



National Audit Office

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**MEASURING UP**

HOW GOOD ARE THE GOVERNMENT'S  
DATA SYSTEMS FOR MONITORING PERFORMANCE  
AGAINST PUBLIC SERVICE AGREEMENTS?

**JUNE 2010**

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**Comprehensive Spending Review 2007 covering the period 2008-2011**

**Review of the data systems for Public Service Agreement 5 led by the Department for Transport:**

*'Deliver reliable and efficient transport networks that support economic growth'*

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## **Summary**

### **Introduction**

- 1.1. This report summarises the results of our examination of the data systems used by the Government in 2009 to monitor and report on progress against PSA 5. This is the only PSA managed by the Department for Transport (the Department) out of the 30 PSA targets set across all Government Departments. The most recent public statement provided by the Department on progress against this PSA was in the 2009 Autumn Performance Report (APR).

### **The PSA and the Department**

- 1.2. PSAs are at the centre of Government's performance measurement system. They are usually three-year agreements, set during the spending review process and negotiated between Departments and the Treasury. They set the objectives for the priority areas of Government's work.
- 1.3. Each PSA has a Senior Responsible Officer (SRO) who is responsible for maintaining a sound system of control that supports the achievement of the PSA. The underlying data systems are an important element in this framework of control.

### **The purpose and scope of this review**

- 1.4. The Government invited the Comptroller and Auditor General to validate the data systems used by Government to monitor and report its performance. During the period October to December 2008, the National Audit Office (NAO) carried out a full examination of the data systems for all the four indicators used to report performance against this PSA. This involved a detailed review of the processes and controls governing:
  - The match between the indicators selected to measure performance and the PSA. The indicators should address all key elements of performance referred to in the PSA;
  - The match between indicators and their data systems. The data system should produce data that allows the Department to accurately measure the relevant element of performance;
  - For each indicator, the selection, collection, processing and analysis of data. Control procedures should mitigate all known significant risks to data reliability. In addition, system processes and controls should be adequately documented to support consistent application over time; and

- The reporting of results should be presented fairly for all key aspects of performance referred to in the target. Any significant limitations should be disclosed and the implications for interpreting progress explained.
- 1.5. Our conclusions are summarised in the form of traffic lights (see figure 1). The ratings are based on the extent to which departments have:
- put in place and operated internal controls over the data systems that are effective and proportionate to the risks involved; and
  - explained clearly any limitations in the quality of its data systems to Parliament and the public.
- 1.6. The previous version of this report reflected our work on the Department's PSA indicators in 2008-09. In January 2010 we updated our 2008-09 findings by establishing what actions the Department had taken in response to our previous report and examining other developments that had taken place.

**Figure 1: Key to traffic light ratings**

<b>Rating</b>	<b>Meaning ...</b>
<b>GREEN (fit for purpose)</b>	The data system is fit for the purpose of measuring and reporting performance against the indicator
<b>GREEN (disclosure)</b>	The data system is appropriate for the indicator and the Department have explained fully the implications of limitations that cannot be cost-effectively controlled
<b>AMBER (systems)</b>	The data system is broadly appropriate, but needs strengthening to ensure that remaining risks are adequately controlled
<b>AMBER (disclosure)</b>	The data system is broadly appropriate, but includes limitations that cannot be cost-effectively controlled; the Department should explain the implications of these.
<b>RED (systems)</b>	The data system does not permit the reliable measurement and reporting of performance against the indicator
<b>RED (not established)</b>	The Department has not yet put in place a system to measure performance against the indicator

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- 1.7. The remaining sections of this report provide an overview of the results of our assessment, followed by a brief description of the findings and conclusions for each individual data system. Our assessment does not provide a conclusion on the accuracy of the outturn figures included in the Department's public performance statements. This is because the existence of sound data systems reduces, but does not eliminate, the possibility of error in reported data.

## Overview

### *Scope of coverage of PSA 5*

- 1.8. The Department for Transport's seven PSAs from the 2004 Spending Review were replaced by a single PSA for the 2008-11 period, namely **PSA 5 – to deliver reliable and efficient transport networks that support economic growth**. PSA 5 is supported by four indicators, two of which have been carried forward from PSAs from the 2004 Spending Review.
- 1.9. The four indicators cover: journey times on key urban roads; delays on journeys on the Strategic Road Network; introducing additional capacity on the passenger rail network to reduce crowding; and Value for Money on decisions made by Ministers for transport projects.
- 1.10. Previous indicators also covered air quality, rail punctuality, road safety, enhanced access to local services and climate change. The first three continue as indicators under the Departmental Strategic Objectives (DSOs), and the climate change PSA has been carried forward by the Department for the Environment, Food and Rural Affairs (and since October 2008, the Department of Energy and Climate Change) under PSA 28. Access to services is now covered by National Indicator 175 in the Local Area Agreements national indicator set and the Department's Core Accessibility Indicator.
- 1.11. The Department's responsibilities and objectives, overall expenditure and the number of public bodies through which these are delivered are extensive. For the 2007 Comprehensive Spending Review (CSR) period, the contribution of transport to delivering wider Government objectives is reflected in the large number of cross-cutting PSAs in which transport plays a role<sup>1</sup>. PSA 5 focuses specifically on transport's contribution to economic growth.

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<sup>1</sup> The Department has identified 12 other PSAs to which transport contributes: PSA1 (national productivity), PSA7 (improving regional economic performance), PSAs 12, 13, 14 (improving the health, well being and safety of children and young people and increasing the number on the pathway to usuccess), PSA 15 (equalities), PSA 17 (promoting wellbeing in later life), PSA 18 (promoting health for all), PSA 20 (housing supply), PSA 22 (Olympics), PSA 23 (safer communities), PSA 26 (reduce the harm caused by alcohol and drugs), PSA 26 (reduce the risk from international terrorism), PSA 27 (climate change) and PSA 28 (natural environment).

- 1.12. The rail element of the PSA indicator is for increasing capacity and reducing crowding on the rail network, which replaced the rail reliability and punctuality indicator which was previously a PSA target under the 2004 Spending Review. The reliability and punctuality target continues as a DSO indicator and is also reported as part of Network Rail's responsibilities.
- 1.13. The Department acknowledges within the PSA Delivery Agreement that there is no specific indicator to measure the success of improvements to international gateways, although many of its actions, as set out in the Delivery Agreement, also aim to contribute to improving international journeys by enhancing surface access to ports and airports. However, in setting its PSA indicators, the Department considered that it had insufficient direct influence over ports and airports. The role of the Department is to set a strategic enabling framework, through appropriate regulation and national planning, for the private sector providers of ports, airports, aviation and shipping services to work within.

***Departmental responsibility for, and reporting of, performance against the Target***

- 1.14. The Department has a Senior Reporting Officer (SRO) for the PSA, who is a member of the Board. The SRO's role and responsibilities are to report six-monthly assessments to the Prime Minister's Delivery Unit (PMDU) and the Board and manage the strategic cross-department interaction where the Department contributes to other PSAs.
- 1.15. The reports to the Departmental Board on PSA targets give feedback on progress and highlight risks as necessary. Information to track progress comes mainly from detailed reports by units responsible for performance measures. Responsibility for actual performance against the targets remains with the policy lead.

***Summary conclusions from our review***

- 1.16. Figure 2 summarises our assessment of the data systems.

**Figure 2: Summary of assessments for indicator data systems**

No	Indicator	2009 Rating	2010 Rating
1	Journey time on main roads into urban areas  By 2010-11 minimise increases in journey time, accommodating an average increase in travel of 4.4 per cent within an average increase of 3.6 per cent in person journey times per mile. Working in partnership with DfT, LAs in the ten largest urban areas will minimise the impact of increased travel demand on journey times on main roads into town centres.	<b>GREEN (Disclosure)</b>	<b>GREEN (Disclosure)</b>

No	Indicator	2009 Rating	2010 Rating
2	<p>Journey time reliability on the strategic road network, as measured by the average delay experienced in the worst 10 per cent of journeys for each monitored route</p> <p>Minimise increases in delays between years ending March 2008 and March 2011 for the slowest 10 per cent of journeys in the context of traffic growing by 1-2 per cent a year.</p>	<b>GREEN (Disclosure)</b>	<b>GREEN (Disclosure)</b>
3	<p>Level of capacity and crowding on the rail network</p> <p>By 2013-14 increase capacity to accommodate an expected increase of 14.5 per cent in rail passenger kilometres from 2008-09 while achieving the train load factors specified in the Government's High Level Output Specification (HLOS) for the railway.</p>	<b>RED (Systems)</b>	<b>RED (Systems)</b>
4	<p>Value for Money of Department for Transport spending over the CSR07 period</p> <p>Over the CSR07 period maintain the same proportion of spend in the High Value for Money category as achieved over the SR04 period.</p>	<b>GREEN (Fit for purpose)</b>	<b>GREEN (Fit for purpose)</b>

1.17. Although our final ratings for all indicators remain unchanged since our previous version of this report, the accompanying analysis has been significantly updated for Indicator 3, as we have gained a better understanding of what the Department needs to measure in order to report against the indicator (see paragraphs 4.1- 4.13). We have also updated our overall conclusions and recommendations as well as commentary on other PSA 5 indicators to take account of actions taken by the Department since our last report.

1.18. Our main conclusions on the PSA are:

- This PSA target aims to measure the Department's contribution to economic growth through delivering reliable and efficient transport networks. Although it is difficult to empirically demonstrate a causal link between transport improvements and economic growth, over the years, the Department has conducted a significant amount of research to examine the theoretical validity of the link. The four indicators chosen afford a reasonable cross-section of progress on Departmental priorities and were chosen to reflect the Department's research base as well as what is practically measurable.
- The Department's Annual report and Accounts 2008-09 and the APR 2009 show generally good detail about the PSA 5 target, with clear reporting of measurement methodologies, achievements and data



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quality issues for three of the four performance indicators. The reports cross-refer as necessary to detailed Technical Notes on the Department's website.

- Progress against indicator 3 (capacity and crowding on the rail network) is not reported in line with the wording of the indicator or specific target, preventing the reader from gaining a clear understanding of progress. Most notably actual train capacity contracted is not reported against a specific target level of capacity, although this information is available to the Department. The Department's assessment is that certain relevant information is commercially sensitive and this influenced its decision to restrict reporting against this indicator.
- The fourth indicator, on Value for Money, only reports performance at the decision-making stage of the process. Our validation of the indicator has not highlighted any significant weaknesses. PSAs should ordinarily be concerned with monitoring the deliveries of departments – whereas this indicator reports against what is *planned* to be achieved, with no comment on what Value for Money has actually been achieved. We understand that the Department monitors the realisation of the appraised benefits through a programme of post-opening project evaluations.
- Since our last report, the Department has acted on our recommendation to investigate and evaluate possible interdependencies between indicators, in particular reporting to the Board on the interdependencies between PSA indicators 3 (rail capacity and crowding) and 4 (Value for Money).

1.19. We recommend that the Department:

- reports progress in the level of capacity and crowding on the rail network (Indicator 3) in line with the wording of the indicator and target (see section 4 for details);
- promotes a better understanding of the linkages between transport investment and economic growth by publishing a report that expresses the findings of its research for a non-technical audience;
- provides more clarity as to the scale of expected change during the CSR period (2008-11) (Indicators 2 and 3); and
- fully considers and reports measures of uncertainty for each data system in each performance report – or states and explains where it is not relevant (Indicators 1 and 2).

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## Assessment of indicator set

1.20. In undertaking the full validation of data systems in 2008 we read the documentation associated with the PSA, including the Delivery Agreement, and considered whether the indicators selected to measure progress were consistent with the scope of this PSA.

1.21. We conclude that the indicators selected afford a reasonable view of progress other than:

- The choice of indicators appropriate to this PSA target is limited by the extent of empirical evidence linking specific improvements in selected indicators with economic growth – implying that the Department needs to keep reviewing and developing this evidence base and its understanding of which factors are most important in this regard.
- The Department is limited in the extent to which it can control those aspects of transport networks which it believes contribute most to economic growth. For example, the current indicator measuring delays on inter-urban roads is significantly influenced by events outside the Department's control whilst the Department considers that improvements in international transport links (aviation and shipping), though important to economic growth, are too far beyond its control to merit the inclusion of an indicator.
- Data may be available which could better reflect the influence which the Department has over delays on inter-urban roads. The current measure is significantly influenced by events outside the Department's control which, no matter how well managed, can adversely affect the measure in the indicator. The Department recognises the need to strive for a fair and meaningful measure that is as directly related as possible to observable outcomes. We understand that the Department and the Highways Agency have been developing a new database that makes better use of the available data sources to give improved estimates of traffic speeds and delays. This remains work-in-progress, and is unlikely to be applied during the current Spending Review period.

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## FINDINGS AND CONCLUSIONS FOR INDIVIDUAL DATA SYSTEMS

The following sections summarise the results of the NAO's examination of each data system.

### **PSA 5 Indicator 1 – Journey time on main roads into urban areas**

#### **Conclusion**

- 2.1 This indicator was carried forward from a 2004 Spending Review PSA. Our rating following this review remains at GREEN (disclosure), i.e. the data system is appropriate for the indicator and the Department has explained fully the implications of limitations that cannot be cost-effectively controlled.
- 2.2 We previously recommended that although reference was made to a Technical Note, which outlined uncertainties in the data, the Department should seek to report this within the performance report in future. The Department's work suggested that changes of less than +/-2 per cent were unlikely to be significant. It is important uncertainties are made clear in the report as changes in performance could be attributable to statistical uncertainty rather than real changes in performance.
- 2.3 The Department improved its reporting with the 2008-09 Annual Report and Resource Accounts setting out the uncertainties and limitations in data. However the 2009 Autumn Performance Report did not mention these, or refer the reader to the Technical Note. We understand this was because the Department considered there was insufficient space to include these details. However we would expect the Department to report the levels and basis of uncertainty in its figures and limitations of the data in all future performance reports, or at least make reference to a source, specifying where more details can be found.

#### **Characteristics of the data system**

- 2.4 This Indicator sets a national target, which is a weighted average of local targets agreed with each of the 10 largest urban areas in England: London, Manchester, Merseyside, South Yorkshire, West Yorkshire, Tyne and Wear, West Midlands, Bristol, Leicester and Nottingham. Local authorities in these urban areas are responsible for the delivery of their local targets. Monitoring is carried out locally in respect of the 166 defined routes across the 10 urban areas.
- 2.5 Measures are of people journeys rather than vehicles so that, for example, buses carrying several passengers are weighted much more than cars carrying fewer passengers. Targets relate to the morning peak period and are set by the local authority that is responsible for delivery

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against its targets. Targets and performance monitoring exclude school holidays to avoid using journey time data when traffic is lighter.

- 2.6 Surveys are carried out in the urban areas to collect information on traffic flow and vehicle occupancy for each section of each route – corresponding to the same routes for which journey time is measured. Surveys must be carried out on at least four of the six years covered by the targets, although areas are encouraged to carry out surveys every year if at all possible.
- 2.7 Journey time data from GPS tracking systems installed in a proportion of fleet vehicles is supplied to the Department by a contractor, and is then passed on by the Department to local authorities. The Department started a new contract for the supply of journey time data in July 2007, replacing the old data source following an open competition. As part of the tender process, sample data supplied by all bidders was compared with independent sources on selected roads. The independent review found that the new data provided a more representative sample of traffic as a whole.
- 2.8 In January 2008 the contractor who provides data on commercial vehicle movements changed. This has necessitated adjusting the original baseline to give a consistent time series. This work is described in more detail in Appendix D of the Department’s Annual Report and Resource Accounts 2008-09.
- 2.9 The Department reviews the contractor’s quality assurance arrangements and pursues any apparent anomalies in data series through regular progress meetings with the contractor. The Urban Congestion Programme Board, which includes representatives from Government Offices and the urban areas, also maintains an overview of the risks to delivery of the target, including those relating to data systems. A risk register is maintained and regularly updated.
- 2.10 Urban areas receive traffic data via the Department and use this to model future delays and the effect of planned interventions. These models were reviewed by the Department in 2006, with a number of recommendations which the Department has been helping urban areas to address.

## **Findings**

- 2.11 The Department is dependent on Local Authorities in urban areas for setting the constituent elements of the national target, for providing survey data on traffic flow and vehicle occupancy, for modelling and for managing initiatives to manage congestion.
- 2.12 The Department provides guidance and assistance to urban areas to help them develop and implement local delivery plans. The Department has reviewed and challenged plans and disseminates best practice. A

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Performance Fund has also been implemented which seeks to incentivise the urban areas to exceed their agreed targets.

- 2.13 The 2009 APR shows that journey times have decreased in the context of lower traffic levels – in contrast to the expected increase specified in the indicator target. The Department has not renegotiated the 2010-11 targets. Rather, it has changed the criteria for urban areas qualifying for the Performance Fund if targets are exceeded.
- 2.14 The Department scrutinises data received from the external contractor on journey times and also survey data received from urban areas, applying informed validation and reasonableness checks and querying as necessary.
- 2.15 Following our 2008 validation review, the rating of the associated data system changed from an AMBER (systems) to a GREEN (disclosure). At the time of our original 2007 validation review, inspection visits to urban areas, to review their procedures to assess risks to data quality and ensure reliability, had not yet begun. The Department subsequently introduced such inspection visits to local authorities, which are targeted at those whose survey data include inconsistencies or discrepancies with the data returned in previous years. It also introduced six-monthly workshops to review assurances over both data quality and data use. Targeted visits are carried out to urban areas by the Department's Urban Congestion Statistics & Policy team. Six-monthly workshops are also held with urban areas to discuss procedures for collection and use of data.
- 2.16 Appendix D of the Department's Annual Report and Resource Accounts 2008-09 highlights limitations of the data sources which cannot be cost-effectively controlled. Urban area survey data is used for bus journey times as the Department's own GPS data source does not cover buses. In addition, measurement of traffic flow and vehicle occupancy for all vehicles is carried out by urban areas, although this may not be carried out every year.

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## **PSA 5 Indicator 2 – Journey time reliability on the strategic road network, as measured by the average delay experienced in the worst 10 per cent of journeys for each monitored route**

### **Conclusion**

- 3.1. This indicator has been carried over from a 2004 Spending Review PSA. Our rating following this review remains GREEN (disclosure) i.e. the data system is appropriate for the indicator and the Department has explained fully the implications of limitations that cannot be cost-effectively controlled.
- 3.2. The Department's target under this indicator is to minimise delays between the years ending March 2008 and March 2011 for the slowest 10 per cent of journeys in the context of traffic growing 1-2 per cent a year. A specific target has now been set for the new DSO 1 Indicator 2 in terms of vehicle hour delay savings, which can be derived from the measurement system already in place for this PSA 5 Indicator.
- 3.3. The Department and the Highways Agency are reviewing options for a better measure for reporting reliability performance and are seeking to revise this indicator. They have been developing a new database that makes better use of the available data sources to give improved estimates of traffic speeds and delays. This work is currently underway, but is unlikely to be applied during the current Spending Review period.
- 3.4. Although the Department can now report an absolute figure, rather than direction of travel against the target, it still does not report the level of accuracy. However, the Department and the Highways Agency have been concentrating efforts on improving the accuracy of the underlying data systems.

### **Characteristics of the data system**

- 3.5. The indicator measures reliability using the average delay in minutes per 10 miles (derived from the differences between observed journey times and a reference journey time) experienced on the slowest 10 per cent of journeys for each monitored route. The reference journey time is the time that could theoretically be achieved when the traffic is free flowing. Speeds for free flowing traffic are measured each year through the Department's National Speed Surveys, and these are reviewed to consider whether any changes are required to the values used for calculating the reference journey times. No such changes have been required.
- 3.6. Data is received from four sources, including sensors under the surface of the road, two number plate recognition camera systems, and an in-

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vehicle Global Positioning System. Other than for a few trunk roads which have been excluded from this indicator, as they cannot be formed into a route, the whole Strategic Road Network is covered by the 103 routes measured.

- 3.7. Data of sufficient quality is available on 95 of the 103 routes, and included in the measure for this indicator. This is a net increase of four routes from the 2004 Spending Review, which is mainly as a result of introducing additional measuring devices on these routes. This has required the baseline to be re-based, which has been clearly disclosed in the APR.
- 3.8. All data sources are recorded and stored in a database (HATRIS), which is maintained by the Highways Agency. Algorithms are consistently applied to data sources on each route within the database to determine the best source of data to be used in the overall measure. Data collected and sorted in HATRIS goes beyond that which is used to report against this measure, and is the Highways Agency's primary source of information for monitoring and modelling traffic behaviour.

## **Findings**

- 3.9. At the time of our last report the Highways Agency expected, over the three years to 31 March 2011, to achieve 1.7 million vehicle hour delay savings from new interventions on the strategic road network implemented over the same period through its Reliability Delivery Plan. This now forms the target for DSO 1 Indicator 2 and is compatible with the measurement system already in place for this PSA 5 Indicator.
- 3.10. If that target is met, then performance for this PSA Indicator will also have been achieved. This is disclosed in the Department's Performance Reports in 2009.
- 3.11. The Highways Agency uses modelling to determine the difference that interventions have made to delays experienced. Although these are not directly observable outcomes, but modelled estimates from many assumptions and so subject to judgements, it does suggest a more direct assessment of the Department's performance in addressing delays to road journeys than perhaps a national measure for delay.
- 3.12. Uncertainty is not currently measured, and is not reported. The Department recognises that accuracy does impact on the significance attributed to changes in the measure, but does advise, within the APR, that the quality of data varies from route to route, and therefore care should be taken when looking at trends in the data for individual routes in isolation.
- 3.13. In March 2008, the National Statistician and Department for Transport Ministers agreed that the assessment provided sufficient evidence of

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compliance with the National Statistics Code of Practice and fitness for purpose to accept inter-urban delay data as National Statistics.

- 3.14. The Highways Agency, as owner of the majority of the data streams, undertook a comprehensive data quality improvement programme which addressed some problems identified in 2006. Following these and subsequent improvements, the Department has been able to increase the number of routes used for PSA monitoring purposes to 95. The change in the baseline as a result has been fully disclosed.
- 3.15. The exclusion and inclusion of routes within the measure are based on 6-monthly reviews, which are reported to, reviewed and signed off by the Data Quality Officer. Any changes to the algorithms used within the HATRIS database are independently reviewed, before being reviewed and signed off by the Data Quality Officer.
- 3.16. A baseline report has been produced for the 2008-11 period, which clearly describes the effects of the increase from 91 to 95 routes, and the introduction of the new data provider. This has been published on the Department's website in support of its Performance Reports.
- 3.17. Appendix D of the Department's Annual Report and Resource Accounts 2008-09 provides substantial details on changes to the measure, which routes have contributed to these changes, and the main reasons why. It also provides substantial detail on the limitation of the data, including the effects of extreme events, such as flooding, on delay. The relevant section of the Department's Autumn Performance Report 2009 is shorter and does not repeat the details provided in the Annual Report. It would be helpful if reference is made to the source where more details can be found.
- 3.18. A clear governance structure is in place, on programme, delivery plan and operations levels. Risk and issue logs are maintained for the HATRIS project, which capture any specific areas where there are concerns, which often relate to queries over data sources.



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## **PSA 5 Indicator 3 – Level of Capacity and Crowding on the Rail Network**

### **Conclusion**

- 4.1. This was a new indicator for the 2007 CSR period which reports against targets set within the Department's Capacity Programme. We have assessed the associated data system as RED (Systems) i.e. the data system does not permit the reliable measurement and reporting of performance against the indicator.
- 4.2. The indicator effectively requires the Department to report data on actual train capacity, and the level of crowding on trains in England. At present the Department reports additional rail vehicles ordered, which does not relate directly to operational capacity and it does not report on levels of crowding on trains. We have therefore assessed the data system as RED (Systems). We note that the Department has been developing its passenger counts data systems by extending the use of automated passenger count equipment and procuring a database to hold and analyse count data. The Department has also agreed to provide information on capacity and crowding in the next annual report.

### **Characteristics of the data system**

- 4.3. The specific target supporting this indicator requires the Department to increase train capacity to a level which will accommodate a *forecast* 14.5 per cent increase in passenger kilometres specified in the Government's High Level Output Specification (HLOS) for the railway<sup>2</sup>. The capacity increase required to accommodate the demand is at a designated load factor. The load factor is defined as passenger demand divided by train capacity, expressed as a percentage. The HLOS target load factors relate to the portion of total demand to be accommodated in London and other major cities during the morning peak.
- 4.4. Since the timescale for the specific target is longer than the spending review period, we conclude that in order to assess progress towards achieving the target within the spending review period, the Department needs to measure and report on:
  - i. the level of capacity originally planned for 2013-14 for each urban area;
  - ii. total capacity *currently* contractualised for each urban area;
  - iii. the level of capacity which was originally expected to have been contractualised by the end of the spending review period (comparing

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<sup>2</sup> The HLOS targets are set out in the Schedule to Appendix A to the 2007 White Paper "Delivering a Sustainable Railway".

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this with (ii) allows a fair assessment of progress at the end of the spending review period).

Additionally, the indicator also requires the Department to report on the level of crowding on the rail network, in general terms.

- 4.5. Currently, the Department's most recent performance reports against this indicator and target give details on the following information only:
- the number of additional rail vehicles ordered (disaggregated in the Annual Report 2009); and
  - progress in rail electrification (Autumn Performance Report 2009 only).
- 4.6. However, the number of additional rail vehicles ordered does not relate directly to an increase in capacity, because this depends upon factors such as timetabling and how the train operating companies use their stock of vehicles.

## Findings

- 4.7. Because the Department does not report the information detailed in paragraph 4.4 above, this Indicator is rated as RED (Systems). However, the Department has told us that in its Annual Report for 2009-10 it plans to show the target capacity to be procured by March 2014, extra capacity secured by March 2010 and a forecast of further extra capacity to be secured by March 2011.
- 4.8. The Department has told us it continues to review the optimal level of capacity required by 2014, in light of changes to forecast demand, affordability and value for money for the taxpayer. To the extent this differs significantly from the original target, this should be transparently reported, along with budgetary implications.
- 4.9. The Department could also provide some information on current levels of crowding in its Annual and Autumn performance reports. The Office of Rail Regulation provides some information on crowding in its annual *National Rail Trends Yearbook* which was last published in June 2009 for the year 2008-09 and the Department's performance reports could refer readers to that information. However, that information only covers London and South East train operators. The 2008-09 *Yearbook* states that new and improved statistics on crowding covering more of the country were planned, but the statistics were not available for 2009 in time for publication in the 2008-09 *Yearbook*.
- 4.10. Passenger counts data are necessary to gain an accurate picture of crowding on the railways. Passenger count data will also allow the Department to check whether the expected increase in passengers does in fact occur. Moreover at the times when counts are undertaken the

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Department could calculate the actual load factors, or estimate the load factors when the capacity increases already contracted for with Train Operating Companies have been implemented.

- 4.11. In our previous report on *The data systems supporting PSA 5* we referred to the Department's systems for obtaining passenger counts as being insufficiently robust to provide data of sufficient quality to report against this indicator. The Department currently receives passenger counts data from Train Operating Companies (TOCs) on all services that serve London termini and major cities outside London. It receives these counts twice a year and uses them to measure crowding by TOC (as published by the Office of Rail Regulation in the National Rail Trends Yearbooks), by London terminus and by major city outside London. The Department is currently extending the use of automated passenger count equipment.
- 4.12. In February 2010 the Department issued an Official Journal of the European Union notice for the procurement of a database to serve as a central repository for rail passenger counts data supplied by TOCs. The database project will allow counts data analyses by the Department and by TOCs for the purpose of informing planning decisions on train service levels and monitoring trends in train capacity utilisation. The Department plans to award a contract in early 2011, with the first delivery of information taking place in summer 2011. This will enable the Department to provide additional information on load factors (crowding) across England.

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## **PSA 5 Indicator 4 – Value for Money of Department for Transport spending over the CSR07 period**

### **Conclusion**

- 5.1. This validation review leads us to maintain our rating of the associated data system as GREEN (fit for purpose) i.e. the data system is fit for the purpose of measuring and reporting performance against the indicator.
- 5.2. Under this indicator the Department aims to maintain (rather than improve) the same proportion of spend in the High Value for Money category as in the 2004 Spending Review period. The VFM profile is determined by the estimated monetary cost of each project at the point that final spending decisions are made, and not on outturn assessments of costs and benefits.
- 5.3. As this indicator does not seek to measure or report the outcomes of the projects approved during the spending review period, and whether they achieved the planned VFM category, this seems at odds with the purpose of PSAs to measure the achievements of Departments.
- 5.4. This indicator only seeks to measure those projects which go through the Department's appraisal process and require Ministerial approval. Which project types are included and excluded is clearly disclosed in the APR.
- 5.5. A few very large value projects during the reporting period may skew the profile and aid / prevent the Department meeting its target. Such projects may be crucial, whether or not they represent high VFM. The Department has agreed that, in future, it would be helpful to highlight these when reporting against the PSA.

### **Characteristics of the data system**

- 5.6. The Department has a long-standing process in place for appraising proposed projects called the New Approach to Appraisal (NATA). NATA requires those raising a business case to assess their proposals for value for money using 23 classes.
- 5.7. This indicator reports the amount of Department spending approved over the 2007 CSR period that is subject to the Department's NATA process and the proportion in each VFM category. The indicator includes each Value for Money (VFM) assessment presented to Ministers at the point that final spending decisions are sought (i.e. at the last approval before work commences or contracts are let).
- 5.8. The VFM process takes the monetised (i.e. a monetary value is assigned) benefit cost ratio from a NATA appraisal and using the best available evidence on non-monetised impacts, places the project into one of the VFM categories. Proposals are judged to offer poor, low, medium or high

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value for money based on the benefits to cost ratio, ranging in scale from less than 1 for 'poor' to more than 2 for 'high', and taking into account non-monetised impacts. Where benefits and costs cannot be assigned a monetary value, it requires qualitative judgements to decide how important these factors are vis a vis monetised benefits and costs.

- 5.9. The baseline for this indicator is the VFM profile of Department spending approved over the 2004 SR period. To ensure the right approach was taken, and the baseline would be consistent with future measures reported against the indicator, a discussion paper was used to compare the various possible reporting methods, with the decided methodology signed off by the Data Quality Officer, the Chief Economist.

### **Findings**

- 5.10. The key risks to the data system supporting this indicator arise from the potential for inconsistent and weak application of the Department's VFM assessment process. However, there are effective processes in place which are designed to mitigate these risks.
- 5.11. A robust and consistent appraisal system over both the baseline and current CSR period is ensured through a number of processes:
- Clear appraisal processes and associated guidance notes are available on a dedicated area of the Department's website, which is accessible by all parties who may bid for Department funding;
  - A three-tier governance arrangement is in place, which is described in the Investment Assessment Framework as the individual Project Teams, Investment Boards and the Departmental Board, through which these appraisals are reviewed. As projects go through the project development process, they become better defined and assumptions of costs and benefits are refined throughout the appraisal process;
  - VFM assessments are included in submissions to Ministers, copied to the Accounting Officer, supported by other information to enable the Minister to challenge the decisions and assumptions made, and the final VFM category attributed; and
  - NATA guidance is updated periodically to reflect the latest assumptions such as GDP growth, population growth, fuel prices and fuel efficiency. The same applies for valuations of impacts such as the cost of carbon or noise.
- 5.12. Part of the requirements of the Department's NATA process is that cost estimates should be adjusted to account for risk and 'optimism bias' in order to obtain more accurate cost estimates. The potential of "worst outcome" on the VFM category is reported as part of the business case, which is then reviewed at each level of appraisal.

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- 5.13. The Department also has a current programme of work called “NATA Refresh”, which is the Department’s response to the recommendations made by the Eddington and Stern Reviews for significant improvements to be made to the appraisal tools used by the Department. The focus of those recommendations was to ensure that NATA properly appraises factors impacting on the environment, efficient use of transport networks and society.
- 5.14. Following the opening of a road scheme, the Highways Agency also undertakes an evaluation to establish whether it has brought the benefits anticipated and whether the other impacts of the scheme were as predicted. This ongoing programme of evaluation is called Post Opening Project Evaluation. Results from these reviews are reported in the Highways Agency website.
- 5.15. Finally, the Department recommends that all local authority major projects are evaluated on delivery, to assess the appraisal process, and provides guidance for this. Where the Department has more control over schemes, such as the Department’s Congestion Transport Innovation Fund, the Department is looking to build in conditions that require evaluations to take place.