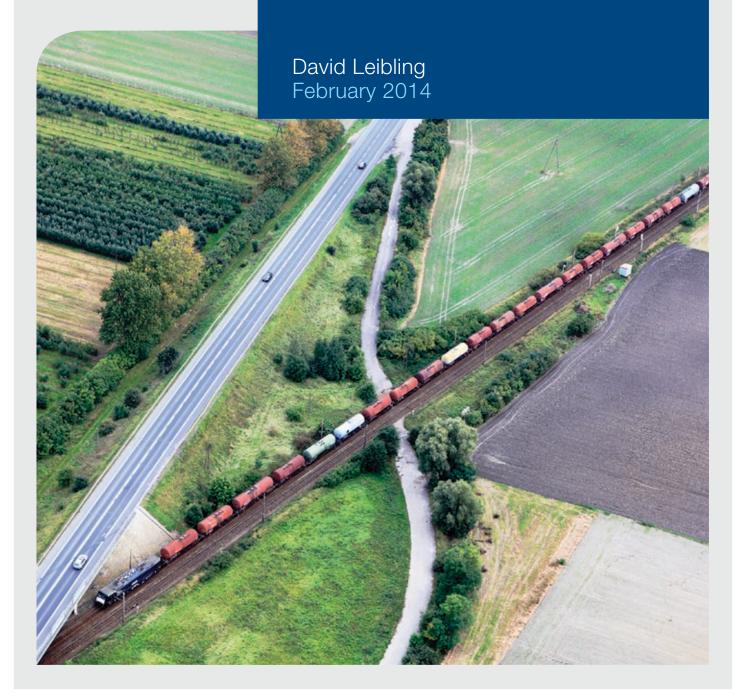


Just the Ticket?

Whether roads should be run more like the railways



The Royal Automobile Club Foundation for Motoring Ltd is a transport policy and research organisation which explores the economic, mobility, safety and environmental issues relating to roads and their users. The Foundation publishes independent and authoritative research with which it promotes informed debate and advocates policy in the interest of the responsible motorist.

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Whether roads should be run more like the railways

David Leibling February 2014

About the Author

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Executive Summary

This paper compares the proposed new management of the English strategic road system with the current management processes for National Rail, known as the High Level Output Statement (HLOS). The refocusing of the Highways Agency, the preparation of a five-year spending programme based on an assessment of the road transport needs and the new monitoring systems will provide a clear direction for improving the road network.

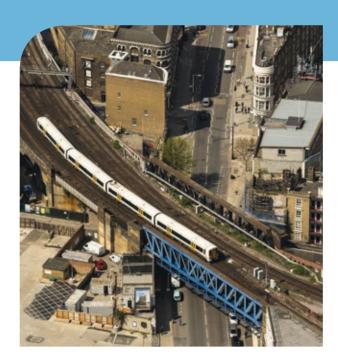
The rail industry has a well-established pattern of consultation and discussion leading to a considered, five-year plan and financial commitment starting two years ahead. The process is managed by the ORR, which have the responsibility to oversee its implementation. The rail industry measures its performance and customer satisfaction in great detail and has specific targets to achieve against these measurements.

The road industry is just beginning a similar process, but initially this is only for a two-year period. The government has promised to lengthen the planning period for roads. This only covers the HA strategic network, and does not include local roads managed, by even through they are largely financed by central government grants. While most roads have only local impact, a significant proportion form part of the trunk road network and interact with the national network, and need to be planned together. DfT published traffic forecasts but there was no attempt to match capacity to these forecasts (unlike rail). The road industry performance measures are in the early stages of development, and need to include more information about the performance of local roads. Also, customer satisfaction measurement should be extended. The industry also needs to be monitored against set standards. A roads equivalent to the ORR is desperately required to control the process, to improve its performance and to insulate it from direct control by the DfT and politicians. The National Highways and Transportation survey should be extended nationally and paid for centrally in the same way as the NPS. The HA should also be encouraged to publish information about complaints.

1. Introduction

The 2005 Railways Act requires the government to set out for the Office of Rail Regulation (ORR) the following information:

- What the Secretary of State wants to be achieved by railway activities during the review period covering 1 April 2014 to 31 March 2019 (High Level Output Specification, or HLOS)
- The public funds that are or are likely to be available to secure delivery (the Statement of Funds Available, or SoFA)



This was published in December 2012 (DfT, 2012a) and follows input from the ORR in March 2012 *Periodic Review 2013: Setting the Financial and Incentive Framework for Network Rail in CP5* (ORR, 2012), which in turn resulted from consultation with the industry.

In April 2013, the Department for Transport (DfT) published its first equivalent for the road network entitled *Strategic Road Network Performance Specification 2013–15* (DfT, 2013a). The specification outlines the high level performance outcomes, outputs and specific requirements that the government wants to secure for the strategic road network and the Highways Agency (HA), as network operator, by 2015.

This paper compares and contrasts the two documents, their purpose and content.



2. Timing

The HLOS process is related to the railway control periods (CP), which are five years long. We are currently in CP4 (2009–2014); the plan is for CP5 (2014–2019), so the plan covers T+2 to T+7 where T is the date of publication.



The road plan covers 2013 to March 2015, T to T+2, which we could call Road Control Period 1 (RCP1). To be fair, this is the first attempt at a new process, but the next specification must extend the time frame to five years, with an adequate lead time and an allowance for stakeholder consultation in advance. Road projects take just as long in gestation as rail projects, despite attempts to shorten the timescale. The DfT published traffic forecasts at the same time (DfT, 2013f), but there was no suggestion that capacity should be linked to these forecasts (unlike rail).

In July 2013, the government published *Action for Roads – A Network for the 21st Century* (DfT, 2013b), which outlines its plans for a radical restructure of the way roads are managed in England. It says that, from 2015 onwards, the HA will have long-term funding plan, initially to 2021, and it will introduce a Roads Investment Strategy (RIS), setting out plans for construction and maintenance to 2021 and beyond, as well as performance criteria. The first of these funding settlements will apply from 2015/16 through to 2020/21. These settlements will cover all capital spending by the Agency, as well as resource spending on maintenance. This programme will go a long way to bringing the rail and road funding programmes into line.

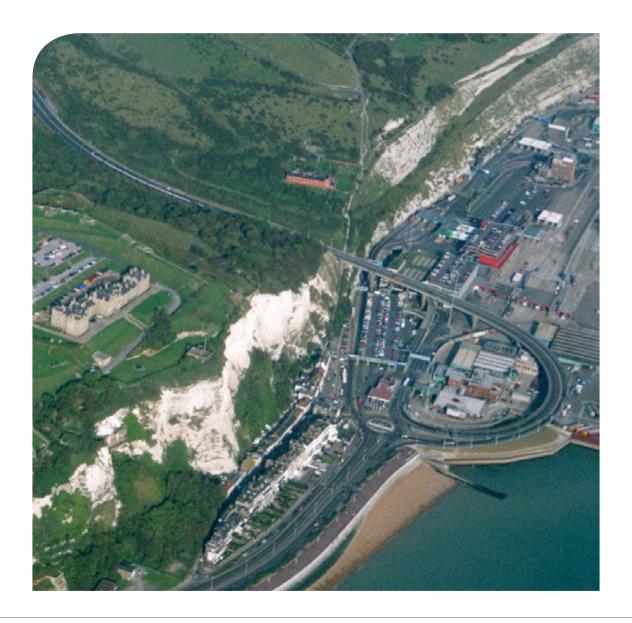
To achieve the longer notice, during the early part of 2014 the DfT should be consulting with stakeholders, and by the end of 2014 at the latest it should publish the specification for 2015/16–2020/21 (RCP2), which will still be a year behind the rail timetable. It should then aim for two years' notice for RPC3, which covers 2021–2026. The government acknowledges that this longer

timescale will enable the road construction industry to invest in skills, plant and equipment for the longer term.

The RIS will be built of three core elements:

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

It will also look forward to a longer timescale to ensure there is a pipeline of projects ready for implementation in the next planning period. Action for Roads (DfT, 2013b) specifically mentions that this programme will put road investment on the same footing as rail.



3. Role of the Office of Rail Regulation and Network Rail Compared with the Highways Agency

The HLOS for the railways is based on input from the ORR, and is sent to the ORR for implementation through Network Rail and the franchised rail companies in its role as economic and safety regulator for the railways.



The strategic road network performance specification is sent to the HA for implementation, as there is no roads equivalent to ORR. Some of ORR's functions that match those for roads are shared among a number of agencies including the DfT itself. The *Highways Agency Framework Document* (DfT/HA, 2013) refers to three DfT bodies that cover implementation of the roads strategy:

- Roads Board, chaired by the Director, Roads Traffic and Local, addresses strategy and policy issues and monitors HA operational and financial performance issues, as part of the sponsor support and challenge function
- Highways Investment Board, chaired by the Director, Roads Traffic and Local, is the DfT Investment Decision Committee for all investment projects estimated to cost more than £50 million commissioned by DfT and to be delivered by the HA
- Sponsorship Group, chaired by the Director, Roads Traffic and Local monitors the performance of the strategic road network and acts as a forum for the development of performance measures

Safety policy is set by the DfT, which also provides statistics based on input from local police forces.

The government intends to take a more strategic role in setting the performance specification, with the network operator having greater autonomy as to how outcomes and outputs should be met. In future, the HA will respond to the outcomes set in the performance specification through their business plan, which will explain how the outcomes will be achieved. This first specification

aims to build the foundations towards achieving this and a maturing, robust performance regime over time. *Action for Roads* (DfT, 2013b), therefore, specifies a large number of outputs and specific requirements, which will contribute towards the delivery of the outcomes. In future specifications, the number of outputs and specific requirements specified is expected to decrease.

There is a need to separate out the supervisory role of the DfT for the road network and set up a parallel body to the ORR. How about OFFRoad?

Action for Roads (DfT, 2013b) lists a number of changes to the HA to give it a more strategic role and to free it from red tape and control by the DfT. The HA will be set up as a publicly owned, strategic highway company, which will give it more freedom in remunerating staff and make it easier to compare its efficiency with other infrastructure providers.

The document lists three possible models for managing infrastructure:

- Contractual model: Similar to the current 11 Design, Build, Finance and Operate (DBFO) contracts with private operators, under which a private company takes responsibility for the improvement and management of a section of the road network.
- Regulated utility model: Similar to the way the water sector is managed by separate companies under licence and subject to pricing control by Ofwat.
- Trust model: The infrastructure is handed over to a trust an organisation designed to look after the network on behalf of its users. This is the approach used by the Canadian air traffic control organisation, Nav Canada, which does not have shareholders or owners, so any profits have to be reinvested or used to bring down prices.



In October, the DfT announced a consultation on management of the network (DfT, 2013c). Its preferred option is to convert the HA into a limited company, owned by the Secretary of State operating under a licence. This would give it the freedoms sought in the *Action for Roads* (DfT, 2013b). It reiterates the intention to move to a longer planning cycle comparable to the railways and using a similar process.

The key stages will be:

- setting the vision: Analysis of the long-term requirements of the strategic road network, including route-based strategies, a statement of available funds and a draft performance specification, based on wide consultation;
- developing the funding and investment plan: The new HA will then prepare draft funding and investment plan, following which the DfT would publish draft RIS:
- determining the RIS: Following this consultation, the DfT will determine and publish:
 - a final performance specification for the period of the RIS;
 - an overall financial settlement within which the company is expected to operate, with an in-built assumption on efficiency;
 - a programme of major schemes to start work during the RIS, together with projected dates of opening;
 - the amounts of investment on maintenance, programmes of smallerscale enhancements, operation of the network and other areas where it would not be appropriate to specify individual schemes when the RIS is set:
 - areas where further development work will be carried out to support decision-making at the next RIS; and
- implementing the RIS: The Final RIS will then be translated into the new HA's business plan.

In terms of governance, the DfT is recommending a similar structure to the railways, with user input and market research and customer satisfaction measurement from a body such as Passenger Focus and a monitoring body such as ORR. To avoid setting up new bodies and to save money, DfT (DfT, 2013c) suggests that these two bodies could have their remit extended to cover the road network. While the desire to save money is laudable, there are considerable differences in how the railways and buses are operated, compared to the strategic road network, and it may be better to set up new organisations, possibly sharing overheads.

The consultation refers to the need for a relationship with local authorities: "Local roads frequently interact with the strategic road network, especially where the strategic road network travels through urban areas." DfT (2013c) states that the new HA must consult with, and take into account the views of,

local authorities in the management of the strategic road network. It does not give the new HA a duty to provide any input into the local authorities' road network. This is a significant deficiency, as many of the de-trunked major roads now managed by local authorities form part of the primary route network, which needs to be planned in a similar way to the strategic road network. Nor is there any reference to a complaints mechanism.

The impact assessment published with the consultation (DfT, 2013g) forecasts that the best estimate of the savings over a ten-year period from more efficient working of the HA is £3.3 billion (net present value) at cost of £42 million (net present value), a benefit:cost ratio of 80.



4. Strategic Objectives

Table 1: Comparison of High Level Output Specification with proposed Strategic Road Network Performance Specification

High Level Output Specification	Strategic Road Network Performance Specification
 Strong growth in usage. £5.2 billion of infrastructure enhancements already committed for CP5, to reduce crowding, cut journey times, increase efficiency and improve the passenger experience. Rolling electrification. 	 Background (from DfT, 2013b) Other countries have invested more than the UK. There are still significant weak points in the UK network. Our road network supports all our daily lives. Our road network is also the lifeblood of the economy. Our latest estimates show that even in the worst economic circumstances, and assuming low population growth, traffic levels on strategic roads will be 24% higher in 2040 than they are today. In our central case, traffic will rise by 46% above today's levels.
Priorities	Priorities
	 A strategic road network that is maintained to a safe and serviceable condition. Output – Asset management The network operator should optimise its maintenance and renewal investment decisions, to deliver an effective, safe and sustainable asset at the lowest unit cost.
Creation of the 'Electric Spine', a high-capacity passenger and freight electric corridor running from the south coast through Oxford, Bedford and via the Midland Main Line to the east Midlands and south Yorkshire, with a link from Oxford to the west Midlands and the North-West.	
To increase capacity and accelerate journey times between our key cities, investing in faster trains (Intercity Express Programme) and route improvements.	A strategic road network that balances the needs of individuals and businesses that use and rely on it.

To facilitate commuter travel into major urban areas, helping to expand the effective labour market, and helping people to access a wider range of jobs (in all regions but emphasis on Wales and northern towns, not London and the South-East).	A strategic road network that supports and facilitates economic growth. Output – Capacity and connectivity Identify constraints and manage capacity in light of increase in demand. Deliver the agreed programme of route-based strategies across the strategic road network, the major schemes programme, the agreed programme of pipeline work for future major schemes and the agreed pinch-point schemes by March 2015. Output – Development control The network operator should engage with the planning system and development industry to improve the transparency of its performance. It should report on the average time taken to respond to planning applications, quantify the housing and job benefits and report on the levels of satisfaction with the handling of applications.
To improve railway links to major ports and airports.	J
The government's role in producing the HLOS and SoFA is fundamentally a strategic one. Government is <i>not</i> specifying the detail of how these strategic outputs should be met. Although – alongside this HLOS – the government is publishing an 'Illustrative Option' of how the outputs could be met, the government's purpose in doing so is to assure itself and others that there are likely to be value-for-money ways of securing the outcomes specified within the funding limits set out in the SoFA. The 'Illustrative Option' is therefore not a specification. The government looks to ORR and the industry to improve on these options and find more efficient and effective ways of achieving the same outcomes at better value for money and lower cost as it takes forward the Periodic Review preparations for CP5.	
 Specification A number of specific projects are outlined. Sums are also allocated for ring-fenced expenditure on freight, station improvement, level-crossing improvement etc. 	There is a (brief) list of major projects in the HA programme.
SafetyMaintain current safety levels.Reduce level-crossing accidents.	Output – Safety The network operator should ensure the safe operation of the network. The network operator should endeavour to ensure that the strategic road network remains safe and available to road users throughout the year.

High Level Output Specification	Strategic Road Network Performance Specification
 Reliability Public performance measure should achieve an overall level of at least 92.5% or higher if ORR thinks it is financially viable. Reduce very late or cancelled trains to 2.2% or lower if ORR thinks it is financially viable. Focus on worst performing routes. 	Output – Journey time reliability The network operator should ensure that journey times on the strategic road network are reliable. Output – Incident management The network operator should reduce the impacts of incidents on road users. Output – Resilience The network operator should deliver a resilient network that is managed effectively during severe weather incidents.
 Capacity Significant increase in the carrying capacity of both the freight and the franchised passenger railway, to reflect the growth in demand and to relieve crowding (specific numbers to be handled are given in an appendix). 	
Financial sustainability To improve rail industry efficiency and value for money for customers.	An efficiently and effectively operated strategic road network. Output – Network availability • The network operator should manage its activities to balance network availability and cost. Output – Efficiency • The network operator should manage its business in an efficient and effective way and ensure investment offers strong value for money.
Customer Satisfaction (as measured by Passenger Focus's National Passenger Survey) • To be improved. • Better information during disruption.	Output – Customer satisfaction The network operator should use customer satisfaction and insight information to improve its services. Output – Information provision The network operator should provide accurate, useful and timely information to road users.
 Environmental performance Reduce carbon and energy. Adapt to climate change. Consider wider environmental aspects. 	A strategic road network that minimises its negative impacts on users, local communities and the environment. Output – Environment The network operator should reduce the negative environmental impacts of its activities.

Source: Author's analysis

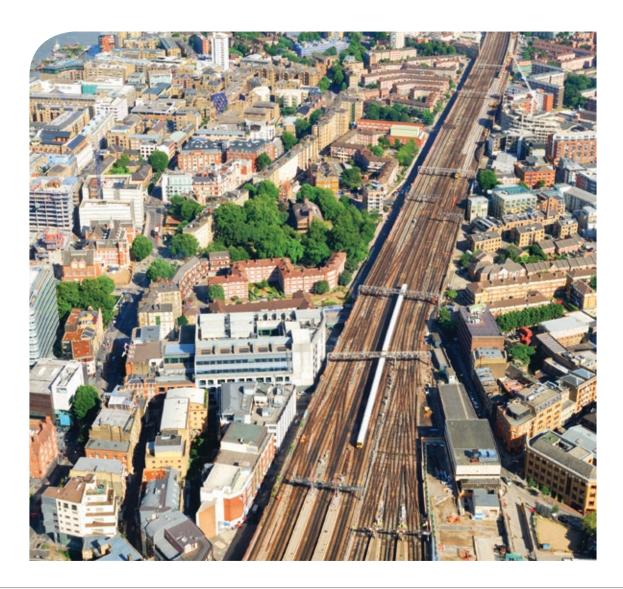
Public Performance Measure (PPM) indicates the percentage of trains arriving at destination within ten minutes of the time shown on the published timetable for long distance services, and within five minutes for regional services and London and south-east services.

In addition, the DfT issued specific 'guidance' to ORR (DfT, 2012b). The government wants the railways to:

- continuously improve safety and reliability;
- compare favourably with best European railways in terms of performance and efficiency;
- develop capacity to support economic growth;
- become more financially sustainable and reduce public subsidy and improve value for money for customers.

The DfT also wants the ORR to reduce the regulatory burden and to develop transparency on whole-industry costs, revenues and efficiency, whole-industry performance and real-time data.

It also published specific 'illustrative options' as to how to meet the peak capacity objectives, for example: Euston (London Midland) peak train lengthening with additional electric units and specific infrastructure enhancements; and Southampton Port–Basingstoke enhancement from 750 DC third-rail electrification to 25 kv AC overhead electrification (DfT, 2012c).



5. Funding

The HLOS contains a list of projects to be completed by CP5, including specific electrification schemes, airport and port access schemes, city capacity improvements and signalling. In addition, there are six ring-fenced investment projects:

- the strategic rail freight network (£200 million);
- East Coast connectivity (£240 million);
- passenger journey improvement (£300 million);
- station improvement (£100 million);
- development (£140 million); and
- level-crossing safety (£65 million).

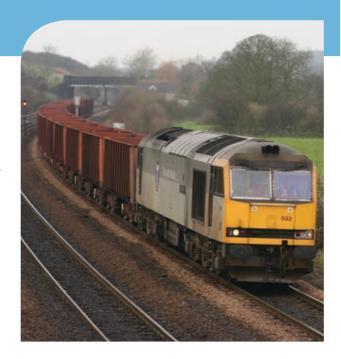


Table 2: Statement of rail funds available

(This does not include funds for Scottish railways, which is the responsibility of the Scottish government)

£ million		2014–15	2015–16	2016–17	2017–18	2018–19	Total
Funds availabl	е	3,165	3,382	3,385	3,516	3,394	16,842
Illustrative	Franchise support	(341)	(166)	(296)	(254)	(396)	(1,453)
split of funding	Network grant	3,506	3,548	3,681	3,770	3,789	18,294
Approximate n		1.3 bn	1.35 bn	1.4 bn	1.45 bn	1.50 bn	
Subsidy per jo	urney*	2.4	2.5	2.4	24	2.25	

Source: DfT (2012a)

Franchise support is the net payment by franchise operators.

Number of journeys increases by 16% over the period (freight by 23%).

The payment per journey is an indication (not definitive) and does not allow for freight usage. All figures are for fiscal years.

^{*}Author's figures, not part of the High Level Output Specification.

Table 3: Statement of road funds available on the strategic road network

£ million	2011/12 actual	2013/14	2014/15
Revenue	1,368	2,912	2,810
Capital	1,839	1,708	1,933
Total	3,207	4,619	4,743

Source: DfT (2013b)

Table 3 does not include allocations by central government to local authorities for highways maintenance and improvement (£4.5 billion in 2011/12) or money raised by local authorities directly for these purposes.

Expenditure on rail is the same as that on roads, yet only 9% of passenger miles and 9% of freight ton miles is by rail.

Table 4: Government Expenditure on Transport

£ million	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	Total
Highways Agency	1,497	1,907	2,316	2,614	3,047	3,764	15,145
National Rail	3,548	3,681	3,770	3,789	3,824	3,859	22,471
High Speed Rail (HS2)	832	1,729	1,693	3,300	4,000	4,498	16,052
London Transport investment	925	941	957	973	990	1,007	5,793
Local authority transport	2,253	2,253	2,253	2,253	2,253	2,253	13,518
Total	9,055	10,511	10,989	12,929	14,114	15,381	72,979

Source: HM Treasury (2013)



6. Performance Statistics

Table 5: Examples of performance statistics for rail and road

	Rail	Road		
Volumes	Passenger journeys and freight volumes	Passenger kilometres Freight tonne kilometres		
Capacity	Passenger and freight line kilometres	Road kilometres		
	Overcrowding			
Journey times	PPM* (% of journeys that are on time)**	Reliability of journeys (% of journeys on time)*** (HA roads only)		
	% of trains cancelled or significantly late	Average speed on local authority A roads by local authority including London (DfT, 2013d)		
	Total delay minutes	Free flow speeds and % of vehicles exceeding speed limit (DfT, 2011)		
Customer satisfaction	Measured by National Rail Passenger Survey twice a year	Measured by the HA on a rolling basis		
	Number of complaints by reason	Not published by the HA		
	Number of appeals to Passenger Focus/London TravelWatch	No equivalent body		
Safety	Passenger fatalities and accidents	Road user fatalities and accidents		
	Signals passed at danger (SPADS)			
Fares/costs	Fares	Fuel prices		
Sustainability	CO ₂ emissions per passenger	CO ₂ emissions per vehicle		

Source: Author's analysis

^{*} Public performance measure

^{**} A rail journey is on time if it arrives within ten minutes of the scheduled time for intercity or five minutes of London and south-east commuter trains. This is equivalent to a tolerance of about 8% on a two-hour journey.

^{***} Road journeys are on time if the time is within three seconds per mile of the set reference time, based on historic journey times on that particular section of road. This is equivalent to a tolerance of 5% at 60 mph. This replaces the former measure of average vehicle delay.

Rail user satisfaction is measured by the National Passenger Survey (NPS) in the spring and autumn each year (Passenger Focus, 2013). Passengers are given self-completion questionnaires at stations, and there are about 27,000 responses each half year. It is managed by Passenger Focus on behalf of the DfT and costs around £1 million per year. Passengers are asked to comment on their current journey; besides measuring overall satisfaction with the journey, detailed questions are asked about the facilities on the train and at the station, rated on a five-point scale. The size of the sample enables comparisons to be made between different type of journey (commuting, long distance), between train operating companies and individual routes.

Satisfaction is measured by the National Road Users' Satisfaction Survey (NRUSS), which is published annually in summer and is based on financial years. Two thousand people are interviewed face to face in their homes. The questionnaire refers to their last journey, as does the NPS, rather than an overall impression of the HA's performance. The quota sample is adults seventeen years or over, who have used the HA network at some time in the preceding 12 months. Although the survey has been running for fifteen years, the methodology has changed, and therefore any year-on-year changes have to be treated with caution. Each of the five key aspects of the HA (Journey Time, Roadworks Management, Safety, General Upkeep and Information Provision) are rated on a five-point scale for motorways and trunk roads, and averaged to give an overall satisfaction for each type of road. There is also a question on the overall satisfaction with the HA, and there is information on travel patterns. The data is analysed by the HA's seven regions. The cost is around £200,000 per year.



A number of local authorities voluntarily participate in the National Highways and Transportation (NHT) survey, a comprehensive one using a standard survey carried out by post by Ipsos Mori (NHT Network, 2013). Each year about 75 councils in England participate, out of a possible 140 councils excluding districts. This is equivalent to 75–80% of counties and unitaries – much less for London and metropolitan boroughs. The cost is £7,500 for 4,500 questionnaires, with a 17% response rate, giving about 60,000 responses each year (cf 32% for the NPS survey, also for 60,000 responses each year). Based on 380,000 questionnaires sent out, the national cost is £630,000. If all councils participated, it would cost £1.2 million a year, compared with £1 million a year for the NPS.

There are 80 individual indicators covering accessibility, highway maintenance, public transport, road safety, tackling congestion, walking and cycling. Satisfaction is very low – 40–60% per issue, with an overall average of 55%, which has hardly varied since 2009. This is very disappointingly low.

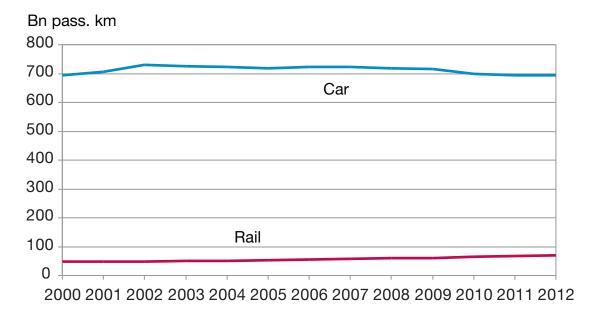
In view of the narrow coverage of the HA's satisfaction survey, it is recommended that the National Highways and Transportation survey should be a national one paid centrally, in the same way as the NPS.

Note there are no figures for the number of complaints received by the HA (or local authorities), and there is no mechanism for appeals. The HA has indicated that this will be considered as part of incorporation.



Appendix: Road and Rail Statistics

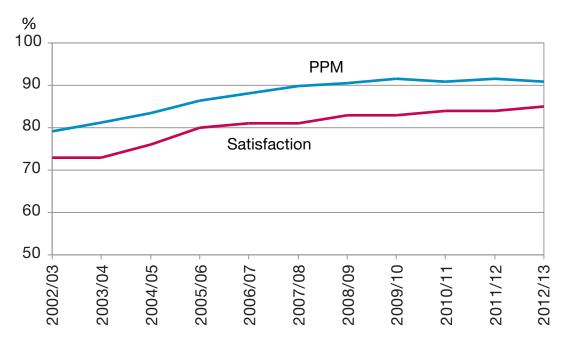
Figure 1: Passenger kilometres by mode



Source: DfT (2013h)

Car passenger kilometres have fallen slightly since the peak in 2007, while rail passenger kilometres have risen steadily and are now 50% above the level in 2000. The drop in car passenger kilometres is only half the rise in rail passenger kilometres, which are still only a tenth of car passenger kilometres.

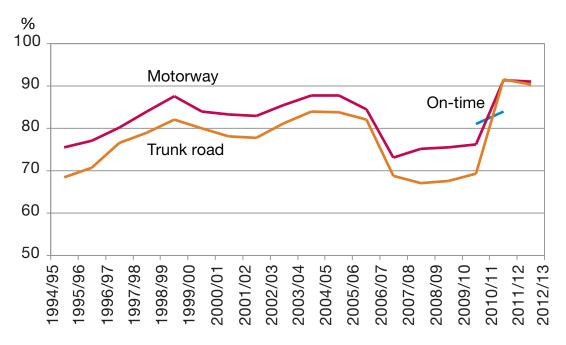
Figure 2: Rail public performance measure and satisfaction



Sources: PPM: ORR (2013); Passenger Focus (2013)

Rail satisfaction has risen sharply since the lows following the Hatfield crash in 2000, but public performance measure (PPM) (% of on-time trains) has plateaued since 2009.

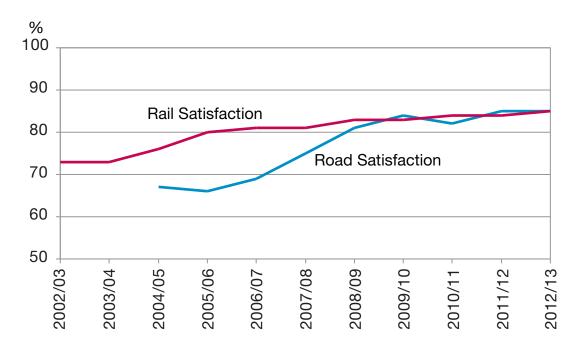
Figure 3: Strategic road on-time journeys and Highways Agency performance



Sources: DfT (2013a); HA (2013a)

The road equivalent of PPM – % of on-time journeys – has been measured for only two years. Road satisfaction has increased overall; the reason for the drop in 2009–2011 is the change in methodology.

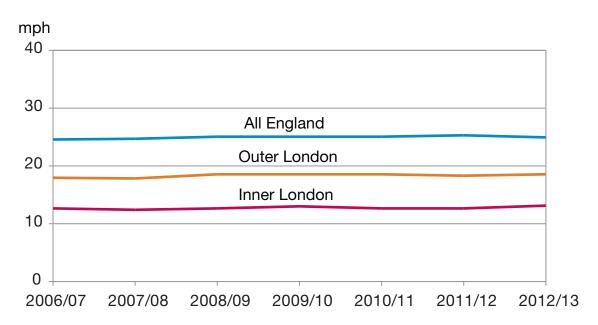
Figure 4: Rail and Highways Agency satisfaction



Sources: Rail Satisfaction: Passenger Focus (2013); HA Satisfaction: HA (2013a)

Rail and HA satisfaction are now very similar, at around 85%, both having risen since the early 2000s.

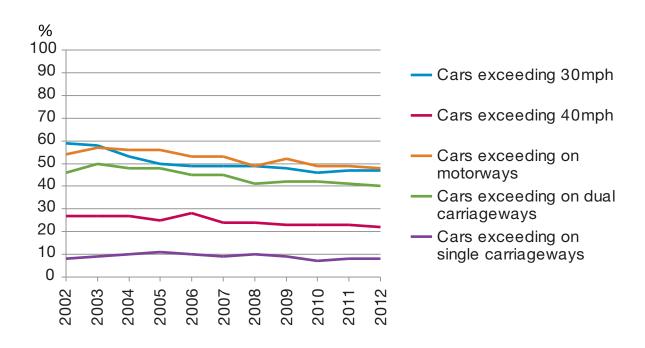
Figure 5: Average vehicle speeds – local authority roads, weekday morning peak



Source: DfT (2013d)

Average speeds on local authority roads have hardly varied in the past six years.

Figure 6: Vehicles exceeding speed limit



Source: DfT (2013e)

The number of cars exceeding the speed limit has fallen on all types of roads, but particularly on 30 mph built-up roads. This is probably due to the presence of speed cameras, and has resulted in the continued fall in the number of deaths and injuries on the roads.

% No. Monthly no. of incidents (RH scale) Mean time to clear Median time to clear

Figure 7: Incidents on Highways Agency roads

Source: HA (2013b)

This is one of the HA's key indicators. While the number of incidents has fallen, the time to clear them up has increased, whether measured by the mean or the median time.

References

DfT (Department for Transport) (2011). Free Flow Vehicle Speeds in Great Britain 2010. Retrieved 17 January 2014 from http://assets.dft.gov.uk/statistics/releases/free-flow-vehicle-speeds-2010/free-flow-vehicle-speeds-2010.pdf.

DfT (2012a). *High Level Output Specification 2012*. Retrieved 17 January 2014 from www.gov.uk/government/publications/high-level-output-specification-2012.

DfT (2012b). Secretary Of State For Transport Guidance To The Office Of Rail Regulation. Retrieved 17 January 2014 from www.gov.uk/government/uploads/system/uploads/attachment_data/file/3642/sos-guidance-to-orr.pdf.

DfT (2012c). *Illustrative Option Schemes in CP5 HLOS*. Retrieved 17 January 2014 from www.gov.uk/government/uploads/system/uploads/attachment_data/file/3643/illustrative-options.pdf.

DfT (2013a). Strategic Road Network Performance Specification 2013–15. Retrieved 17 January 2014 from www.gov.uk/government/uploads/system/uploads/attachment_data/file/185684/performance-specification-2013-15.pdf.

DfT (2013b). *Action for Roads – A Network for the 21st Century*. Retrieved 17 January 2014 from www.gov.uk/government/uploads/system/uploads/attachment_data/file/212590/action-for-roads.pdf.

DfT (2013c). Transforming the Highways Agency into a Government-Owned Company. Retrieved 17 January 2014 from www.gov.uk/government/consultations/transforming-the-highways-agency-into-a-government-owned-company.

DfT (2013d). Flow Weighted Vehicle Speeds (CGN02). Retrieved 17 January 2014 from www.gov.uk/government/statistical-data-sets/cgn02-flow-weighted-vehicle-speeds.

DfT (2013e). Road Congestion and Reliability Statistics. Retrieved 17 January 2014 from www.gov.uk/government/collections/road-congestion-and-reliability-statistics#group_64.

DfT (2013f). *Road Transport Forecasts*. Retrieved 17 January 2014 from www.gov.uk/government/uploads/system/uploads/attachment_data/file/260700/road-transport-forecasts-2013-extended-version.pdf.

DfT (2013g). *Roads Reform Impact Assessment*. Retrieved 17 January 2014 from www.gov.uk/government/uploads/system/uploads/attachment_data/file/253366/roads-reform-ia.pdf.

DfT (2013h). *Transport Statistics Great Britain 2013*. Retrieved 17 January 2014 from www.gov.uk/government/publications/transport-statistics-great-britain-2013.

DfT/HA (Highways Agency) (2013). *Highways Agency Framework Document: Outlining the Relationship Between the Highways Agency and DfT*. Retrieved 17 January 2014 from www.gov.uk/government/publications/highways-agency-framework-document-outlining-the-relationship-between-the-highways-agency-and-dft.

Highways Agency (HA) (2013a). *The National Road Users' Satisfaction Survey (NRUSS)*. Retrieved 17 January 2014 from www.highways.gov.uk/publications/nruss-annual-report/.

Highways Agency (2013b). *HA Command and Control* database. Retrieved 17 January 2014 from http://data.gov.uk/dataset/ha-command-and-control-carriageway-impact-incidents.

HM Treasury (2013). *Investing in Britain's Future*. Retrieved 11 February 2014 from www.gov.uk/government/uploads/system/uploads/attachment_data/file/209279/PU1524 IUK new template.pdf.

NHT Network (2013). NHT Public Satisfaction Survey. Retrieved 17 January 2014 from http://nhtsurvey2013.econtrack.co.uk/Content.aspx?6141.

ORR (Office of Rail Regulation) (2012). *Periodic Review 2013: Setting the Financial and Incentive Framework for Network Rail in CP5*. Retrieved 17 January 2014 from www.rail-reg.gov.uk/pr13/publications/financial-incentives.php.

ORR (2013). *Network Rail Monitor November 2013*. Retrieved 17 January 2014 from http://dataportal.orr.gov.uk.

Passenger Focus (2013). *National Passenger Survey*. Retrieved 11 February 2014 from www.passengerfocus.org.uk/research/national-passenger-survey-introduction.



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