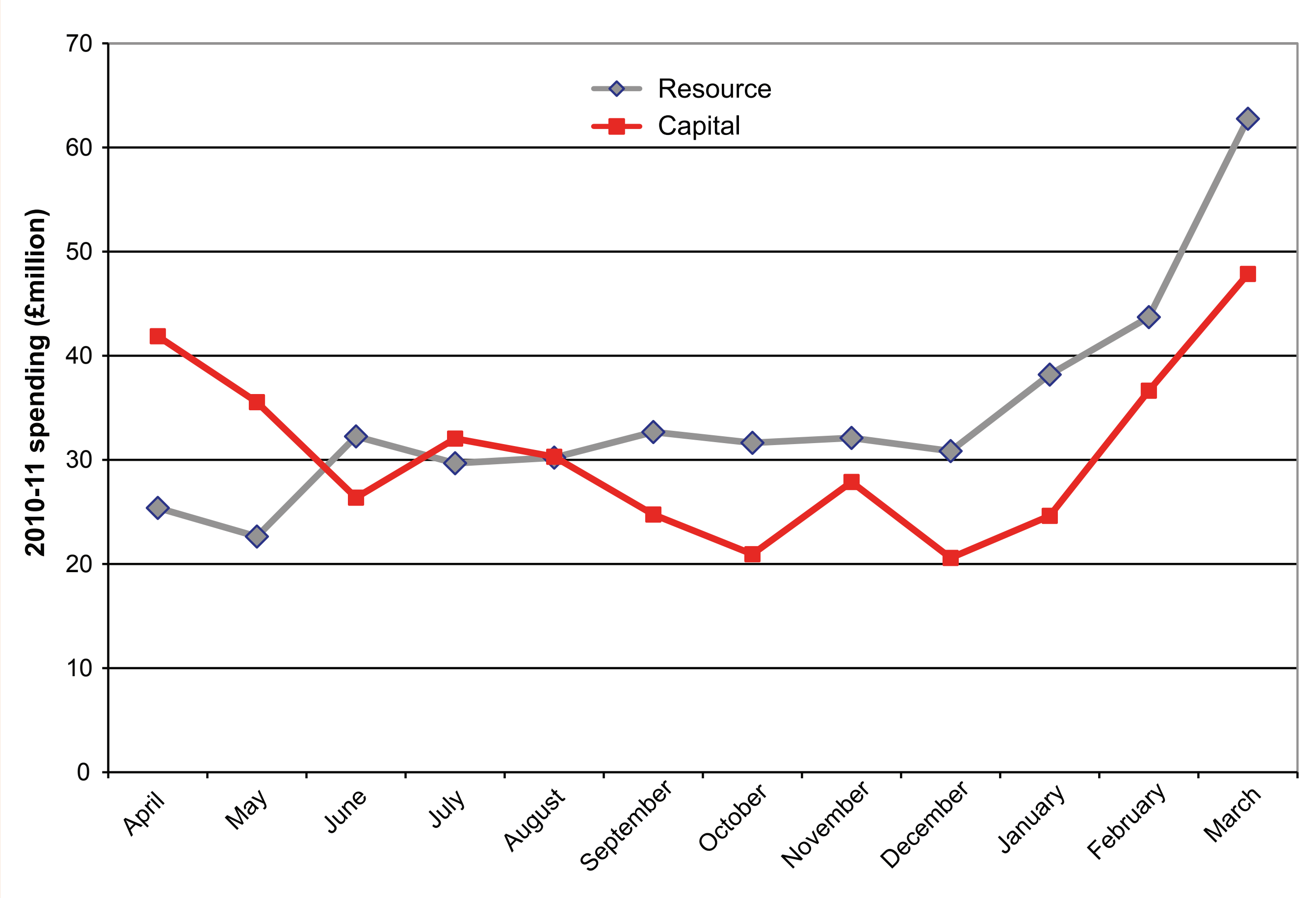


Source: Highways Agency.

5.20 This is also partly the result of the 'annuality' of funding allocations, meaning that the Agency is not permitted to 'carry over' any unused budget between years: for example, if a major capital project is delayed, there has typically been pressure to spend the money on something else, or to return the underspend to the DfT, even if it could be spent more efficiently by the Agency at a slightly later date. This contrasts with companies in the regulated sectors, who fall outside the central government framework and can retain cash in order to build up a reserve.

5.21 Despite considerable attempts to plan for and reduce the impact of annuality, there is still a skewing of capital improvement work towards the end of the financial year, particularly for renewals work, as shown in Figure 5.2. This is likely to be inefficient, implying that contractors cannot fully 'smooth' their workload over the year. Maintenance also tends to be more expensive during the winter months, when adverse weather can impair asset life: some contributors to the review thought that this was an additional source of inefficiency, with annuality putting pressure on asset managers to deliver a higher than optimum proportion of maintenance work in the winter.

Figure 5.2: Annuality in Highways Agency renewals spending, 2010/11



Source: Highways Agency.

Ownership pressure

d. Financial flexibility

5.22 Almost all successful infrastructure businesses in the regulated sectors have some facility to borrow or to access working capital, intended to drive efficiencies by enabling them to bring forward investments when they spot a commercial opportunity to save money by doing so, and to efficiently maintain assets on a regular, predictable basis divorced from the fluctuations of annual budget targets. Financial flexibility therefore brings efficiencies across capital, maintenance and operating expenditure. A number of stakeholders interviewed saw this as a key enabler of greater efficiency. One of the few comparable businesses that has very limited ability to access working capital is Northern Ireland Water, of which the regulator reported in 2010:

> *One constraint for NI Water…is that it has no facility to build up a financial reserve. This is a feature of most regulatory regimes and provides a company with the flexibility to manage its business effectively over a full regulatory period…Such a reserve could also protect the consumer by acting as a buffer between long-term planning requirements and the shorter term public expenditure framework.*[36]

5.23 Most privatised and regulated utilities can borrow from the private sector, both within and between regulatory periods. This is not permitted for publicly owned organisations (i.e. where government owns over 50%). Further, the cost of capital of financing investment by borrowing from the private sector is higher than financing by direct public borrowing: Infrastructure UK estimates that the weighted average cost of capital is between 0.25 and 3.0 percentage points higher in regulated markets (e.g. the water and rail industries) than in publicly-funded models.[37] Notwithstanding this higher cost of capital, these utilities still borrow to invest, suggesting that potential efficiencies could be higher still if the cost of borrowing were lower, as could be the case for a government-owned company.

5.24 An alternative way to provide a network manager with a degree of financial flexibility would be to provide them with the ability to borrow from the Treasury Loans Fund and/or with the facility to access a working capital reserve facility, held by the DfT as the effective 'shareholder' for the organisation, to which the network manager could ask for access if there is a strong efficiency case for doing so. We have not estimated the optimal size of such a facility; but preliminary discussions with the Agency indicate that it should at least be sufficient to allow the network manager to bring forward spending of c.10% of its annual budget, sufficient to meet possible swings in investment, maintenance and operating budgets and smooth expenditure immediately before and after budgetary periods, which is often the source of inefficiency.

5.25 The importance of financial flexibility of this sort in the future depends on the network manager's contractual relationship with its supply chain. Financial flexibility is less important the more that work is contracted out through long-term PFI-style deals such as design, build, finance and operate (DBFO) contracts. This is because, under these contracts, payments by the Agency to

[36] *Cost and Performance Report 2007–10: an assessment of NI Water's cost and performance*, Utility Regulator (NI), December 2010.

[37] *National Infrastructure Plan 2010,* Infrastructure UK, October 2010, p.45.

the contractor are fixed for long periods, with the contractor rather than the Agency making decisions on the necessary profile of investment. It is therefore the contractor rather than the Agency who uses private financing to bring forward investment where required, based on the certainty of a continuing revenue stream in future years.

5.26 An application for such a drawdown from the working capital facility would be similar to a company asking for an advance from its lenders. It would need to be accompanied by the need for the new Board to demonstrate the rationale for the efficiency of the investment to the 'shareholder' team in the DfT and provide assurance that the acceleration of expenditure would in the longer term lead to efficiencies (either within a funding period, or across periods).

e. 'Shareholder' pressure

5.27 The pressure to return a dividend to private investors or to repay creditors applies a much greater set of incentives for efficiency on the management of the company than those on publicly owned companies, where the company can fall back on taxpayer support. There is some empirical evidence that the ownership and corporate form of a company can have an impact on efficiency: for example research by NERA finds that 'pressure from private investors' is one of two key drivers for cost efficiency across different corporate forms for infrastructure businesses.[38] However, as noted above, it is difficult to isolate the impact of ownership from other drivers of efficiency, such as effective economic regulation. As shown in Table 5.2, some well-run publicly-owned and not-for-dividend companies have generated comparable efficiency performances to privatised utilities.

5.28 A variety of different ownership and governance models introduce or mimic private investor pressure to varying extents. Outright privatisation would introduce private investor pressure, but would require an independent revenue stream for the network manager. A Companies Act company is a flexible model: the definition of the aims and responsibilities of a government-owned company (GoCo) depends on the terms of the company's Memoranda and Articles, and the model permits a sliding scale of government ownership, from 100% (e.g. Royal Mail) to a minority stake (e.g. NATS). This allows the flexibility to introduce private investment to the company at a later date. Mutualisation would remove ownership from government, but would not in itself introduce strong investor pressure. Civil-service models, such as Non-Departmental Public Bodies (NDPBs), executive agencies and trading funds, could not introduce private-sector investment.

5.29 Good corporate governance practices, intended to mimic private-sector best practice, can be implemented largely independently of the corporate form of the organisation. The Companies Act framework provides an established set of commercial corporate governance systems, encouraging management to focus on the commercial success of the business. Collectively, the Board of the company is legally responsible for the success of the company, and the Directors have personal financial liability. The corporate governance of an executive agency, trading fund

[38] *Corporate Forms, Financial Guarantees, and Efficiency performance: Expectations and Evidence,* NERA, December 2006.

or NDPB can be brought in line with commercial best practice through giving the organisation's board collective responsibility for the performance of the business, with a department's 'shareholder' function overseeing the appointment of non-executive chairs and ensuring the quality of other non-executive directors. Unlike the Companies Act framework, however, it is the relevant Chief Executive Officer (CEO), rather than a collective board, who is the 'Accounting Officer' for an executive agency or trading fund. Board members other than the CEO do not have formal accountability for performance, although they are personally and morally responsible by nature of their appointment.[39]

5.30 As mentioned above, the current governance of the Agency does not separate the DfT's 'shareholder' role from its 'customer' role. Neither the DfT sponsor team or the Agency directors interviewed by the review team felt that the existing Roads Board mechanism was delivering a robust performance management function, and there is a duplication of perceived responsibilities between the DfT's Roads Board and the Agency's Board. The appointment of a Non-Executive Chair for the Highways Agency Board in 2010 has moved the Board itself closer to an arrangement which reflects private sector practices, but the Board's remit – both on paper and in practice – is still advisory rather than taking collective responsibility for the direction of the business.

5.31 Within any of these ownership models, the pressure for efficiency comes from the owner, not from the structure itself. Within any model, the greatest benefit is likely to come from the DfT building the right skills within its 'ownership' function to be an effective 'shareholder' for the network. Many of these commercial skills already exist within the DfT, for example in exercising its shareholding in NATS; the Shareholder Executive also provides a centre of expertise across government.

f. Public sector constraints

5.32 The civil service has been a good parent to the SRN historically. The planning and construction of the network – a massive undertaking – should count as one of the civil service's proudest achievements. The operation of the network has also been largely uncontroversial, unobtrusive and quietly effective – reflecting some of the best traditions of the civil service. But the wider civil service has now moved on to other priorities and tasks, and the skills needed to run modern infrastructure businesses are now overwhelmingly found outside it. The Government's wider public service reform agenda strongly reinforces this trend; the civil service is set to become smaller and more strategic, with a focus on commissioning, standardising and enabling excellence in public services, rather than providing them directly.

5.33 In this context, the corporate form of the service provider can place constraints on an organisation's ability to compete with private-sector competitors (for example for staff) and to respond quickly to commercial challenges.

[39] Shareholder Executive. Note that under public accounting rules, a GoCo would still be likely to formally require an Accounting Officer if public funding made up more than 50% of its income. This is the case, for example, for Northern Ireland Water.

5.34 **Public-sector organisations** (including executive agencies, NDPBs and companies with a government shareholding of over 50%) are subject to public-sector controls on procurement and borrowing. Procurement decisions are subject to Cabinet Office guidance. HM Treasury and the parent department have control over the organisation's ability to borrow: as mentioned above, executive agencies, trading funds and GoCos can only raise debt from the Government.[40]

5.35 As **civil service organisations**, executive agencies and trading funds face further constraints on their operational decisions, particularly in terms of remuneration and human resourcing decisions. As members of the civil service, staff have the same conditions of service as central departments. This can mean that it is more difficult for management to achieve greater efficiencies in its staff costs, and management will have less flexibility in altering incentive structures to the needs of the business. Furthermore, civil service remuneration levels are more restricted than those operating in the commercial sector, making it more difficult to recruit middle and senior managers with appropriate experience. By contrast, GoCos and NDPBs are outside the civil service, though, as their financial arrangements may be subject to formal approval from the parent department, there may still be issues about recruiting appropriately-skilled senior management.

5.36 Civil service organisations also have to respond to other central policy initiatives, which may in some instances constrain the flexibility of their commercial decision-making and their focus on delivering their core business. Highways Agency Board members interviewed by the review team identified bureaucracy and delays around decisions on consultancy spending and IT projects as a constraint on their ability to make responsive commercial decisions. For example:

- the Agency delivers its outcomes through the supply chain, and it is routine practice to outsource technical services such as design, specialist advice and construction activities. The Agency estimates that it currently suffers some five weeks of additional delay for a number of these decisions which have to be referred to the DfT for approval; and
- the Agency's procurement process for an Asset Management Information System, seen as an integral part of the part of the organisation's forward strategy and a process improvement commitment made to the House of Commons Committee of Public Accounts, has been prolonged by a requirement for Cabinet Office approval. This took several weeks, with no confirmed timescales from the point of engagement.

5.37 **Relevance to the Highways Agency** – Without any change to the funding or ownership of the network, the network manager must remain part of the wider public sector, as over 50% of its income derives from government. However, a number of Agency senior management and external stakeholders interviewed by the review team argued that civil-service-specific constraints inhibit the ability of the Agency to operate as efficiently as possible, given that its primary focus is on interacting with the private sector. While it is difficult to quantify the impact of these, some of the key constraints identified were:

[40] The main arguments for this relationship being that HMG can provide funds more cheaply and that, when government owns the equity, there is unlikely in practice to be any risk transfer to lenders.

- ability to attract and retain commercial talent in the infrastructure sector. The remuneration of Agency directors, as senior civil servants, compares poorly with private-sector comparators, and there is very little use of performance-related pay, limiting the ability of the sponsor to incentivise managerial performance as a substitute for a shareholder profit motive;
- flexibility in managing human resources, particularly in making responsive operational decisions in traffic management, which compares poorly to private sector comparators such as the RAC, based on internal benchmarking of procedures;
- the ability to develop skills in the Agency, particularly in securing training for core competencies such as asset management;
- ability to promote culture change, including a more commercial culture; and
- perceived wastage of resources through bureaucratic controls, including duplication of governance arrangements.

Market structure

g. Competition

5.38 As noted in Figure 5.3 below, the existence of alternative service providers would reduce the need for benchmarking data by creating a more contestable market. This would imply the introduction of regional concessions, with alternative providers competing for fixed-term service delivery contracts. As with regionalising provision, there is a lack of empirical evidence on the scale of efficiency benefits that might arise from competition between providers, by comparison with the potential efficiencies from greater 'regulatory' pressure on a unitary provider.

h. Scale

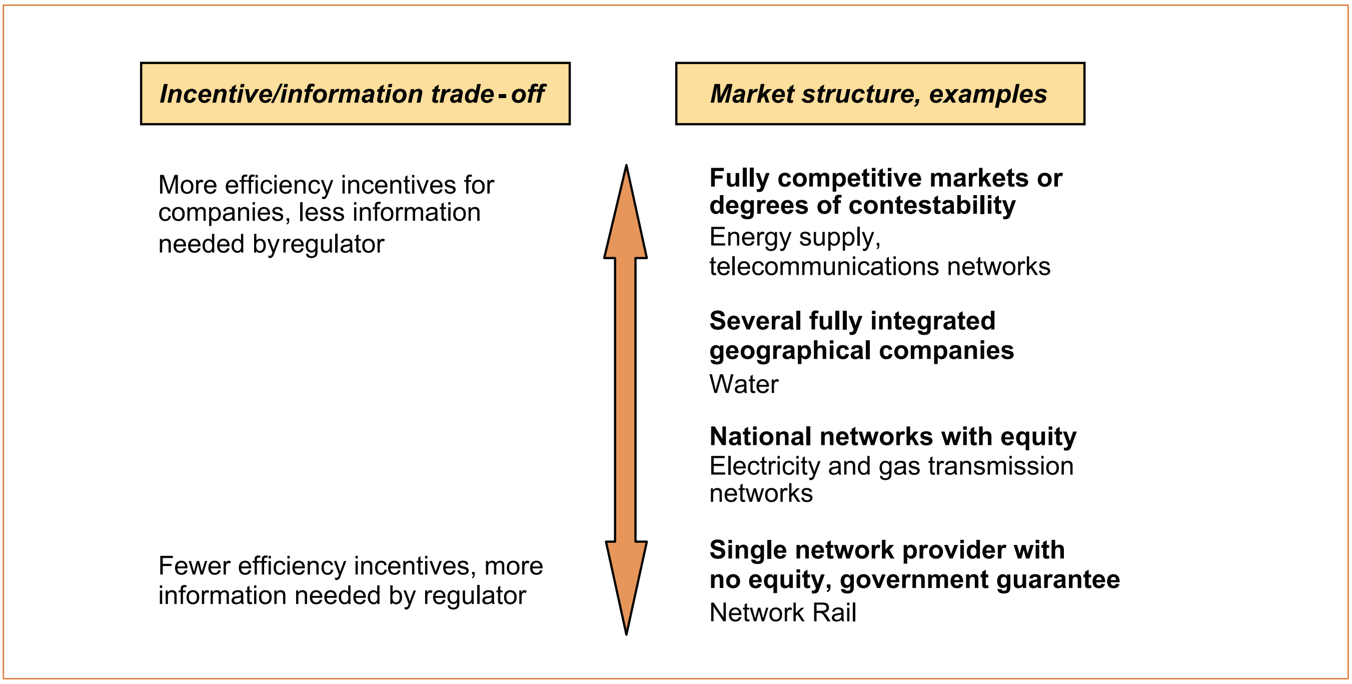
5.39 There is a direct trade-off between the number of service providers in the market and the scale of each provider, implying a trade-off between competition and economies of scale. As noted above, increased scale economies have been a key driver of the business case for the 20% cost reduction in major projects targeted over the SR10 period. There is also evidence from within the Agency and from other sectors that 'category management' – bulk-buying of materials across a large programme, rather than project-by-project – can be a driver of efficiency.

5.40 However, an alternative source of service provider scale within a regionalised model (or an opportunity for further scale economies within the current model) would be for the Agency to work more closely with local authorities in procuring and delivering highways services. Anecdotal evidence from the Agency and supply chain suggest that these economies are likely to be significant: for example, a number of contractors pointed out that they could drive significantly greater efficiency from both their fixed and mobile plant if they were working across both local authority and strategic roads.

i. Benchmarking

5.41 Analysis from regulated sectors shows that the ability of the customer or regulator to provide strong pressures for cost efficiency and performance depends on their ability to benchmark performance – to understand 'what good looks like'. As the NAO has noted for the case of the rail sector, the need for the customer/regulator to have good benchmark information increases in markets with fewer competitive pressures for efficiency. This trade-off is shown in Figure 5.3.

Figure 5.3: NAO analysis of requirements for effective regulation of cost efficiency



Source: *Office of Rail Regulation: Regulating Network Rail's Efficiency,* National Audit Office, April 2011.

5.42 Effective cost and performance benchmarking of the SRN would bring similar challenges to the rail sector, although the existence of other network managers (particularly local authorities) would be likely to provide more opportunities to benchmark costs.

5.43 As noted above, under current arrangements no-one within the DfT (or elsewhere) has an allocated responsibility to provide top-down 'regulatory' pressure on the Highways Agency. As a result, there has been little incentive or capability within the relevant DfT teams to benchmark the performance of the Agency, aside from the delivery of major capital projects, and the Agency has historically been slow to collect benchmark data itself, introducing its 'cost intelligence' system for major projects in the wake of the 2007 Nichols Review and improving its benchmarking of regional maintenance contracts following criticisms by the NAO in 2009.[41]

5.44 Sources of benchmarking information that should in principle be available to the DfT include:

- 'bottom-up' information from the Agency on the costs of its supply chain, both from the 'cost intelligence' system of recording contractors' costs used for Major Projects, and regional benchmarking data collected by the Agency for maintenance contractors;

[41] *Review of Highways Agency's Major Roads Programme,* M. Nichols, March 2007; NAO (2009).

- other UK road providers, including local authority data and information from the devolved administrations;
- other infrastructure sectors, for example data collected by Network Rail and the Office of Rail Regulation (ORR) on the rail sector; and
- international comparators. The available evidence suggests that the gross costs of running the SRN are higher than in many comparable countries, such as the Netherlands, but there are considerable difficulties in constructing robust comparisons between countries with different physical, cultural and policy environments.[42]

5.45 Regionalisation of provision, following the example of the water sector, would increase the ability of the customer to benchmark performance beyond the existing benchmark data available from maintenance contracts, although there would still be difficulties in comparability across regions with varying asset conditions and traffic volumes. It is difficult to assess the additional potential gains from this extra variation on top of existing benchmark data.

Relationship with the supply chain

5.46 While the relationship between the service provider and its owners and customers can enable or constrain the ability of the service provider and supply chain to innovate, as almost all work on the SRN is carried out by the Agency's supply chain, any change in efficiency must be delivered by them. A range of recent reports have shown that the capability of the service provider to act as an 'intelligent client' and its ability to build collaborative and innovative relationships with the supply chain has significant potential to improve efficiency in government construction and infrastructure procurement. Some of the key attributes of a good provider – supply chain relationship reflected in these studies, which the Agency has made some progress towards but remain essential areas for improvement regardless of the structure chosen, include:

- ability to provide industry with sufficient visibility of the forward programme to make informed choices about where to invest;
- asset management capability, which enables it to plan and prioritise spending on the areas which maximise economic value;
- its commercial capability, which enables it to understand and challenge contractors' costs in order to secure long-term value for money;
- ability to engage supply chains on sufficient scale and duration to incentivise research and innovation around standardised (or mass-customised) products; and
- collaboration with the supply chain around the design process, to enable innovation by challenging standards and specifications.[43]

[42] *Infrastructure Cost Review,* Infrastructure UK, December 2010; EC Harris and TRL (2009).

[43] *Government Construction Strategy,* Cabinet Office, May 2011; *Infrastructure Cost Review*, Infrastructure UK, December 2010.

Drivers of efficient resource allocation

5.47 To maximise economic performance, public spending needs to be aligned with the areas with highest economic returns. This implies that allocation decisions should be 'modally agnostic'.[44] While the review has not considered the appropriate balance between road investment and other public spending, efficient running of the network requires the process for making such to be aligned with the needs of the economy. There is a perception amongst some road user stakeholder groups that the allocation of resources to the road network does not reflect an underlying economic rationale: for example, the Road Users Alliance points out that while roads account for 12 times more travel miles than railways, they receive 15 times less investment on a mile-for-mile basis.[45]

5.48 The review has identified three key drivers of greater allocative efficiency from comparison with other infrastructure sectors:

a. Alignment of investment decisions with economic objectives

5.49 In the regulated network utilities, including water, gas, electricity and rail, an economic regulator assesses the amount of investment needed to deliver a given level of economic performance and regulates the price that companies are permitted to charge as a result. The judgement of the amount of investment needed in each industry is typically driven by an assessment of the value of the asset and the amount of investment needed to operate the asset and keep it in serviceable condition while delivering a reasonable rate of return. Any enhancements to the asset base must be agreed by the regulator, who assesses the uplift in future funding needed to cover new investment.

5.50 By contrast, decisions over the amount of investment to make in the SRN are taken annually by the DfT, based on its own four-year Spending Review settlement from HM Treasury. While these are informed by evidence from the Agency on the relative levels of investment needed to maintain the asset in serviceable condition, there is no consistent economic evidence base to inform an optimum allocation of resources between maintaining and operating the existing asset base to given performance standards, and making new enhancements.

5.51 A second contrast with the regulated sectors is the length of time for which funding commitments are made. The regulated industries typically have a five-year regulatory cycle, by comparison with an annual funding allocation for the Agency. A number of stakeholders contributing the review argued that the longer-term investment horizons used in the regulated sectors encourage a more long-term approach to funding decisions, where the regulator/funder is forced to assess long-term pressures on the network and plan investment accordingly.

[44] *The Eddington Transport Study*, R. Eddington, December 2006.

[45] *Road File 2011*, Road Users Alliance, August 2011.

5.52 A number of stakeholders have also argued that current arrangements are characterised by a lack of coordination between the Agency, which promotes a primarily strategic, national-level agenda, and local development interests. This arises partly because of a lack of clarity over the Government's overall performance goals and long-term plans for the network, which inhibit local decision makers and managers of the national network from identifying opportunities to share efficiency gains from more joined-up decision making, for example where local financing could help deliver a route improvement which might not otherwise be financially viable. As in the regulated sectors, developing much clearer, longer-term investment plans for individual routes could in theory help other potential 'customers' for the Agency to coordinate their investments much more closely with the Government's.

b. *Alignment of accounting practices across transport modes*

5.53 The economic return from different investments across transport modes is assessed consistently by the DfT through use of cost–benefit analysis, which provides a ratio of the expected economic benefits of an investment per £1 spent. This process is currently under internal review within the DfT. However, a key difference is that, while all roads investment is scored as a direct capital hit to central government, investment in renewals and enhancements on rail is financed initially by Network Rail's borrowing against its regulated asset base (RAB), with the Government paying the cost of Network Rail's investment. This means that the incremental cost to government of a government-funded enhancement is limited to the cost of capital and cost of depreciating the sum added to Network Rail's RAB. Although payable for around 30 years, this translates to an annual payment which is currently around 8% of the capital cost and commences on or after completion of the construction phase.

5.54 This implies, for example, that additional government-funded enhancements of £100 million on the road network in 2010/11 would cost the Exchequer £100 million in 2010/11, while an equivalent government-funded £100 million enhancement to rail infrastructure would cost the Exchequer around £8 million in 2010/11, and a further £8 million in each of the next 30 years.

5.55 While this difference in accounting treatment should not in principle affect the allocation of investment on the basis of cost–benefit ratios, it could in practice distort decision-making by increasing the relative short-term cost of an investment in the road network.

c. *Independent advocacy*

5.56 The degree of independent advocacy may also affect the resource allocation decision across transport modes. The SRN is unusual in that the delivery body sits within the same department as the funder. By contrast, rail infrastructure has an independent delivery body (Network Rail), an independent regulator (the ORR) and an independent rail consumer watchdog (Passenger Focus); while Transport for London (TfL) is independent of central government, has a separate political advocate (the Mayor of London) and an independent arbiter. A number of stakeholders interviewed as part of the review argued that independent advocacy makes it more politically difficult for government to cut these spending lines than investment in the SRN, regardless of the economic rationale. Some contributors to the review also noted, by contrast, that having a number of independent bodies responsible for a network can make governance more complex and increase duplication – for example in cases such as the rail sector, where there is an independent infrastructure provider, an independent regulator and independent customer groups.

5.57 Independent advocacy for the SRN already exists to an extent through private sector and road user interest groups, such as the AA, RAC and business lobby groups. The Highways Agency also runs the National Road Users Committee, a forum for engaging with organisations representing the needs and views of road users. In the case of the SRN, options for increasing advocacy for the network under the existing structure could include greater independence of the network manager, strengthening existing road user forums, or creation of additional independent bodies. A number of these options are included in my analysis of strategic reform options in the next chapter.

6 Strategic reform options

Overview

6.1 In light of the analysis of drivers of efficiency presented in the previous chapter, the review considered options for structural reform of the management of the strategic road network (SRN). These options included:

- **changing the ownership status of the network manager** (along a spectrum from executive agency; to non-departmental public body (NDPB) or government-owned company (GoCo); to public–private partnership; to privatised company);
- **changing how the Government exercises its role as a customer** (along a spectrum from a more arms-length government agency; to an independent NDPB or company; to an independently regulated company); and
- **breaking up the network management responsibilities currently carried out by the Highways Agency (the Agency)** on a geographical basis.

6.2 In principle, network management could also be split along functional lines, with maintenance, operation and enhancement carried out by different service providers. However, as maintenance, operation and network enhancement are all levers for delivering a better-performing network, the balance of resource between each of these functions is a key asset management decision, for example whether to 'sweat the asset' through managed motorways or traditional widening of a road. Further, the effective management of maintenance and enhancement activities is one of the principle levers available to improve network performance: in April 2011, road works accounted for nearly 93% of total lane compromise on the network.[46] Based on this, I recommend retaining responsibility for each of these with a single provider – though this does not preclude outsourcing the delivery of any or all of these functions.

6.3 Different combinations of each of the three lenses above could generate hundreds of theoretical models for running the SRN. Building on the analysis presented in the previous section, I developed four initial 'reference point' models to capture the main practical options for structural reform:

- an '**enhanced status quo**' model, which retains the Highways Agency as an executive agency of the Department for Transport (DfT), but introduces a commitment to greater

[46] Highways Agency data.

funding certainty from the DfT; an outcome-based performance specification for the Agency; and a governance structure that separates the DfT's 'customer' and 'shareholder' roles in the Agency, with a stronger role for the Agency Board modelled on commercial best practice;

- a '**contractual**' model where the network manager is formally independent from the DfT, for example as a GoCo, and delivers transport services to the DfT under a performance contract based on network performance, asset condition and cost efficiency. The Secretary of State's role as shareholder is formally separated from their customer role and exercised through a strong independent board;
- a '**regulated**' model, where the network manager is subject to formal economic regulation, with the regulator determining the maximum charge which the network manager can require the DfT to provide in return for its services; and
- a '**regional concessions**' model, where the DfT operates as a franchising authority, contracting out service provision to a mix of public and privately-owned regional franchises over fixed 10–12 year contracts.

6.4 Each of these models could in principle be combined with a range of different funding mechanisms, for example performance-based funding and/or shadow tolling.

Comparative analysis

6.5 The choice of model depends on a judgement of the relative importance accorded to each of the drivers of performance identified in the previous chapter, and the balance of evidence on their potential contribution to better performance.

6.6 Table 6.1 summarises the performance of each against a set of evaluation criteria reflecting the drivers of performance set out in the previous chapter, and three further key government objectives, included based on interviews with stakeholders:

- fiscal flexibility: the degree of flexibility retained by the DfT and HM Treasury (HMT) to reduce or increase spending on the SRN to meet broader fiscal objectives;
- public accountability: the need for democratic accountability for decisions about the SRN, including the Secretary of State's responsibilities under the Highways Act; and
- deliverability: including the risks and costs of implementation.

Table 6.1: Comparison of reference-point models against evaluation criteria

		Status quo	Enhanced status quo	Contractual	Regulated	Regional concession
Drivers of efficiency	**Value for money**					
	Clarity of performance expectations and separation of owner and customer	✗	✓	✓✓	✓✓	✓✓
	Funding certainty	✗	✓/✗	✓	✓	✓✓
	Strong customer/'regulatory' pressure	✗	✓/✗	✓	✓✓	✓
	Promotes benchmarking/competition	✗	✓	✓	✓	✓✓
	Exploits economies of scale	✓	✓	✓	✓	✗
	Strong 'shareholder' pressure	✗	✓/✗	✓	✓	✓
	Reduced public sector constraints (e.g. on HR, management incentives)	✗	✗	✓	✓	✓✓
	Overhead and transition costs	✓✓	✓	✓	✗	✗
	Financial flexibility	✗	✓/✗	✓	✓	✓✓
Other criteria	**Efficient resource allocation**					
	Promotes long-term planning and decision-making	✗	✓/✗	✓✓	✓✓	✓
	Independent advocate for roads network	✗	✗	✓	✓✓	✗
	Fiscal flexibility					
	Flexibility to reduce roads spending to meet fiscal/economic objectives	✓✓	✓	✓/✗	✗	✗
	Flexibility to increase roads spending to meet fiscal/economic objectives	✓✓	✓	✓	✓/✗	✓/✗
	Public accountability					
	Management accountable to public/ministers	✓	✓	✓	✓	✓/✗
	Political accountability for policy and major enhancement decisions	✓✓	✓✓	✓	✗	✗
	Deliverability					
	Speed of implementation	✓✓	✓✓	✓	✓/✗	✗
	Implementation and transition risks	✓✓	✓✓	✓	✓/✗	✗

6.7 None of these reference point options offers a single ideal model for the SRN, which has a distinctive set of characteristics. However, a comparison of these models provides a number of useful insights, which help inform the recommendations I have set out in Part C. Some of the key insights from this analysis are set out below, under four elements of a vision for a new approach:

- a clear long-term strategy from government as the customer for the network;
- a robust long-term performance challenge for the network manager;
- an independent network manager with greater commercial focus and freedoms; and
- a mature relationship with the supply chain.

A clear long-term strategy from government as customer

6.8 The enhanced status quo, contractual and regulated models all separate the DfT's roles as 'customer' and 'shareholder' from the network manager, which would help move the governance of the organisation towards commercial best practice and improve the separation of policy and operational decision-making. However, under an enhanced status quo, increased funding certainty and adherence to a medium-term performance specification would be contingent on continued political commitment. In the light of numerous broken commitments to roads policy over the past decade (for example the '10 year plan' announced in 2000, but never fully implemented) this commitment would be unlikely to be widely perceived as credible over the long term. Formalising the separation of network manager and government – as in the contractual or regulated models – would make it harder for government to break the 'contract' between them and reduce the potential for future blurring of accountabilities. This would then provide the context for government to clearly set out its policy ambitions for the network.

A robust long-term performance challenge for the network manager

6.9 As set out in the previous chapter, the regulated network infrastructure sectors have typically achieved continuous year-on-year savings, even a number of years after privatisation. A core part of this approach has been the development of a robust approach to challenging the performance of these industries, which have a 'natural monopoly'. This typically involves a medium-term outcome-based performance specification and funding settlement, with challenging year-on-year performance targets based on an 'RPI – X' formula.

6.10 The SRN differs significantly from regulated utilities in that the Agency is almost entirely dependent on government grant funding, and as a result the DfT is the single funder or 'customer' for the network. As the single customer, the DfT has a much stronger buying power than individual customers in typical regulated markets, reducing the need for an independent regulator to represent customer interests or to provide assurance for private investors.

6.11 This does not, however, preclude the DfT from adopting the principles of a 'regulatory' approach to reduce costs on behalf of taxpayers. A 'regulatory' performance framework for the new organisation could either be exercised by an independent economic regulator (as in the regulated model) or by the DfT.

6.12 There would be both advantages and disadvantages to the creation of an independent regulator. These are summarised in Box 6.1.

Box 6.1: Advantages and disadvantages of an independent regulatory function

Advantages

- Focus on continuous improvements in performance is less vulnerable to the political or fiscal context, for example owing to requirement for independent regulator to drive continuous cost efficiencies.
- More level playing field across funding modes, with the regulator providing a strong independent advocate for the network.

Disadvantages

- Costs of running a separate regulator: for example the Office of Rail Regulation costs over £28 million per annum to run.[47]
- Potential friction and duplication of resources between regulator, customer (DfT) and network manager.
- Uncertain added value from regulator in providing greater customer challenge, given that customer already has strong buying power in the market as the single procurer of services on the network.
- Limited ability for regulator to incentivise or penalise performance, in the absence of alternative providers.
- Reduced fiscal flexibility for the DfT, in the absence of an independent funding stream.

6.13 Given the costs and uncertain value added of creating an independent regulator, building a 'quasi-regulatory' capability in the DfT is the stronger option. This contrasts to the situation in the rail sector, which is subject to full economic regulation. An additional possibility, which reduces the main disadvantages of independent regulation, while ensuring independent scrutiny of whether performance specifications maximise economic efficiency, would be to require an independent reporter or group of experts to publish a periodic report on the 'regulatory review' settlements between the DfT and the Agency. This role could either be performed informally by HM Treasury, which holds a strong economic interest in the network, or by an independent group with a similar role to the Public Private Partnership Arbiter for London Underground.

[47] *Annual Report and Accounts 2010–11*, Office of Rail Regulation, April 2011.

An independent network manager with greater commercial focus and freedoms

6.14 The previous chapter noted a number of areas in which the governance of the Agency is at odds with best practice in other infrastructure businesses and government-owned businesses:

- lack of formal separation between the 'customer' function of the DfT (i.e. in buying services from the Agency) and its 'ownership' function (i.e. as owner of the Agency). This results in a lack of clarity of service level expectations or performance management from the 'customer', and a lack of pressure on the Agency to be run in the most commercial way from the 'owner';
- the proximity of the Agency to government limits the credibility of long-term planning or funding commitments, as these are subject to subsequent changes of political will;
- operational decisions can be subject to political influence, or perceived political influence, which inhibits commercial decision making and promotes a risk-averse culture in the DfT, Highways Agency and supply chain;
- the positioning of the Agency within the civil service places constraints on taking optimal commercial decisions, particularly in incentivising management and staff, recruitment and retention of staff with commercial skills, and making outsourcing decisions; and
- the proximity of the Agency to government reduces the ability of the Agency to act as an independent advocate for investment in the network, in contrast to Network Rail, TfL or the regulated utilities, each of which is formally independent from the DfT. There is widespread perception that, as a result, roads investment is accorded lower priority than other sectors during spending reviews, at odds with its economic importance.

6.15 These issues suggest that greater independence for the network manager is a potential enabler of both cost efficiency and a more economic allocation of resources. Reform at this level is, however, a necessary rather than a sufficient condition for greater efficiency: as my recommendations in Part C make clear, reforms to policy, funding, performance management, capabilities and culture would all also be required.

6.16 A range of governance models would provide the network manager with greater independence from government, including the enhanced status quo and contractual models, mutualisation, or privatisation.

6.17 **Mutualisation and privatisation** – Under the terms of reference for the review, I would not recommend mutualisation or privatisation. Mutualisation would reduce the future flexibility for government to reform the financing of the road network, for example by attracting private investment, and has no established efficiency advantages over government ownership. It is also unclear whether there would be demand for such an option. Without an independent revenue stream for the network manager (for example as a result of road pricing), full or part-privatisation of the Agency at present would be unlikely to secure good taxpayer value, as the SRN would be a liability rather than an asset to the private sector, given the costs of maintenance and operation. Given that the DfT would effectively remain the sole funder of the network, it would also be difficult to transfer risk effectively to a private-sector provider.

6.18 **The 'contractual' model** – The principal difference between the contractual and 'enhanced status quo' models is that it enables a formal contractual relationship between the DfT and the company, with the result that 'contractual' agreements between the DfT and network manager are harder to break. While there is likely to be a spectrum of potential governance solutions that could help create this environment, a government-owned company (GoCo), or an executive NDPB outside the civil service, would provide two potential options. A GoCo would have advantages and disadvantages, as set out in Box 6.2.

Box 6.2: Advantages and disadvantages of a government-owned company

Advantages

- Long-term funding or policy commitments are more credible than enhanced status quo, owing to increased difficulty of breaking legally binding contractual commitments between the DfT and the network manager.
- Staff moving over into the company would cease to be civil servants, potentially offering greater freedoms around recruitment, pay and grading.
- Greater autonomy for the network manager from central government red tape (e.g. on consultancy, IT spending, responding to central initiatives).
- Greater alignment of governance with commercial best practice by adoption of Companies Act governance disciplines, for example the duty on directors to promote the success of the company.
- Could be established relatively quickly and at moderate cost under existing legislation.
- Greater flexibility to respond to the need for future changes in business model (e.g. to attract private capital and/or vary remuneration).
- Greater autonomy from government to act as an independent advocate for roads.

Disadvantages

- Transitional costs, including staff application of TUPE regulations to staff transfers, potential handling difficulties with staff unions, and advisory costs.
- Loss of short-term responsiveness to political priorities.

6.19 Based on my assessment of potential drivers of efficiency, 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.

6.20 An 'enhanced status quo' model could provide a precursor to structural change, aligning governance of the organisation better with top-performing businesses in other sectors, for example by separating the DfT's ownership and customer functions and strengthening the role of the Board. However this would not provide the catalyst for cultural change of a change in corporate status, which would provide a clear direction of a 'fresh start' for a more commercial organisation that would be difficult to achieve simply by 'rebranding' the Agency.

6.21 In the longer term, changing the status of the Agency to a formally independent network manager with a 'contractual' relationship with government – such as a GoCo – is likely to significantly increase the probability of delivering efficiencies, and help ensure a more economic approach to managing the network. This is because:

- increased clarity of performance expectations from the DfT and greater funding certainty are seen as major potential drivers of efficiency from both the Agency and supply chain. By creating a binding 'contract' between the DfT and the new organisation, this arrangement would 'lock in' these benefits, making it less vulnerable to subsequent changes of political priority;
- it would increase the flexibility of management to manage and invest in culture change, and to motivate high performers at all levels in the organisation, for example by removing civil service terms and conditions for new staff;
- internal and external stakeholders both perceive disparity in treatment between roads investment and other transport modes as a key long-term driver of economic performance. Creating a formally separate network manager who can act as an advocate for roads as well as a transparent 'contract' between government and network manager, would reduce the disparity with other transport modes;
- any future policy change to create an independent revenue stream for the roads network (e.g. through a licence fee, VED hypothecation or road charging) would raise the possibility of alternative commercial models for the Agency, including the ability to raise private investment. A structure with the Government as 'shareholder' would provide more flexibility to attract private investment under these scenarios; and
- unlike in the rail sector, this model would retain ownership of the network for the Secretary of State for Transport, giving the network manager greater independence while preserving long-term policy flexibility.

6.22 The precise corporate status of the network manager matters less than creating an organisation with the commercial characteristics, and the relationships with customers, the DfT and its supply chain, needed to deliver these benefits. There are various options for the legal framework within which such an organisation could operate. For example, under a GoCo model, the network manager could operate in the short term as the contracted 'managing agent' for the network on behalf of the Secretary of State, without the need for legislation. In the longer term, legislative change could vest ownership of the network with the network manager.

A more mature relationship with the supply chain and other service providers

6.23 The evidence set out in the previous chapter set out opportunities for a better relationship between the Agency and the supply chain, and other service providers such as local authorities. At the heart of this is the need for a shared focus on efficiency and innovation between the Agency and its supply chain with:

- a presumption in favour of outsourcing to the private sector wherever this brings efficiency;
- a culture of the Agency acting as an 'intelligent client', enabling rather than checking efficient delivery of outcomes by its contractors; and
- a culture of seeking the most efficient outcomes at local and regional levels in partnership with other service providers, such as local authorities.

6.24 A different contracting relationship between the Agency and the supply chain might also help drive efficiency. The 'regional concessions' model outlined above offers one option for this, with the core responsibilities for managing the network outsourced to regional service providers under 10–12-year outcome-based concession contracts, based on their 'handing back' the asset to an agreed condition.

6.25 Some advantages and disadvantages of this approach are set out in Box 6.3.

Box 6.3: Advantages and disadvantages of regional concessions for network management

Advantages

- Efficiencies from simplified interfaces between the public sector and the supply chain, with fewer, more output-based performance contracts for service providers.
- Potential economies of scale and portfolio benefits from service providers providing both local authority and strategic roads services in a region.
- Potential for concessionaires to use private finance to optimise the delivery of a programme of work, given longer-term contracts.
- Diversity of service providers provides testing ground for innovations in service provision, including different funding models and standards.
- Clear financial incentives and penalties for performance (as concessionaires face competition).
- Potential for better 'top-down' benchmarking of regional concessionaires.

Disadvantages

- High transition costs: requiring either a lengthy transition from current Managing Agent Contractor (MAC) and Asset Support contracts to regional concessions, or costly winding-up of existing contracts, along with redundancy and TUPE processes for current Agency staff.
- Loss of comparability between existing contracts and new concessions.
- Perceived shortcomings of existing performance regime (e.g. from existing Design Build Finance and Operate (DBFO) contracts).
- Potential loss of economies of scale from national-level delivery, for example from managing major projects at a portfolio rather than a project level, and from managing traffic management resources as a national resource pool rather than duplicating resources across regional boundaries.[48]
- Long timescales and high advisory costs: for example, advisory costs on the M25 DBFO contract were 7.5% of the total capital value of the contract.[49]
- Potential loss of national level network management control – for example in coordinating road works between concession regions.
- Increased barriers to entry for new entrants into the market if concession contracts are larger than current MAC contracts, with potential impacts on competition.

[48] Highways Agency analysis.

[49] *Procurement of the M25 Private Finance Contract*, National Audit Office, November 2010.

6.26 Regional concessions are, however, only one contracting mechanism along a spectrum of options, including, for example, 'alliance' or 'integrator' models for working with the supply chain. There are likely to be ways of capturing some of the benefits of regional concessions set out in Box 6.3 under other models, and also ways of mitigating some of the drawbacks. Part C sets out my recommendations to the new Board to take forward further work to build a better relationship with the supply chain.

Scale of the opportunity

6.27 The Agency's planned operational expenditure at the end of the current Spending Review (2014/15) is £2.1 billion.[50] Of this:

- PFI service repayments make up around £500 million;
- spending on major projects portfolio makes up nearly £600 million; and
- other expenditure, principally on maintenance, renewal and operation of the existing network, makes up around £1 billion.[51]

6.28 A full package of reforms to deliver the four ambitions set out above would bring substantial benefits to the economy and the Exchequer. As set out earlier, comparative evidence shows that the regulated utilities in the UK have been able to achieve year-on-year cost efficiencies of around 3–6% per year on average over an extended period of time. This implies annual efficiencies of c.15–35% efficiencies after five years of a new approach, with further year-on-year efficiencies beyond this. As an indication, annual efficiencies of 20% across the £1 billion planned budget for recurrent spending on maintenance, renewal and operation of the network would be worth £200 million a year in productivity gains.

6.29 The evidence presented above suggests that there is scope for efficiencies of this magnitude from reforming the delivery of the SRN, drawing on the experience of the regulated sectors. As outlined above, internal analysis by the Agency suggests that greater funding certainty alone would enable savings of around 15% in renewals work, consistent with case study evidence from Infrastructure UK on 10–20% savings in other industries. Anecdotal evidence from the supply chain suggests that productivity gains of c.25–40% are possible from moving to a less bureaucratic, more outcome-based contracting approach for maintenance. And there is some comparative evidence that developing a mature asset management approach can bring efficiencies of around 5% per annum.

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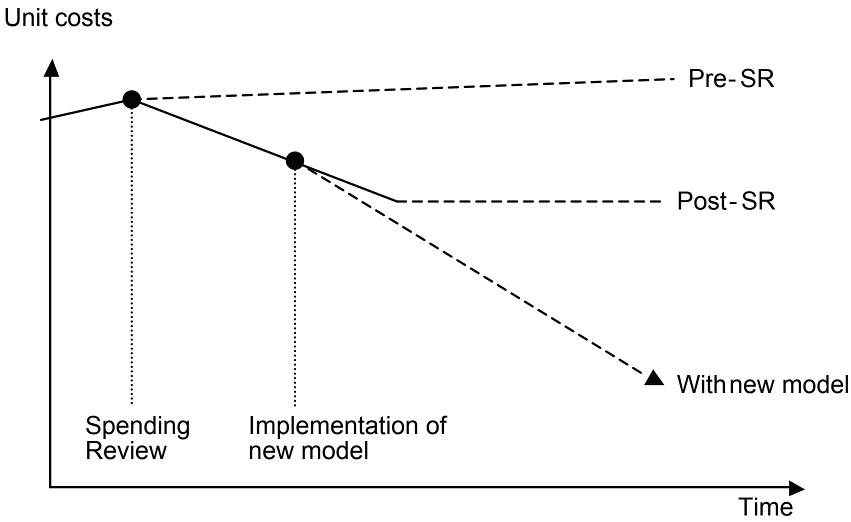
[50] Excluding depreciation and non-cash Annually Managed Expenditure.

[51] Adapted from Annex B of the *Highways Agency Business Plan 2011–12*, Highways Agency, 2011. Note that, as PFI service repayments are contractual commitments, there is limited scope for further efficiencies from this element of the budget.

6.30 These efficiencies would build on efficiencies on unit costs for routine maintenance and operation already being delivered through the Spending Review. A stylised representation of this is shown in Figure 6.1.

Figure 6.1: Relationship between SR10 efficiencies and efficiencies from a new model



Note: Not to scale – chart is intended for illustrative purposes only.

6.31 There is also likely to be scope for further annual efficiencies in the major scheme programme, of the magnitude of at least 5–10% after five years, or an additional £30–60 million, based on capital funding levels being held at 2014/15 levels. These efficiencies are likely to be lower than in maintenance and operations, because the funding model has already been improved as part of the 2010 Spending Review (SR10) and there is less obvious duplication or inefficiency in the delivery model. However, there is considerable scope to drive further efficiencies through enabling a more commercial approach and through ongoing performance challenge from the DfT. This approach would also 'lock in' the benefits of funding certainty agreed as part of SR10.

6.32 To deliver efficiencies of this scale, however, requires reform across each aspect of the vision set out above: each element needs to be taken as a part of the wider package. For example, changing the governance or independence of the Agency would have little impact without genuine progress towards a more focused, commercial culture in the organisation itself.

6.33 Part C sets out my specific recommendations for the actions needed to implement this vision for a new approach. By contrast with the magnitude of the potential savings, the implementation costs of this package would be low: a description of some of the main costs involved is covered in Annex C.

Part C:
Recommendations for reform

7 Principles for a new approach

7.1 The findings set out above present a strong case for urgent change in the management of motorway and trunk roads in England, underpinned by four basic principles, set out in Box 7.1.

Box 7.1: Principles for reform of the management of motorways and trunk roads

- There should be greater clarity and certainty about roles, responsibilities and requirements, with all work being carried out by the organisations and individuals best placed to do it.
- Structures and relationships should incorporate and embed a greater degree of ambition and challenge, aligned with the long-term interests of road users and taxpayers.
- There should be greater scope for locally-inspired priorities, standards and working methods.
- The business model, and business practices, should reflect those in comparable successful infrastructure businesses.

7.2 Chapters 8–10 set out my vision for a new approach and my recommendations for the specific actions needed to deliver this. This will require changes to the way in which everyone involved in managing motorways and trunk roads works: including the Government, the network manager and the supply chain. As set out in Part B, this approach includes:

- a clear long-term strategy from the Government as the customer for the network;
- a robust long-term performance challenge for the network manager;
- an independent network manager with greater commercial focus and freedoms; and
- a mature relationship with the supply chain.

8 The future role of government

8.1 The Government should formally distance itself from the network manager, so that it can be a more effective and assertive champion of the long-term interests of road users, taxpayers and the economy – and apply a greater degree of strategic challenge to the new Board. That challenge should be based on proxies for the customer, shareholder and regulatory pressures that achieve efficiency and good performance in comparable infrastructure businesses.

8.2 The Government should specify its overall strategy and specific requirements for the existing network as a whole with greater clarity and certainty, and demonstrate transparently that these meet the long-term interests of road users, taxpayers and the economy – as opposed to its own interest as the infrastructure provider. It should match those requirements with a long-term funding commitment to the new Board, reflecting its best assessment of the economic and efficient cost of those requirements. Where possible, the Government should express its requirements for the network in terms of capacity and reliability measures, and safety and environmental standards, not in terms of specific schemes and activities.

8.3 The Government should aim to set its requirements in ways that take account of 'bottom-up' local perspectives on priorities and economic growth, alongside the national-level 'top down' perspective, informed where available by strategies for individual routes developed by the new Board with the support of local partners. The specification may set out the Department for Transport (DfT)'s expectations for the capacity and reliability of specific key routes, where a particular level of improvement on that route is considered necessary to support specific national-level growth and development objectives.

8.4 The DfT may decide to add extra items or specify enhanced outcomes between review periods, should funding become available – provided it does not do so by breaking the five-year commitments it has made through the specification. (In taking such decisions, the DfT should be aware that procurement of items outside the specification is likely to be less efficient than procuring items within it.)

8.5 Alongside specific requirements for, and contributions to, infrastructure and services, the Government should also set clear requirements to improve the financial performance of the motorway and trunk road business as a whole, through a proxy for regulatory pressure. This will involve providing an industry-wide challenge to reduce unit costs, in particular by incorporating assumptions about year-on-year unit cost savings into its long-term funding and specification package, and by requiring the new Board to reflect those efficiency gains in its procurement policies. Based on comparisons with other infrastructure businesses, and the lack of top-down pressure on efficiency in the system until now, I believe it is reasonable to set a clear expectation that unit costs will be reduced by at least 20% in real terms over five years.

8.6 The Government will exercise shareholder pressure over the organisation principally through its role as owner; it will give clear responsibility to the Board for meeting clear financial and performance requirements, and will be able to take appropriate action in the event of failure – but must give the Board full day-to-day independence.

8.7 Consistent with the clear differentiation of functions in this model, the DfT will need to take back from the current Agency a small number of regulatory and decision-making functions, where the public interest would be best served by direct ministerial accountability for the exercise of statutory powers (this may include specific interventions in the planning process), or where current Agency functions affect other UK road networks (for example, defining technical standards for traffic management equipment). The DfT may continue to purchase advice from the Agency on the exercise of those powers and functions, if that is the best value option – if so, it should clarify those requirements through its five-yearly specification.

8.8 I have considered whether we may be missing an important opportunity to improve the network through a new generation of privately financed, built and operated tolled roads.[52] International evidence suggests that such roads work best when they provide a valuable new connection that was not provided adequately by existing routes, and this is likely to be the best option for creating any new routes of this kind on the English network.

8.9 Therefore, to minimise the fiscal cost of any new connections, and the risks to economic funding of the existing network, the DfT should consider providing any new connections as private toll roads in the first instance. The DfT may engage the new Board to provide specialist expertise and advice; this is likely to prove a good-value option, as the new network manager should have highly relevant commercial skills. The business case for such schemes should be used to inform all such decisions. If a sufficient private business case cannot be made for a proposed new route on this basis, without substantial public subsidy, this may be because existing alternative routes provide an adequate service, at most times, for most road users. Upgrading that existing route will in most cases provide better overall value for money than subsidising a loss-making toll road.

8.10 However, in England relatively few entirely new connections seem to be required. There have been few obvious barriers in place to prevent proposals for toll roads emerging, so the lack of attractive new private toll road proposals suggests the main problem is a lack of opportunities.

8.11 Using a private toll road model to improve the capacity and performance of existing connections inevitably raises the prospect of tolling routes that are currently available free of charge. This raises obvious political challenges, and would at the very least require a clear lead from national and local politicians, working together to build a consensus that this option reflects the best interests of people using that route. I have not explored this option in detail, but the development of wider route-based strategies (see Recommendation 8 below) would provide a vehicle for exploring these issues in their proper local context.

[52] Various commentators have suggested this option. See, for example, J.W. Smith, A. Jan and D. Phillips, *Providing and Funding Strategic Roads: An International Perspective with Lessons for the UK*, Arup and RAC Foundation, November 2011.

> **Recommendation 1.** Within six months of the Government's response to this review, the DfT should publish a long-term strategy for motorways and trunk roads.

8.12 The strategy should explain how the Government will set and achieve network-wide and specific route-based requirements for the capacity and reliability of roads. It should also justify the asset condition, safety and environmental standards that it expects to be applied around the network.

8.13 The strategy should give a clear account of how these objectives and standards will be aligned with other transport objectives and standards, demonstrate how specific requirements will be aligned with the interest of road users and taxpayers, and take account of both national and local perspectives on economic growth, planning and development.

> **Recommendation 2.** Within twelve months of the Government's response to this review, the DfT should set out a predominantly outcome-based specification for the current network, detailing firm commitments for the next five years. The specification would set out the levels of capacity and performance, and the safety and environmental standards, that the Government intends to secure from the network manager over that period, along with a challenging target for financial efficiency modelled on an 'RPI – X%' type approach.

8.14 The DfT should create separate teams, with separate reporting lines to the Secretary of State, fulfilling:

- the DfT's 'customer' role for the network; specifying the transport outcomes that the Government wants to buy from the Board, representing the interests of road users and taxpayers; and
- the DfT's role as 'shareholder' in the network manager; scrutinising the corporate governance and financial performance of the Board.

8.15 A predominantly outcome-based performance specification, set out by the DfT's 'customer' team, should set out:

- the reliability, safety and environmental standards that the DfT wishes to secure across the existing route network as a whole; these should take the form of minimum standards applying to categories of routes on network, reflecting the differing use and characteristics of roads in those categories;
- for specific routes or route segments currently affected by high levels of congestion, the DfT's intentions to improve the reliability of journeys on those routes, and – where the DfT considers it necessary to support the growth of the national economy or local development – the level of increased capacity it will secure on those routes;

- a clear challenge to achieve optimum whole-life asset management across the network, demonstrating how this maximises the long-term economic value from the asset and meets the long-term interests of taxpayers and the UK economy; and
- a clear challenge for the Board to secure greater efficiency in the motorway and trunk road industry, reflecting the sustained efficiency improvements achieved by comparable infrastructure businesses in the UK – in particular by using contracts to create incentives for suppliers to reduce unit costs on an annual 'RPI – X%' basis, consistent with the aim to reduce overall unit costs by at least 20% within five years.

8.16 The DfT should move progressively towards setting its requirements of, and funding for, motorway and trunk roads at the level of individual routes and route segments, informed by route-based strategies where available (see Recommendation 8) rather than for the network as a whole. These requirements should take account of national-level priorities, alongside an analysis of local challenges and opportunities, informed by local knowledge.

8.17 The specification should include commitments to support specific named major schemes, where a scheme is well advanced and the Government has been able to make a clear commitment to support it. At locations where a scheme proposal may exist but no such commitment has been made, the specification should set out and justify the improved outcomes the Government wishes to secure from investment on that route, but should not specify how those outcomes should be achieved.

8.18 The specification should not cover any other matters – such as personnel issues, internal organisation, specific procurement and financial policies, day-to-day operational matters, or local operational, safety or environmental issues. These will be solely the responsibility of the Board.

8.19 The specification should be prepared by the DfT, reflecting expert advice from the new Board, but also from others as required. The DfT should seek independent review and challenge of the Board's proposed costs and forecasts, where this is likely to achieve greater overall value for money. In line with practice in the regulated sectors, the specification should be renewed every five years.

8.20 The DfT should aim to be an 'intelligent customer' throughout, and should develop the capability to assess and verify information produced by the network manager each year about its achievement of the specification.

> **Recommendation 3.** Ministers and the DfT should focus on a distinctive new strategic role as the champion of road users. The DfT should ensure that its specification for network performance reflects the experiences and reasonable aspirations of road users. The DfT should challenge the network manager on an ongoing basis to ensure that its specification is consistently achieved, aiming to provide similar pressures to those on comparable infrastructure companies in the regulated sectors.

8.21 In line with its role as the 'customer' for the network on behalf of road users, the DfT should ensure that its specification clearly and transparently sets out the service levels and standards that road users should expect from the network, based on engagement with road users and representative bodies. These should be specified over the medium term, with the DfT robustly holding the network manager to account for its performance against its specification, as the champion of road users' interests. Consistent with this new, more strategic role, ministers should focus their efforts on obtaining the best possible outcomes for road users, with the network manager's Board taking responsibility and accountability for the operational and commercial decisions it makes to achieve those outcomes.

8.22 This new role requires a degree of culture change in DfT, based on a much more businesslike and challenging relationship with the network manager, which demonstrates that it is putting the long-term interests of road users at the heart of its activities.

Recommendation 4. With the support of HM Treasury, the DfT should set out a funding package for the existing English motorway and trunk road network, committed for five years to accompany the specification, which represents the Government's best assessment of the economic and efficient cost of that specification. The network manager should be given the commercial freedom to manage its own budget, including access to a working capital reserve, allowing the smoothing of investment and expenditure between budgetary periods and effectively ending the constraint of annuality.

8.23 As shown in Part B, greater certainty of funding opens up significant potential for efficiencies by giving the network manager the ability and flexibility to plan investment over the long term, shield regular expenditure from the volatility of annual budgetary rounds and obtain better value from its contractors by contracting for the longer term, and with greater certainty.

8.24 A five-year review period is the standard length of performance specification across the regulated utility sectors, and we recommend adoption of this tried-and-tested model. However, there is also a case for providing a slightly longer funding control period, for example up to seven years, for recurrent spending on maintenance and renewals, given evidence from the water sector that five-year funding settlements still drive inefficiencies in delivery around control periods. This, for instance, was the review period determined for the London Underground PPP, as it balanced the need for flexibility with the advantages of longer-term investment periods.

8.25 I recommend in the first instance that HM Treasury and the DfT make a fixed funding commitment to maintenance, operation and renewal of the existing network for the five-year control period, based on a thorough economic assessment of the needs of the network and an 'RPI – X' type performance challenge as set out in Recommendation 2.

8.26 In the longer term, investment plans for major enhancements could also be driven by the DfT's outcome-based performance specification over the five-year control period. In the short term, however, reflecting the greater need for political involvement in major network enhancement decisions and the existing pipeline of projects, funding certainty for network enhancements should be provided over spending review periods, as 'ad hoc' additions to the agreed performance specification for maintenance, operation and renewal.

8.27 Alongside greater certainty of funding, the new Board should have greater commercial flexibility to manage its own budget, independently of the DfT, including the ability to retain in-year 'underspends,' and an effective end to the constraint of annuality on the organisation's ability to make commercially optimal decisions. The new 'shareholder function' of the DfT would provide the necessary challenge and performance incentives to ensure that this facility is not abused.

8.28 In common with other successful infrastructure businesses, the new Board should also have the facility to access a working capital reserve, held by the DfT as the effective 'shareholder' for the organisation, which the Board could ask the shareholder for access to if there is a strong efficiency case for bringing forward investments. We have not estimated the optimal size of such a facility; but preliminary discussions with the Agency indicate that it should at least be sufficient to allow the network manager to bring forward spending of c.10% of its annual budget.

> **Recommendation 5.** If ministers decide that new routes and connections, not provided by the current network, are required, the DfT should examine the business case for building and operating these as private toll roads in the first instance, using the new Board as an expert adviser.

8.29 The SRN is largely complete, and there are likely to be few opportunities for entirely new connections: the focus of investment should remain on the improvement of existing routes. The DfT should take responsibility for proposing any major new routes, with the network manager focusing on managing and improving the existing network.

9 The future status and role of the network manager

9.1 In order to drive the efficiency gains achieved in other sectors, it will be necessary to remodel the new organisation along the lines of other successful infrastructure businesses. It should be subject to equivalent external pressures to other such businesses, in order to achieve sustained year-on-year improvements in performance and efficiency. It should be a specialist organisation with a clear focus on meeting its client's specifications for the network, but with the ability to decide for itself, using its own commercial and technical expertise, how those specifications will be met. It should be able to compete effectively in the market for the specialist commercial, economic and technical skills it needs to emulate the success of other leading infrastructure businesses. In order to make the most of those skills, the Board should be able to enter independently into long-term commitments with contractors in the way that they judge is most likely to secure long-term efficiencies, with confidence in the funding commitments that it has received from the Department for Transport (DfT). A new organisation would therefore need to be formally separate from the DfT, with its performance specification underscored by a stable long-term commitment.

9.2 The precise corporate status of the new organisation is less important than creating the right characteristics and relationships with the DfT, its customers and its supply chain: there is likely to be a spectrum of potential governance solutions which could create the right environment, including a government-owned company or executive NDPB. As discussed in Part B, a government-owned company could be established relatively quickly, at moderate cost, and should require no new legislation or renegotiation of complex contracts. Highways Agency staff transferring to the new organisation would of course retain their existing entitlements and protections under the TUPE regulations.

9.3 As the leaders of a public-sector, public service organisation, I recommend the new Board fully embrace the principles of the Government's *Open Public Services White Paper*. It should therefore aim to achieve high performance and sustained efficiency improvements by securing a greater proportion of the public goods it provides by means of outsourcing, as well as by encouraging and enabling a wider and more diverse range of potential suppliers to compete and innovate in the supply of goods and services.

9.4 As this organisation will continue to deliver most of its business through contractors, it needs to be a commercially-driven organisation, with a mature relationship with its supply chain, based on trust, shared understanding and clear and economic allocation of risk. It must be able to express its requirements to potential contractors clearly and concisely, and in a way that avoids driving up costs and reducing innovation through over-specification. It should aim to transfer risk to its suppliers and contractors, wherever this can be done in a way that improves overall value for money to the public. This will mean less emphasis on specifying the controls, procedures and restrictions that define exactly how contractors work, and a correspondingly greater emphasis on verifying the results delivered and standards achieved.

9.5 Information produced about the network, including information from contractors, should be used actively to drive efficiency and manage the network better in the interests of economic growth, in line with the DfT's performance specification. There should be fewer nationally-prescribed standards and procedures, and more emphasis on diversity and innovation. Widespread benchmarking of performance and efficiency within and across services, as well as between contractors, should be used to identify strong contractors and challenge those performing less well. The new organisation should also adopt a similar approach to understanding its own strengths and weaknesses, use that information to identify and celebrate its own success stories, and identify areas for improvement and development. The aim should be a supportive, open but challenging culture of continuous improvement across the organisation that encourages good ideas and innovations from all staff and contractors. These trends are likely to be promoted and reinforced by a flatter, less hierarchical corporate structure, modelled on successful commercial organisations rather than civil service traditions.

9.6 This approach – based on diversity, information, benchmarking and evidence, will enable a more localised approach to the development of specific programmes to improve the network. The future development of the network and services must in future be informed by locally-driven growth and development aspirations, reflecting the Government's localist approach to planning and economic growth.

9.7 I therefore envisage that, over time, the new organisation should move away from its emphasis on solely national-level strategic planning of infrastructure and services, by developing a new generation of strategies for routes or route segments that seek to balance national perspectives with local aspirations and priorities. The development of these strategies represents an opportunity to achieve further efficiencies and performance improvements across both local and strategic road networks, through identifying opportunities for better coordination of works, diversions and traffic management – and opportunities to secure efficiencies and economies of scale through joint procurement and more efficient deployment of plant, personnel and resources.

Recommendation 6. The DfT should initiate and complete the process of remodelling the Agency to reflect best practice in successful infrastructure businesses and provide greater independence from government, including:

- re-shaping the Board to create a majority of non-executives in-line with commercial best practice;
- formal selection of a non-executive Chairman; and
- reforming the status of the network manager in order to provide a catalyst for change, so that it can operate with more certainty in its funding settlements, greater commercial flexibility, and less ministerial intervention on a day-to-day operational basis.

9.8 This would create greater clarity of roles between the Government, as funder and 'customer' for the network on behalf of road users, and the new Board. It would also impose stronger commercial disciplines on the Board, increase the credibility of the DfT's commitment to the network by enhancing the Board's independence and provide a necessary catalyst for cultural change.

9.9 In the first three months following the Government's response to this review:

- the DfT should continue and complete reforms to the governance of the current Agency so that it reflects best practice in commercial infrastructure providers, with the new Board becoming the organisation's key decision-taking body (as opposed to its current strategic and advisory focus);
- the DfT should re-balance the Board to create a majority of non-executive directors, in line with commercial best practice and to give non-executive directors a greater role and powers, so that they can ensure the Executive sets a new strategic direction, develops and leads a corporate change programme, rigorously focuses on achieving the Secretary of State's objectives and achieves continuous improvement in financial performance; and
- the DfT should start the formal selection of a non-executive Chairman and, in line with commercial best practice, recruitment of industry leading non-executive Directors to outnumber, challenge and assess the executive team's future delivery capability.

9.10 Within a year of the Government's response to this review:

- the DfT should reform the corporate status of the Agency to embed and formalise its new relationship with government, and to provide a catalyst for reforms to create a more commercially flexible and focused organisation. This organisation would carry out the Secretary of State's duties as highway authority for this network as a 'managing agent'; and
- the DfT should ensure that responsibility and accountability for day-to-day operational decisions rests completely with the new Board; ministers should no longer accept responsibility or accountability for decisions about (for example) specific incidents or localised environmental issues.

9.11 Within five years of the Government's response to this review:

- the Secretary of State should give consideration to transferring the ownership of the network to the new organisation. The Secretary of State would afterwards own the organisation that owns and runs the network, rather than owning the network directly.

Recommendation 7. The new Board should devise and lead a corporate change programme that aims to:

- ensure the new organisation has a clear focus on the achievement of its clients specification and reflects that focus in its procurement work;
- define and position the organisation as an expert enabler, commissioner and standardiser of highways and highway services on the existing network – rather than a comprehensive provider; and
- embed a commercially-driven culture of efficiency, high performance and continuous improvement across the organisation.

9.12 Simply removing the barriers and constraints which have impeded efficient delivery in the past will not achieve the opportunities for transformational efficiencies I have identified without fundamental change to way the Agency currently works with the wider industry. This will be a major challenge, requiring a fresh start for the organisation.

9.13 The Board should ensure its staff demonstrate strong client skills in commercial management to make proper use of the mechanisms available to manage risks and costs, to challenge their contractors' specifications and manage their performance. It should also have the knowledge and skills to reduce its reliance on external consultancy support to provide technical excellence and advice. In short, the new organisation will be a complete 'intelligent client'.

9.14 The organisation will be an effective communicator that clearly states its expectations and understands the challenges its partners must overcome to meet and exceed those expectations. It will seek out collaborative relationships with its contractors, be willing to challenge standards where necessary to support innovative cost-saving approaches and make more risk-aware commercial decisions. It should operate efficient reporting mechanisms to ensure poor performance is penalised and strong performance is celebrated.

9.15 The outcome of this change will drive better performance across the business. This revitalised organisation will have a shared set of values, a commitment to deliver more effectively and efficiently, and strong passionate leadership to ensure sustained success. It will have the right skills and knowledge to pick the right partnerships with its supply chain and create a positive environment in which to solve problems through new innovative techniques. It will share success and learn from its failures.

9.16 To achieve this commercial culture I am recommending the following actions for implementation by the Board as part of a comprehensive change programme:

- implement a flatter, less hierarchical internal organisational structure that reflects this more focused role, avoiding vertical and horizontal duplication of functions and internal cross-checking;
- develop a central capability to make resource allocation decisions across operations, maintenance and enhancements on the basis of economic evidence;
- align performance incentives throughout the business with corporate objectives, including management incentives and through greater use of joint incentives across client teams and contractors; and
- exploit opportunities to earn income from commercial ventures, for example through the use of advertising and commercial sponsorship around the network, where this can be done safely and without serious adverse environmental impacts.

9.17 The timescale for completing a comprehensive change programme such as this will have both short- and longer-term milestones. I have therefore recommended that, within the first 12 months, a revised, more commercially focused structure has been designed, agreed and implemented by the Board. However, the all-embracing cultural change I am recommending will take longer to embed. Experience from other infrastructure providers leads me to expect this process would be complete by 2014.

Recommendation 8. The new Board, working with local authorities and Local Enterprise Partnerships, should initiate and develop a new generation of route-based strategies.

9.18 These strategies will identify challenges and opportunities in the maintenance, operation and enhancement of routes or route segments, and ensure that future plans are considered with reference to local economic and development aspirations, while taking account of national priorities and a realistic view about national-level funding. They should be developed in cooperation with relevant local highway authorities and Local Enterprise Partnerships, and should be coordinated with equivalent plans for local road infrastructure and services on and around the route.

9.19 They should specifically aim to identify opportunities to achieve efficiencies for the public sector as a whole, and better services for road users, through joint working with local experts. The strategies should be used to inform discussions on the DfT's periodic specifications, in order to clarify the contribution of national taxpayers to the strategy – and identify the potential for additional funding contributions to the strategy from other local or national sources.

9.20 The development of route-based strategies should aim to incorporate good ideas about the management of the network that reflect local opportunities. For example, they may incorporate innovative agreements on efficient procurement, or the use of staff and resources, that could bring benefits to all parties and reduce costs to taxpayers. A local authority, through the development of such strategies, could make a case that it could achieve better results, in the interests of road users and taxpayers, by taking over responsibility for a particular route on the SRN on an 'agent' basis. Alternatively, it may make a case that an adjacent route on its own network operates functionally as part of the SRN and should be managed accordingly. Parties to route-based strategies could agree to exchange funds to reflect such local agreements. This could lead to a much more diverse and creative pattern of services around the country.

9.21 These new strategies should be developed first for routes where there are serious emerging congestion pressures and concerns about the effect on local economies but no specific plans for achieving capacity or reliability improvements. The aim should be to identify and exploit short-term and relatively inexpensive opportunities to improve outcomes – for example through smarter and better-coordinated traffic management and information services – and thereby clarify the case for infrastructure investment over the longer term.

10 Expectations for the new Board

10.1 My proposal for a new status for the network manager, and a clearer, more businesslike relationship with government, creates a range of opportunities to introduce smarter, more efficient ways of influencing road user behaviour, provision of quality information and carrying out maintenance, operations and enhancement activities. Some of these opportunities are well understood at present, but are inhibited by the lack of long-term stability for the network manager. Other proposals have emerged during the study as new possibilities created by the wider set of strategic reforms set out above. I am therefore recommending the new Board make a number of changes to the way it does business, as set out below.

Customer service, and influencing road users

10.2 **The Board should demonstrate that it values road users, by adopting clear and relevant customer service standards, making better and more targeted use of feedback, and by enabling and encouraging smarter road user behaviour. This will include:**

- **setting clear performance expectations for customer service, while delegating responsibility for achieving those service levels this to the supply chain where practical;**
- **taking a proactive approach to influencing behaviour and providing better information about drivers' choices – where this provides a cost-effective way of achieving its performance specification; and**
- **driving better enforcement on the network from stakeholders such as the police, through greater transparency of performance data.**

10.3 The new organisation should have a strong incentive to ensure the collective needs of road users, as defined through the Department for Transport (DfT)'s specification, are met. The DfT should also define, through its specification, service standards for customer service. Those standards should broadly reflect comparable standards in other public-facing services.

10.4 While it should continue to provide a single point of contact for road users, the new organisation should not seek to manage all interactions with customers in house. Referring customer contacts and complaints to the contractor, who is closest to the kind of specific and localised issues likely to be raised by individual road users, is likely to reduce duplication and unnecessary interfaces, as well as improve responsiveness and customer satisfaction. The new organisation should use benchmarking and performance evidence to ensure contractors demonstrate that they value, and act upon, concerns, information and suggestions received through customer contacts.

10.5 The reliability of the road network, and safety and environmental outcomes, depend largely on the behaviour of road users. In accordance with its new commercial freedoms and ability to innovate, the new organisation should be free, through its contractors, to seek to influence the behaviour of road users, where this appears to offer a cost-effective way to achieve the reliability, safety and environmental standards in its specification. It may, for example, seek innovative ways to encourage efficient lane discipline, safe driving at high speed, safe use of the hard shoulder, and driving techniques to reduce local environmental problems – or to encourage road users to travel at less busy times or on quieter routes.

10.6 However, the new organisation should only attempt to influence road user behaviour with the aim of achieving its performance specification. It should not attempt to influence more general driving or transport behaviours, which should remain matters for the DfT and the Driving Standards Agency.

10.7 Behaviour change measures should recognise and value the fact that the vast majority of drivers aim to use the network safely and efficiently. However, it remains essential that such measures are supported by effective enforcement action against bad behaviour on the network, particularly where this puts the safety of others at risk. Some stakeholders interviewed as part of the review have raised concerns that police forces in some parts of the country may be contemplating reducing the priority given to enforcement action on motorways and trunk roads. While it is right for individual police forces to decide their own priorities, they should be accountable for those decisions, which should where possible be informed by evidence. The new organisation should continue to work closely with local police forces to assign clear and transparent responsibilities for management of incidents on the network, minimising the risk of inefficiency.

10.8 Based on this, the new organisation should publish information on the performance of contractors and the police in resolving incidents on the network on a regional basis, using this transparency to drive better performance. Where the network manager has evidence that insufficient enforcement may be contributing to poor performance of the network in specific police force areas, they should report the evidence to the force concerned, and to the DfT.

Information services

10.9 **The Board should refocus its information strategy to place less emphasis on providing bespoke information services itself. It should instead focus on providing accurate, real-time information about the network for use by third parties, enabling a wider range of products and services, more relevant to the needs of individuals, to be developed.**

10.10 The Highways Agency has created a number of bespoke products and services to 'broadcast' information to road users. However, this is not an area in which the Agency has a strong competitive advantage. Some of these services are used by only a tiny proportion of road users (websites, direct radio broadcasts), and others are very limited in terms of the messages they can convey (Variable Message Signs). Meanwhile, personal communications devices are revolutionising the way people receive and respond to information. These trends are only just starting to have a direct impact on road user behaviour and, though the use of devices by drivers can pose safety risks, they will clearly provide a major means for road users to access information in the future. 'Narrowcasting' may in the future prove more influential on people's behaviour and choices than 'broadcasting'.

10.11 Given the rapid change in this area, driven by independent and private-sector product developers, the new Board should refocus its information strategy so that the emphasis is on ensuring that these developers have open access to reliable information, which they can repackage into new services that meet the specific needs of groups of road users.

10.12 User-generated information may also be of value to the motorway and trunk road industry as it seeks to provide better services, enabling a better understanding of road users' views and more targeted and effective ways of providing them with information. In light of this, the new Board should support third-party services through which road users can actively provide information about their use of the network, their journey patterns and their future needs to the network manager – and provide useful information to other road users.

Maintenance and asset management

10.13 Valued at £99 billion, the strategic road network is the Government's most valuable single asset. The economic benefits of managing this asset as well as possible, in the interests of both current and future road users and taxpayers, are enormous.

10.14 As set out in Part B, I have found that experience in other sectors shows that comprehensive asset management has the potential to improve service delivery and deliver significant value for money benefits – estimated at around 5% per annum. Current capability in the Highways Agency is a long way short of best practice in these sectors, despite the value of the asset it manages. It is for these reasons that I am recommending the network manager builds their business activities around an asset management approach.

10.15 The new network manager should embed an optimum whole-life approach to asset management throughout the business, seeking relevant accreditations within four years, and ensuring this approach is reflected in all relevant business decisions.

10.16 Asset management is:

> *the systematic and coordinated activities and practices through which an organisation optimally and sustainably manages its assets and asset systems, their associated performance, risks and expenditures over their life cycles, for the purpose of achieving its organisational strategic plan.*[53]

[53] PAS55, BSI, 2008.

10.17 For the new organisation to truly become a leading asset management organisation, it must develop its 'knowledge base' to determine the importance, condition and location of its assets, along with the capability (both systems and people) to make informed decisions on when and how to intervene. It must embed a decision making framework to ensure it makes evidence based economic decisions when allocating resources between enhancement, maintenance and operations. Further, it must achieve greater cost efficiency or better value for money by making 'whole asset life' as well as 'whole asset cost' decisions.

10.18 Asset management is not just the job of maintenance contractors and technical specialists: it is the responsibility of the whole organisation from senior management to front-line delivery staff and their contract managers. A successful asset manager regards their supply chains in the same way as any of their other critical assets. For these reasons I believe that the new organisation and its supply chain should share and work towards the same set of asset management goals and organisational values – this must be ingrained into the culture of the organisation and in more collaborative relationships with its suppliers, to develop the capability and maturity they need to succeed.

10.19 To achieve this I am recommending the following actions be led by the Board as part of an **asset management policy and strategy** for the future:

- achieving PAS55 accreditation and a specified level of asset management maturity within four years;
- ensuring economic asset management considerations are taken fully into account in the development of the network enhancement programme;
- developing the skills throughout the business required to inform good economic decision-making;
- investing in the information systems needed to support good asset management, including persisting with investment in its Integrated Asset Management System; and
- over the longer term, devolving asset management responsibility to the supply chain, while maintaining ownership of the data required to be an intelligent client.

10.20 The recommendations that I put forward should be implemented alongside the cultural change programme covered in Recommendation 7. I would expect that within 18 months the new organisation would be accredited with a PAS55 marking. Further to this, evidence from other infrastructure providers has led me to believe that a mature asset management organisation could be achieved by the end of 2015.

10.21 **The new organisation should achieve substantially greater value for money from future asset management contracts by changing the geographical size, scope, length, standards, reporting requirements and risk transfer of its maintenance contracts, and thereby challenging and enabling the supply chain to deliver unit cost savings for maintenance works of at least 25% over the first five years.**

10.22 Changes to the strategic context would create commercial opportunities from reforming contracting mechanisms for maintenance and renewals. In particular:

- medium-term funding certainty would offer greater opportunities to extend contract length;
- changes to the future of traffic management services and to the enhancement programme, could increase the potential scope of activities covered by these contracts and provide efficiencies of scale;
- contracts with larger geographical scope may offer greater economies of scale without significantly affecting overall market competitiveness, for example by allowing contractors to deploy plant and personnel over a greater area;
- a more collaborative commercial culture in the new organisation could enable contracting models involving fewer interfaces and more joint working with the supply chain; and
- a stronger supply chain community could help sharing of best practice and develop new innovative ways of working across areas.

10.23 As different areas of the network present different capacity challenges and require different standards, and there is substantial scope to capture economies of scale from greater efficiencies between work on local authority roads and the SRN, there is a rationale for a regionalised approach to delivery. In particular, regionally integrated delivery models such as regional concessions could help address a number of drivers of efficiency described below. Consideration should also be given to 'alliance' and 'integrator' models, which have a proven track record in other sectors.

10.24 The new Board should consider the available contracting options and report their findings on the best model for delivering value for money, to the DfT within a year of accepting these reforms. This will inform the negotiation of the first performance specification.

Traffic management services

10.25 I welcome work currently taking place under the Highways Agency's 'Future Operating Model' to reduce costs and improve outcomes from the Agency's Traffic Management Services, but this will not address the constrained coverage of the service, which may be limiting its potential to improve journeys for road users across the network, and address the duplication of work and responsibilities between the network manager and its asset management contractors – specifically incident response and Regional Response Centres.

10.26 The Board should implement a study of its Traffic Management Services, to report within six months on the optimum procurement model for delivery – in particular by exploring outsourcing options to reduce duplication with its asset management contractors, align traffic management operations more effectively with asset management works and achieve better value for money for taxpayers.

10.27 The Board should investigate the options for outsourcing these services to achieve the best value for money and report its findings to the DfT to inform the first performance review negotiation. Its National Traffic Control Centre should remain as part of its strategic control and customer information capability. As a minimum, I am recommending the study should analyse the following outsourcing options:

- letting a national or sub national contract for traffic management services combined with the provision of network technology;
- asset management contractors to employ Traffic Officers and transfer the responsibility for incident response, as contracts come up for renewal, to those contractors; and
- aligning the number and geographic coverage of Regional Response Centres with the number of asset management contracts and transfer those response centres to those contractors, as contracts come up for renewal.

10.28 The analysis and reporting phases of the study should be completed within six months of agreeing these recommendations. The preferred procurement vehicle should then be identified as part of the first performance specification – implementation of this model would follow accordingly.

Network enhancement

10.29 The management of the major schemes programme has been substantially improved since the implementation of the recommendations of the Nichols report in 2007. My wider recommendations should help to improve the value for money and manageability of the network enhancement programme, through its positive effect on the efficiency and responsiveness of the supply chain.

10.30 However, I am concerned that the network enhancement programme relies too much on the 'major scheme' model. Under this model, the Agency, working closely with DfT, will examine pressures, problems and opportunities on the network, design (to a greater or lesser degree of detail) schemes and projects accordingly, assess the expected costs and benefits, and invite ministers to assign priorities to both older and newer proposals, reflecting available funds. The Agency then attempts to procure higher-priority projects in the way that achieves the best overall value for money. Low priority schemes are put 'on ice', or – often controversially – abandoned.

10.31 This process appears appropriate to entirely new routes and connections, which need to be treated as indivisible projects. But it seems much less appropriate to a capital programme now dominated by improvements to existing routes. The challenge in such a capital programme is to find the best way to construct a coherent, manageable and affordable programme from a multitude of more granular, smaller-scale works – such as junction improvements, stretches of carriageway widening, traffic management schemes, safety works and environmental works. Though each separate small-scale intervention might deliver only a specific localised improvement, when they are coordinated over time, localised improvements can build upon each other and eventually transform the performance of the route as a whole.

10.32 The traditional 'major scheme' model does not look like the best way to deliver coordinated route upgrade programmes of this kind. The current model creates an incentive for the Agency to amalgamate smaller, incremental improvements on a particular stretch of road into a somewhat artificial ‘major scheme’, which can be a bureaucratically complex, time-consuming and over-specified way of achieving such incremental improvements. The individual components of these ‘major schemes’ then tend to stand or fall together – the schemes are ‘all or nothing’. So if the ‘scheme’ fails to be selected as a priority, this could mean nothing being done to improve that route for several years, despite attractive individual elements of the scheme being affordable and deliverable during that time.

10.33 It is also complex for the major scheme contractor to coordinate its activities with the operations and maintenance of the road – which are usually the responsibilities of others. Traditional major schemes are also inflexible – once a scheme has been designed, it is complex and expensive to adjust it to accommodate new pressures or changes to affordability constraints.

10.34 PFI-type schemes can help address the affordability problem, but are often even slower to set up than traditional major schemes. Recognising these problems, the Agency has a separate investment programme specifically aimed at advancing smaller schemes. While some excellent projects have been taken forward through this programme, the current programme appears too small and resource-intensive to be expanded into the series of coordinated route upgrade programmes that would address the big enhancement challenge facing the network.

10.35 I propose that a better alternative would involve the new organisation agreeing with a contractor to deliver specific capacity and performance milestones for a given route or route segment. Potential contractors would compete either to provide the best overall capacity and performance improvement for a specific amount of available public investment – or to offer the best price for a specific level of capacity and performance improvement defined by ministers after consideration of needs and priorities. The new organisation would not specify specific works – only the capacity and performance milestones required by specific dates. Contractors would be able to put forward a range of options for achieving those milestones, bringing a fresh perspective and new ideas to the problem. Contractors who already carry out operations and maintenance on the route may be able to put good-value bids forward, relying on their ability to achieve further efficiencies by incorporating enhancement works into their ongoing programmes.

10.36 This approach would lead to costed packages of enhancements to particular routes that could provide ministers with a more manageable, more flexible alternative to traditional major schemes. Over time these might enable greater innovation and competition, and lead to more rapid implementation of improvements. For these reasons, I believe such packages could prove very attractive in terms of overall value for money.

10.37 Recommendation 8 above, on route-based strategies, creates an opportunity for these packages to be aligned with specific local planning and economic development agendas. This approach potentially allows improvements to a particular route to be taken forward in a more agile and flexible way, reflecting changes in funding availability. It also enables the creation of route development 'pots', which could potentially attract contributions from developers and other local sources, who would know that their contribution would deliver a specified level of improved capacity and reliability on that route.

10.38 This option requires further development and piloting, but I believe it has considerable potential to improve the value for money and responsiveness of the network enhancement choices available to DfT ministers.

10.39 **The new Board should investigate, and report to the DfT within six months, on the potential of a new approach to supporting network enhancement through route-based programming of smaller, incremental projects, procured through capacity and reliability milestones.**

Annex A: Terms of Reference

Aim

The review will consider how best to achieve the Government's objectives for operating, maintaining and enhancing the strategic road network (SRN). Those objectives include:

- supporting economic growth and productivity by delivering transport policies (such as improving the availability and reliability of the network through tackling congestion, prioritising high value investments, achieving environmental objectives and ensuring continuing safety);
- maintaining the flexibility to deliver transport policies developed to meet changing needs;
- supporting fiscal objectives through reducing public spending net debt or pressure of public spending over the longer term;
- delivering innovative and responsive public services that enable people to make better choices for themselves; and
- fulfilling the Secretary of State's obligations under the Highways Act, and to maintain a critical national infrastructure asset.

Scope

The review should examine the principal activities and organisations involved in the process of operating, maintaining and enhancing the SRN and will look at comparable sectors in the UK and in mainland Europe. This will include overall strategy, funding arrangements and the relationship with the private sector. In particular, the review should focus on three key elements:

1 **Effectiveness** – the review will consider options for:

- maintaining and renewing a key national transport network more effectively;
- better management of traffic congestion and traffic incidents;
- developing the network to meet changing user, environmental and legislative demands;
- ensuring that the Secretary of State's obligations under the Highways Act 1980 are fulfilled;
- meeting the transport needs of users of the SRN more effectively;
- delivering the SRN by means of a different business model. The review will need to consider the timing, costs, benefits and risks associated with different models and their implementation, including the need for legislation or transitional arrangements such as piloting and any restructuring considerations; and
- the review will also need to consider the relationship with government, the role the Agency plays in supporting or developing road policy and the performance management regime.

2 **Efficiency** – the review will consider how efficiency might be improved by:

- changing the amount or type of work contracted to private sector providers and changing the risk profile of that work;
- changing how goods and services are procured in order to secure lower costs, greater risk transfer or higher certainty of price; and
- understanding more thoroughly the costs involved in operating, maintaining and enhancing the SRN and managing and monitoring these more appropriately.

3 **Measuring performance and demonstrating financial efficiency** – the review will consider how performance measurement might be improved, for example through:

- internal benchmarking, external monitoring or independent economic regulation and benchmarking by comparison with other comparable national or international organisations.

The Chairman will make recommendations to the Secretary of State for Transport by the end of October 2011, in line with DfT's business plan.

The review should also take account of the conclusions of Infrastructure UK's *Infrastructure Cost Review,* published in December 2010.

Annex B: List of contributors

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Enterprise Mouchel
Highways Agency
HM Treasury
Highways Term Maintenance Association (HTMA)
Infrastructure UK
KPMG
London First
NM Rothschild
Parsons Brinckerhoff
Policy Exchange
PricewaterhouseCoopers
RAC Foundation
Reform
S A Murray Ltd
Shareholder Executive
Turner and Townsend

Annex C:
Indicative implementation plan and costs

Implementation costs

By contrast with the size of the potential gains described out in Part B, of £200m a year after five years of a new approach, the implementation costs of the reforms described in Part C are likely to be low. These costs would include:

- the **initial costs** of any changes to the Highways Agency's corporate status and reforming the Board. Much of this could be resourced internally by the Department for Transport (DfT), with some additional advisory costs and costs arising from reform of the Board;
- **one-off advisory costs** of developing a performance specification. As this specification is between two public bodies, the risks are lower than when contracting with the private sector, so the DfT could do a 'minimalist' job itself with limited advisory support. There would be a sliding scale of potential costs, depending on how ambitious this was (i.e. the more the performance specification becomes formalised and formula-based, the higher the requirement for in-house skills or advisory support);
- **additional resourcing costs at each regulatory review period**. At a minimum, the DfT would want a second engineering opinion on the network manager's costs. However, the suggested model is much more collaborative than the regulated sectors and would aim to rely on a small, skilled team in DfT to provide challenge rather than duplicative consultancy work;
- **additional incentive or remuneration payments.** If relevant, these would be linked to better performance and long-term value for money. Through their shareholder role, the Secretary of State would have levers to influence this; and
- any **subsequent costs** following Board decisions to restructure the organisation. Given the remit of the Board, any restructuring would be done on the basis of offering better long-term value for money.

Indicative implementation plan

Lead organisation	Recommendation	Indicative actions and timescales (following government response)				
		Within 3 months	Within 6 months	Within 12 months	Within 2 years	Within 3 years
DfT	1. Publish a statement of its long-term strategy for achieving better motorways and trunk roads.	Publish response to review team recommendations.	Publish strategy/White Paper for roads.			
	2. Set out a predominantly outcome-based specification for the current route network for the next five years.			With new Board, consult on outline outcome-based specification.	Implement outcome-based specification for new Board.	
	3. Focus on a distinctive new strategic role as the champion of road users.					
	4. In agreement with HM Treasury, set out a committed funding package for the existing English motorway and trunk road network, to accompany the specification. The network manager should be given the commercial freedom to manage its own budget within each five-year period.			With HMT, consult on options for long-term funding package.	Implement long-term funding deal alongside outcome-based specification.	
	5. If ministers decide that new routes and connections, not provided by the current network, are required, examine the business case for building and operating these as private toll roads in the first instance.					
	6. Continue and complete the process of remodelling the Highways Agency to reflect best practice in successful infrastructure companies and provide greater independence from government.	Rebalance Board to give non-executive directors a greater role and powers. Separate customer and shareholder functions in DfT.	Advertise job of Chairman.	Change the Agency's status to give it more commercial flexibility and formalise new relationship with government.		Consider the case for transferring asset ownership to the new organisation.

Lead organisation	Recommendation	Indicative actions and timescales (following government response)				
		Within 3 months	Within 6 months	Within 12 months	Within 2 years	Within 3 years
New Highways Board	7. Devise and lead a change programme in the Agency and subsequently the new organisation.			Design, agree and implement new, more commercially focussed structure.		Complete process of embedding culture change.
	8. Working with local authorities and Local Enterprise Partnerships, initiate and develop a new generation of route-based strategies.			Trial first route-based strategies.		

Expectations for the new network manager

Lead organisation	Expectation	Indicative actions and timescales (following government response)				
		Within 3 months	Within 6 months	Within 12 months	Within 2 years	Within 3 years
New Highways Board	i. Take a new approach to dealing with customers and road users.					
	ii. Refocus the network manager's information strategy to place less emphasis on providing bespoke information services itself.		Refocus information services provision as part of strategic business plan.			
	iii. Embed an optimum whole-life approach to asset management throughout the business.		Refocus business around asset management.		Publish asset management plan. Achieve PAS55 accreditation.	
	iv. Achieve substantially greater value for money from future asset management contracts.	Initiate study of current asset management contracts.	Complete analysis and reporting phases of study.	Report on best contractual model, to inform performance specification.		Achieve external verification of mature asset management capability.
	v. Implement a study of its Traffic Management Services, to explore and report within six months on the optimum procurement model for delivery.	Initiate study of Traffic Management contracts (including synergies with asset management).	Complete analysis and reporting phases of study.	Board report on best contractual model, to inform performance specification		New contractual model implemented.
	vi. Investigate, and report within six months, on the potential of a new approach to supporting network enhancement through route-based programming of smaller, incremental projects, procured through capacity and reliability milestones.	Work with DfT to develop proposals for route-based enhancement programming.	Complete analysis and reporting phases of study.		Trial first route-based enhancement approach alongside new route-based strategies.	New contractual model implemented.