

A Review of the Intercity Express Programme

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Executive Summary

Background and timeline

I have been asked by the Secretary of State for Transport to review the Department for Transport (DfT) Intercity Express Programme (IEP).

IEP was originally launched in June 2005 as a response to the growing cost and risk of maintaining an ageing InterCity 125 (IC125) train fleet, principally on the East Coast and Great Western Main Lines. The aims of IEP were ambitious: to develop a new generation of trains offering increased capacity, environmental advantages, greater reliability and flexibility. The programme was designed to deliver better value for money on a whole-life, whole systems basis.

In consultation with rail industry stakeholders, four options were appraised in response to these criteria. The first was doing nothing - which was rejected as untenable. The second was life-extending existing IC125s - which was judged to entail significant technical risk and unlikely to be cost effective, especially to take IC125s beyond the 2020 deadline for compliance with accessibility legislation. The third was procurement of a new Intercity Express train. The fourth was piecemeal procurement of 'off the shelf' trains as the need arose.

The appraisal concluded that a new train would meet the DfT's strategic objectives and deliver best value-for-money (VfM). Procurement began in November 2007, and in early 2009 Agility Trains was selected as preferred bidder.

During the procurement process, IEP has undergone a series of specification changes in response to a changing set of external and internal circumstances. Within a new financial context and against the backdrop of these changes, the Government decided in February 2010 that it would be inappropriate to enter into what would be a multi-billion pound contract with the train provider in advance of the general election.

My terms of reference have been to review the VfM of IEP, reflecting the latest information available, and the credibility and VfM of plausible alternatives to the programme. I was asked to report to the Secretary of State within three months.

Specification of IEP

IEP is in many ways a novel and potentially transformational programme. The fleet was specified with a high degree of flexibility in mind, as well as provision to make it more sustainable - both in terms of the rail network (through a distributed power design that reduces track damage), and the wider environment (maximising electric network capacity).

Three main train types were specified to make up the fleet: electric trains (with a transformer carriage at each end), diesel trains (with a diesel generator carriage at each end), and bi-mode trains (which have an electric transformer carriage at one end, and a diesel generator carriage at the other). The bi-mode train was specified to offer through-journeys to long-distance passengers, using electricity when 'under the wires', and diesel power when 'off wire'.

From original specification to the current provision, IEP has undergone significant changes, partly in response to revised-down estimates of passenger demand. The flexibility mandated by the project objectives remains, but the number of carriages intended for daily service has reduced from around 900 to 770. Certain technical elements of the proposition have also been altered.

Value for money

The Department for Transport requires substantial spending proposals to have a VfM assessment. The main metric produced by the DfT approach is a Benefit to Cost Ratio (BCR), which expresses monetised benefit as a multiple of cost. The approach helps to clarify whether something is worth doing, and is a basis for identifying what is *most* worth doing if alternative options are similarly assessed.

The DfT approach is a technical analytic process which is not in itself particularly transparent. BCRs are sensitive to variations in the data, assumptions and valuations on which they are based. It is also likely that a project's BCR will change over time as its context, including its policy context, changes. The basis of a particular BCR, which is a deceptively simple-looking ratio, needs to be accessible and understood and this is not easy to achieve.

Where the BCRs of different options are to be compared it is clearly important that all the potentially viable options are fully reflected in the analysis, a key point to which I return.

I have taken the view that the review's terms of reference should be interpreted more broadly than as assessing technical value for money through

BCRs: rather as offering advice on the way forward in making the most effective use of resources to achieve government objectives.

Economic assessments of value for money are intended to inform decision making, and they play an important part. They do not however encompass all the factors that decision makers must consider. The DfT value for money protocol accepts that deliverability and acceptability are important additional decision factors. I also draw on the different but crucial question of affordability.

IEP has been subject during its lifetime to a series of VfM assessments, based on the BCR procedure. The programme has passed this internal assessment each time, although it has deteriorated from representing 'exceptionally high' VfM to the threshold of 'medium to high'.

The review team and I have found it difficult to make sense of the multiple changes to programme specification over its lifetime, and their effects on BCR. Nevertheless, the fact is that the BCR VfM measure has remained acceptable and naturally I recognise that it has been soundly calculated during each assessment.

I am however left with substantial concerns in the spirit of the broader approach outlined above. The importance of acceptability and deliverability is illustrated by a basic paradox. Here we have a programme that has consistently (if increasingly narrowly) passed the test of internal assessment. Yet it has evoked, as we shall see, sustained and widespread scepticism and even hostility amongst external stakeholders. Why?

Three main groups of contributory issues have arisen about which we largely share the concerns of others. First, there are unresolved issues about technical aspects of the IEP proposal. Secondly, we are not convinced that all the potentially viable and possibly preferable alternatives to IEP have been assessed alongside it, on an equal footing. Thirdly, and closely relevant to the credibility paradox, there are issues around the DfT's management of the programme including its communication of it.

Technical matters

There are widespread concerns, which we share, about the bi-mode element of the new IEP trains. A key issue is the capability of a single diesel generator carriage to adequately power long-distance through-trains, especially in the hillier parts of Scotland and the South West where they would be most called upon in the absence of electrification. Moreover, there is no other country in which bi-mode trains are used for the variety of functionality that IEP intends. The French bi-mode is a substantially different engineering solution to the IEP

in a number of ways which I cover later on. The IEP bi-mode approach is untested and this entails risk.

In addition, my team learnt that the original assumption that existing IC125s could not be cost effectively life-extended beyond 2020 is now considered by many in the rail industry to be misplaced.

The desire to preserve through-train capability has been a key driver in moving to procure new bi-mode trains but I believe there has been insufficient examination of optimising the use of connecting trains as an alternative.

Increasing passenger capacity remains a key objective for IEP, although forecasts of the rate of demand growth have been revised downwards. I am not convinced that present proposals will wholly achieve an alignment of capacity and demand.

Alternatives to IEP

I doubt that all the credible alternatives to IEP have been identified, worked up and VfM-assessed on an equal footing with it. The review team has conducted a preliminary analysis of potentially viable and credible alternatives to IEP and found that they may be able to offer greater VfM than the current specification. These alternatives warrant further scrutiny through a fresh, comparative VfM assessment and I suggest this in the review's conclusion.

Management issues

The Department for Transport's strategic positions have appeared to some in the industry as susceptible to change and unpredictable. Questions are asked about the coherence of IEP, extended electrification, high speed rail and overall strategy.

The real issue here, I believe, is that there has been insufficient communication between the Department and the industry, including communication about IEP, and this has opened the way for significant negativity to develop. This is a key area for attention and further improvement.

This problem, particularly with IEP, appears to have been amplified by DfT's procurement approach, which has placed heavy emphasis on commercial confidentiality and thus relied on independent advisers and consultants rather than industry expertise. This has engendered a sense of disengagement and disenchantment which I believe could and should largely have been avoided. I also ask a number of questions about arrangements for managing the costs and coherence of independent advice within the Department.

International comparisons

During the review we looked for relevant experience elsewhere, and I have been surprised that more attention is not paid by DfT, and perhaps more widely by the UK railway industry, to international comparison and interaction. I think there should be a systematic programme, organised with high-level commitment in DfT, to see if we can put this situation to rights and I welcome the rail cost study underway, led by Sir Roy McNulty.

Alternatives, lessons and ways forward

We have received a great deal of information and heard the range of perspectives on IEP currently in play. We have used the time allotted to assess this information and these perspectives, and to consider the scope for examining further alternatives to IEP. Throughout the process I have sought to be open, balanced and objective.

Here I summarise my overall reflections on the programme.

The IEP proposition is positive and attractive in a number of ways: the funding arrangement is novel and well-aligned in terms of financial incentives; faster acceleration and longer carriages could potentially have a positive impact on network and passenger capacity; and the IEP specification has taken network sustainability and environmental imperatives seriously.

There are also significant concerns: although it continues to be acceptable, IEP's performance in DfT Benefit to Cost Ratio (BCR) assessments has depreciated from exceptionally high to the threshold of medium-to-high; the bi-mode element of the IEP train is new and untested in terms of the functionality that would be expected of it; the railway industry has serious doubts about the IEP programme, and this could impact adversely on deliverability; and I am not convinced that IEP as currently envisaged can in fact realise its potential for aligning future demand with capacity.

Moreover, the *affordability* of IEP, as distinct from its VfM, will now have to be appraised against a very different and demanding economic landscape. A programme may promise excellent value for money but with costs that exceed the resources available.

I asked earlier why a programme which has passed its technical VfM tests is regarded so negatively. I have suggested that there are three types of reason for this: first there are unresolved technical questions; secondly it is not clear that all the potentially viable alternatives to IEP have been adequately assessed; and thirdly there are some issues around DfT's management approach and its engagement and communication with the railway industry.

I suggest a pause for reflection and a fresh, detailed VfM analysis including credible alternatives to IEP. The review team has carried out some preliminary work to identify and appraise such alternatives.

This period of reflection should also encompass the wider questions I have raised about aspects of management and overall strategy, and the evolution of a fully fit-for-purpose delivery approach. It should be framed by aims and objectives appropriate to the current fiscal context.

Introduction

I have been asked by the Secretary of State for Transport to review the Department for Transport (DfT) Intercity Express Programme (IEP).

Background

The late 1970s saw the introduction of a new fleet of diesel InterCity 125 trains (IC125, also known as HSTs) across the UK rail network. These trains, powered by diesel engines at the front and rear, have operated for almost thirty years, mainly on the East Coast Main Line and the Great Western Main Line.

Whilst highly successful, the option of continuing to sustain the existing trains was seen to entail growing cost and risk. In June 2005 the then Secretary of State launched what was initially called the HST2 programme to replace the UK's fleets of IC125s. The aim was to develop a new generation of trains offering increased capacity, environmental advantages, greater reliability and flexibility, capable of delivering better value for money on a whole-life, whole-system basis.

Later in 2006, the project was renamed the Intercity Express Programme in recognition of the wider opportunities the plan offered over and above the mere replacement of trains. The objectives of the programme have been defined in the following way.

“The Intercity Express Programme is intended to deliver the rolling stock needed to ensure that the passenger train franchises on the principal Intercity routes will be able to transport increasing volumes of passengers over the decades ahead, while continuing to offer value for money for Government. High level critical success factors include:

- optimising investment
- making best use of available route capacity
- offering flexibility of deployment
- delivering an environmentally sustainable solution
- providing safety and security
- delivering a consistent service
- meeting other customer requirements.”

And summarised as follows.

“The Intercity Express Programme sets out to deliver a best overall value solution for train replacement and demand growth on key long-distance routes. It seeks to balance train, infrastructure and operational solutions to handle traffic growth and performance issues and to satisfy the needs of the travelling customers.”

Following DfT’s referral of the Rolling Stock Companies (RoSCos) to the Competition Commission, DfT decided it was best placed to lead this programme towards a whole-life, whole-cost solution. It remained important however to determine how the interests of the funder and the knowledge of the operator could be brought together in order to achieve effective decisions.

The programme invited input and support from within the rail industry, consulting amongst others Network Rail, the Association of Train Operating Companies, individual TOCs affected directly by the programme, train manufacturers, RoSCos, Passenger Focus, the Office of Rail Regulation and Transport Scotland.

At this stage, four broad options were appraised. These were doing nothing (rejected as untenable), life-extending existing IC125s (seen as high technical risk and unlikely to be cost effective), procuring a new Intercity express train, or piecemeal procurement of ‘off the shelf’ trains as the need arose. The appraisal, conducted with industry engagement, concluded that a new train would achieve all the key programme objectives and deliver best value for money.

The IEP became an integral part of the DfT’s strategy with its inclusion in the July 2007 White Paper ‘Delivering a Sustainable Railway’. Procurement began in November 2007.

Early in 2009, the Department announced that Agility Trains (a consortium of Hitachi, Barclays Private Equity and John Laing) had been selected as preferred bidder, enabling programme procurement activity to be streamlined.

IEP proceeded steadily from this point, with several programme adjustments being made to reflect an evolving set of external circumstances. Chief amongst these was the economic downturn, which impacted on passenger growth forecasts and the availability and cost of finance for the programme. Two other significant factors were announcements last year about the extension of electrification, particularly to the Great Western Main Line, and the decision to proceed with the development of High Speed Rail links.

These adjustments inevitably extended negotiations with Agility Trains. In February this year the Government decided that it would not be appropriate to enter into this multi-billion pound contract in advance of the forthcoming general election. The Government also wished to confirm that the proposed programme continued to represent value for money within this changing context.

It was in these circumstances that I was asked to conduct this review. I understood that if it confirmed that IEP would be better than the alternatives, the Secretary of State's intention would be to proceed with the project in the next Parliament. If not, further analysis would be required.

Terms of reference

My terms of reference have been:

- to review the value for money of IEP, reflecting all the latest information and the Government's commitment to electrification of the Great Western Main Line;
- to assess the credibility and value for money of any alternatives which meet the Programme's key value for money objectives; and
- to report to the Secretary of State within three months, by the end of May 2010.

Conduct of review

Three months is not sufficient for a full scale appraisal of development options. In the allotted time, I have therefore been dependent on existing information and opinion.

I and the small review team assigned to me have consulted widely with key stakeholders. Our approach has been to talk with them about a number of key dimensions which bear upon the approach that Government might take. We have met with DfT officials and their advisers, Passenger Focus, Agility Trains, Network Rail, Train Operating Companies, RoSCos, the Scottish and Welsh governments, the Office of Rail Regulation and a range of manufacturers and rail industry experts and commentators. We have analysed and digested their contributions, held a second round of discussions with many of them, and shared relevant drafting of this report for comment.

In all, we have held discussions with 40 stakeholders in 47 meetings with individuals or small groups.

I am most grateful to everyone we spoke with for their open and very helpful engagement with us. IEP is a bold, ambitious programme which has raised complex and challenging issues, and I have been impressed by the energy and commitment that have been brought to bear in trying to tackle them.

I particularly appreciate the help I have received from my review team: Prof. Andrew McNaughton, Chief Engineer of High Speed 2; Ross Spicer, until recently Production Director of Virgin Trains and now an independent consultant; and Dan Cliffe, Fast Stream adviser on IEP at DfT and secretariat for this review. They have brought exceptional breadth and depth to the review through their knowledge and experience of the railway industry and the Department for Transport; and they have worked tirelessly.

I should add therefore that this is my own report, and whatever failings it may have are entirely down to me.

Not everyone will find here what they hoped to see, but it is the most objective and principled overview that I am able to construct and it is offered without fear, favour or any desire to criticise.

Organisation of report

The main dimensions or areas of discussion with stakeholders were:

- passenger experience
- DfT strategy
- management and communication
- rail network issues
- technical issues
- value for money (including financing)
- GWML electrification
- International comparisons.

We invited all those we met during the process to share their views in a broad and open way. We then used the above issues as a standard analytical framework within which we could systematically compare and contrast evidence from different viewpoints.

The rail industry is in part a technical industry. Its engineering and operational dimensions, although highly pertinent, are often expressed in inaccessible technical language. The subject matter of this review - an extremely large investment with long-term consequences - is however of high public significance and I have therefore been very keen to report in a clear, open and accessible way, in plain language, so that a wide debate can take place.

As essential background, the next section of the report briefly summarises the new provision intended through the Intercity Express Programme. I then go on to discuss value for money, both in general and in relation to the IEP. That section is followed by discussion of three groups of significant issues that have emerged during the review. This main report ends with my conclusions and some suggestions for the future. There is then a brief Appendix which

summarises without comment some of the points made to us during our consultations.

The report's separately available Annex sets out our methodology in more detail. It lists those with whom we had discussions, describes the evidence we have received and the technical assessment to which we have subjected it, and outlines some potential alternatives to IEP.

The IEP

Initial specification

In 2007 the expectation was that IEP would provide the next generation of Intercity trains to serve the East Coast and Great Western Main Lines, with options to extend to other lines.

Each train was to consist of a series of modular passenger carriages with a mix of electrically powered axles and unpowered axles distributed down the train. These carriages would draw their power from a source at the end of the train: either a passenger carriage with an electric transformer linked by pantograph to overhead wires, or a generator carriage that generated electric power for the motors from diesel fuel.

This 'distributed traction' approach is designed to cause less track damage and achieve better acceleration than a comparably powered traditional locomotive pulling unpowered carriages.

IEP was specified with a high level of flexibility in mind so that trains of different length or power source could be configured by varying the combination and numbers of each type of carriage. Three main train types were specified, each consisting of either five or ten carriages with options for different interior layouts dependant on the types of services to be operated:

- electric (with an electric transformer carriage at each end),
- diesel (with a diesel generator carriage at each end), or
- bi-mode (with an electric transformer carriage at one end and a diesel generator carriage at the other).

The bi-mode train was specified to operate from overhead electric power when 'under the wires' and from the diesel-powered generator only when 'off-wire' (although, initially, the longest bi-mode trains would have needed to draw some 'top up' power supply from the diesel-powered generator at times when under the wires). This approach would enable the use of overhead power where available, whilst still offering through-journeys to important destinations outside the electrified network.

The wholly electric train was also required to have a small diesel engine to provide power in the event of the overhead electric power failing. This would allow the train limited movement at slow speed to permit passenger service to continue.

The original specification was to design, build, maintain and operate around 900 carriages in daily service, including the diesel generators, with options for up to around 500 in addition: in total, up to around 1,400 carriages.

Current proposition

The current proposal for IEP is somewhat different in terms of the make-up of the fleet:

- 5 carriage length electric: 46
- 8 carriage length electric: 20
- 5 carriage length bi-mode: 33
- 7 carriage length bi-mode: 14
- 9 carriage length bi-mode: 11
- 10 carriage length bi-mode: 13.

Wholly diesel trains are no longer required following the decision announced in July last year to electrify the route from London to Bristol, Cardiff and Swansea. The longer bi-mode trains now have a second transformer on another passenger carriage because without this the diesel generator would be running for significant periods of time under the wires. Other elements of the specification such as flexibility and the small diesel generator required on the electric trains remain unaltered and are key features of the proposed IEP design.

The current proposal is for around 770 of these carriages to be in daily service. They would be deployed to provide not only long-distance and interurban services but also to take over a number of selected commuter routes (such as London – Oxford, or London - Cambridge).

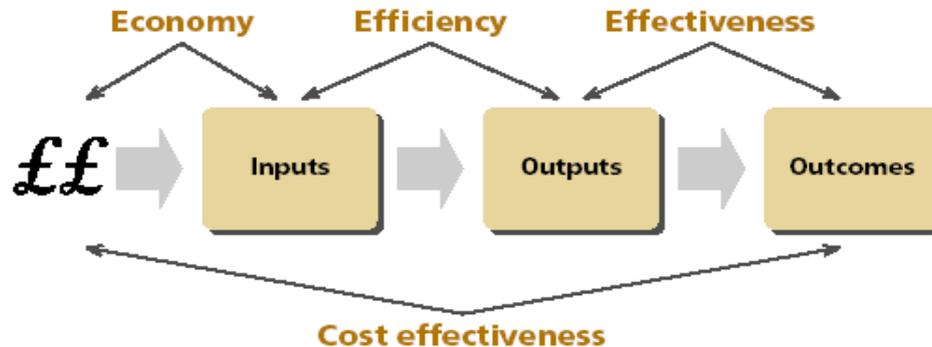
Value for money

Understanding VfM

Value for money is a complex idea that can be approached in different ways.

The National Audit Act 1983 set up what has become known as the '3Es' model, providing the National Audit Office (NAO) with a remit to examine the economy, efficiency and effectiveness with which bodies have used their resources. Both the NAO and the Audit Commission have elaborated the model in analytical frameworks which their staff use to assess the value for money of particular programmes and projects and the overall management approach of organisations.

The Audit Commission's framework, shown diagrammatically here, breaks down the overall VfM relationship between expenditure and outcomes (cost-effectiveness) into the three elements of economy, efficiency and effectiveness.



Source: Audit Commission

Economy is the process of acquiring human and material resources of appropriate quality and quantity at the lowest cost. *Efficiency* is the production of maximum output for any given set of resource inputs (or the use of minimum inputs to achieve required outputs). *Effectiveness* is the achievement of desired outcomes or benefits and thus relates to strategy and objectives.

The Department for Transport's protocol for assessing value for money requires substantial spending proposals to have a VfM assessment and a resulting VfM statement. The main metric produced by the DfT approach is a Benefit to Cost Ratio (BCR), which expresses monetised benefit as a multiple of cost (details are given in the Annex.) The approach helps to clarify whether

something is worth doing, and is a basis for identifying what is *most* worth doing if alternative options are similarly assessed.

There is no necessary or fundamental conflict between these understandings of and approaches to VfM.

The DfT approach is however a technical analytic process which is not in itself particularly transparent. This is a potential drawback because there are aspects of it that need to be understood by those relying on its results. BCRs, in common with similar metrics, are sensitive to variations in the data, assumptions and valuations on which they are based. In relation to IEP, for example, the weighting or value given to issues such as road decongestion could make the difference between a marginal BCR and a weak one. It is also likely that a project's BCR will change over time as its context, including its policy context, changes. This is particularly relevant if it is as changeable as the IEP's context has been. The point is that the basis of a particular BCR, which in the end is a deceptively simple-looking ratio, needs to be accessible and understood and this is not easy to achieve.

Where the BCRs of different options are to be compared it is clearly important that all the potentially viable options are fully reflected in the analysis, a key point to which I return.

A broader approach

VfM is emphasised in the terms of reference for this review, although they also refer to the credibility of alternatives to IEP. If VfM as technically assessed so far were the only significant concern there might have been no need for the review: IEP has 'passed the test'. I have taken the view however that the terms of reference should be interpreted more broadly as seeking advice on the way forward in making the most effective use of resources in achieving government objectives. I do not believe that the BCR assessment process, although properly executed, is a sufficient basis for deciding what to do.

Technical VfM is not the whole story. Economic assessments of value for money are intended to inform decision making, and they play an important part. They do not however encompass all the factors that decision makers must consider. This is implied by the specification in the DfT's VfM protocol of what the department would generally expect to pursue:

- no proposals that offer poor VfM
- very few low VfM proposals
- some but not all medium VfM proposals
- most, if not all, high and very high VfM proposals.

This acknowledges that factors other than VfM contribute. The protocol makes it clear that deliverability and acceptability are important additional decision factors, and I would add affordability: I explain later.

VfM and the IEP

Turning now to the specifics, IEP has been subject during its lifetime to a series of VfM assessments, based on the BCR procedure. Evidence provided to the review team showed that the programme has passed this internal assessment each time, although it has deteriorated from representing 'exceptionally high' VfM to the threshold of 'medium to high'.

DfT has attributed this deterioration in part to cost-side increases in the price of debt finance, unfavourable currency exchange rates, and reduced benefits resulting from slower growth in projected demand.

I should say that making a rigorous analysis of the value for money of IEP has been very challenging, and that my team and I have sometimes struggled to make sense of the multiple changes to programme specification over its lifetime, and their effects on BCR - which has varied significantly over time. This illustrates the earlier general point about the transparency of the DfT's VfM approach.

Nevertheless, the fact is that the BCR VfM measure has remained acceptable and naturally I recognise that it has been soundly calculated during each assessment.

I am however left with substantial concerns and advance these in my report in the spirit of the broader approach outlined above.

The importance of acceptability and deliverability is illustrated by a basic paradox which exercises and disquiets me. Here we have a programme that has consistently (if increasingly narrowly) passed the test of internal assessment. Yet it has evoked, as we shall see, sustained and widespread scepticism and even hostility amongst external stakeholders. Why?

The next section of the report addresses three groups of what we believe are contributory issues. First, there are apparently unresolved issues about technical aspects of the IEP proposal. Secondly, we and others are not convinced that all the potentially viable and possibly preferable alternatives to IEP have been assessed alongside it, on an equal footing. Thirdly, and closely relevant to the credibility paradox, there are issues around the DfT's management of the programme including its communication about it.

The big issues

Technical matters

Let me start by saying that I was impressed by my meetings with Hitachi (Agility Trains). The electric train on which IEP would be based is well spoken of in the industry and their confidence in their product is illustrated by the funding model they are prepared to agree: because trains would be paid for only when available, downtime risk would sit with the train provider.

Bi-modality

There are however widespread concerns, shared by the review team, about the bi-mode element of the new IEP trains. Any form of diesel propulsion is likely to be heavier (with implications for track maintenance) and cost more to maintain than electric alternatives; there is also a potential vulnerability to increasing oil costs.

In relation to IEP specifically, the concern centres on the capability of a single diesel generator carriage to power long-distance through-trains (i.e. trains which will also have pantograph/transformer carriages), especially in the often hilly regions in Scotland and the South West peninsula where they would be most called upon in the absence of electrification. Although Agility Trains have committed to contracting to deliver the required journey times, our analysis of IEP bi-mode performance (distance speed graphs) causes concern around the technical capability of the train to deliver these journey times.

Bi-mode trains are, for long-distance travel, an untested innovation. We are aware that they operate in France (and have visited) but only under quite different expectations and circumstances on regional services (TER). Whereas the French bi-mode features small low power diesel engines to enable regional trains to complete their journey beyond the wires, the IEP requires high speed, high performance and therefore high power to serve a variety of different intercity purposes. Some feel reliance upon bi-modes on the IEP scale carries risk because they are unproven.

There is risk also around the long term viability of the diesel generator carriages. Many of them could be surplus to requirements, over a ten to twenty year period, should the electrified network be further expanded. As there is no other application in the world for the diesel generator (as opposed to a diesel locomotive, which can be used on freight services for example), it risks becoming an expensive stop gap.

The main driver for the controversial bi-mode element of IEP seems to be a sense of sacred duty to protect through-journeys. We were told that passengers generally dislike having to change trains. Connections can be missed and it can be difficult and inconvenient to move luggage between trains and across stations. Some significant long-distance destinations (Aberdeen, Inverness and Carmarthen, for example) are served by lines which are not, and may never be, electrified and therefore require diesel propulsion. The desire to preserve through-train capability in such cases has been a key driver in moving to procure new bi-mode trains which combine the sustainability, environmental and track maintenance advantages of electric trains with the capability to work off-wire.

One can understand this rationale, but has enough attention been given to alternatives to through-journeys, given the complexity and cost consequences for IEP trains? Is it possible, for example, to redirect some of the great skill and creativity that has been devoted to IEP to facilitate more passenger friendly train-changes: for example by providing better portage, ensuring the physical proximity of appropriate onward connection trains, and guaranteeing to hold them? A number of consultees made reference to the fact that this is standard European practice.

If through-journeys remain an essential objective, there may be alternatives to the bi-mode solution. People argued, with varying authority, that the alternatives have not been comprehensively specified or assessed on an equal footing; that no Plan B has been convincingly sought or specified. This is picked up later.

InterCity 125 life-extension

At the start of the IEP procurement process, it had been assumed that the IC125 was nearing life-expiry, and in any case would need major modifications entailing significant technical risk to be able to operate beyond 2020, because of compliance issues. This has been questioned in our discussions.

It is a legislative requirement within the UK that all trains operating after 2020 must be compliant with regulations concerning access for persons with reduced mobility. Current work in progress within the rail industry is said to show that the carriages can be re-engineered largely to comply with these regulations. Practical and pragmatic solutions are claimed to exist for those few areas where absolute compliance cannot be achieved.

Other outdated elements of the design include toilets that flush directly onto the track. These apparently can also be brought up to modern standards by installing new modular toilets that include waste holding tanks.

Re-engineering to extend the life of these trains to 2025-2030 is technically feasible, we were told and accept, and cost-effective in comparison with the

purchase of new trains; it might not, however, achieve other objectives – including capacity improvement.

Capacity needs and their fulfilment

One of the clearest objectives of IEP, alongside the replacement of trains believed to be obsolescent, was to increase passenger capacity in the expectation of continued rapid growth in passenger demand. Since the programme's inception, however, DfT forecasts of the *rate* of growth have been amended downwards, reflecting HM Treasury's revised forecasts of economic growth. It is now anticipated that levels of passenger demand, especially in interurban travel, that were predicted for the middle of the coming decade will not be reached until around five years later.

Increasing capacity nevertheless remains an imperative and I am not convinced that present proposals will wholly achieve its alignment with demand projections. How much greater (if at all) will be the passenger capacity delivered by IEP, as now being proposed, than that of today's trains?

Passenger capacity (the number of passengers that can be transported along a route in a given time) is a complex product of three main factors:

- the capacity of the trains themselves
- the capability of the infrastructure
- the operational performance of trains on the route.

IEP was initially conceived and developed to provide the maximum carrying capacity for an interurban train on the British network: longer than the trains it would replace, with the maximum amount of space in which to fit seats, luggage space, toilets and other facilities. The proposals I have been asked to review contain a mix of train lengths, many shorter and with fewer seats than today's interurban trains. This is particularly true of the bi-mode configurations.

The Department argued that while peak capacity is increased by the longer IEP trains, the ability to run some shorter trains in the off peak is a deliberate choice, to better match demand with capacity.

Revised demand forecasts have been accommodated by reducing train lengths whilst retaining increased frequencies. The wisdom of running such an intensive service pattern is questioned, when the same number of seats could be provided by running fewer but longer trains.

Alternative options

I am not convinced that all the credible alternatives to IEP have been identified, worked up and assessed on an equal footing with it, or that all the relevant benefit criteria have been encompassed by the VfM assessments that have been carried out.

The review team has done its best within the time available to outline a fresh case for some credible alternative options and appraised them against the up-to-date IEP specification. Their analysis, summarised below and explained in more detail in the Annex, suggests that the alternatives could well represent good value for money.

Alternative options include:

- new interurban electric trains based on existing European designs for newly electrified routes on the GWML;
- re-engineered IC125s for long-distance services that are mostly 'off-wire';
- re-engineered/cascaded electric commuter trains for services such as London to Oxford and Cambridge;
- some destinations that are a short distance 'off-wire' served either by diesel locomotives pulling interurban electric trains, or by extending the wires;
- long-distance routes to Inverness and Aberdeen being served by high-quality connecting trains rather than through services.

The team's preliminary analysis suggests that these alternatives could achieve better value for money than IEP, realising a greater proportion of the currently desired IEP benefits with reduced expenditure over the coming 15 to 20 years, and especially during the next decade.

Depending on the exact mixture of newly acquired, re-engineered and cascaded rolling stock, and the technical approach to the provision of services beyond the present electrified network, it seems likely that more than half of the benefit on the East Coast route, and probably around three quarters of it on the Great Western routes, could be captured for between 40% and 60% of the cost.

Given revised IEP train service introduction dates, some work would need to be carried out on at least the Great Western InterCity 125 fleet to secure the current high levels of reliability beyond 2013. If these costs were fully factored into the base case for IEP the BCR difference could be even greater.

This time-limited analysis suggests that alternatives to IEP could provide sufficient benefits in the short-to-medium term, with a lower cost and risk profile, and warrant further scrutiny in a fresh VfM assessment. This is suggested in the conclusion of this review.

Management

DfT strategy

A perception emerged in our discussions (which I do not fully share but record to make some particular points) that the Department for Transport's strategic positions have been susceptible to change and sometimes unpredictable, fashioned and refashioned to reflect what is actually happening: a pragmatic reflection rather than a guiding framework, a moveable feast, a slippery bar of soap.

Some suggested that policy instability might reflect the frequent changes there have been in the Department's political leadership. There have evidently been 33 Secretaries of State for Transport since WW2 including eight since 1997, and this report will be presented to the fifth Secretary of State to have served during IEP's lifetime.

The examples of strategic shift most commonly given were twofold: the (widely welcomed) decision announced in July last year to electrify the route from London to Bristol, Cardiff and Swansea, and the line between Manchester and Liverpool; and the commitment announced in December to proceed with the development of a new high speed rail network. Questions arose in people's minds about the extent to which these developments, running in a different direction to the 2007 White Paper, interact with IEP and whether their impact has been fully assessed. With electrification in particular, the question was asked: has the remit of the programme been adequately rescoped?

Some people questioned the relationship between the IEP and overall DfT strategy. How for example is IEP, characterised sometimes as a 'one-size fits-all' new train, to be reconciled with the strategic segmentation model which distinguishes between commuter, interurban and long-distance journeys, with different passenger and train requirements? Even more fundamentally, people asked to what extent the IEP was 'transformational' in its goals, aiming for whole service improvement and not solely train replacement?

In contrast to much of this, the Department obviously does have high-level and elaborated strategic positions which are documented and promulgated, and I understand refreshed biennially, as one would expect of a major Department of State. I have been assured that IEP continues to be fully aligned with strategic objectives and the IEP Business Case process seems to be fully compliant with internal and HM Treasury expectations.

My reason for setting out these rather disparaging comments is to convey some facts:

- Strategy is critically important. Value for money judgements must reflect the relationship between outcomes and objectives: effectiveness, in terms of the Audit Commission model. If sound strategic positions are unknown or misinterpreted, it is difficult for observers and stakeholders to understand what is going on.
- There is a degree of negativity in the industry about the Department, and I believe this to be out of proportion; but it does matter.
- I suggest that DfT's approach to communications lies at the heart of the matter, and I say more about this a little later on.

Management model

The first thing to say here is that the IEP is a bold, ambitious and complicated programme, with multiple stakeholders and divergent viewpoints in play. It was always going to be difficult and demanding, however it was approached. The objectives to be served and the available solutions are highly complex, and complexity always entails difficulty and risk.

The management approach appears to have changed dramatically over the life of the programme. At its inception as HST2, the level of consultation and engagement with the industry was high and warmly welcomed. The turning point seems to have been the launch of formal procurement in 2007. I believe the imperative to maintain strict commercial confidentiality, driven by determined legal and procurement advice, dominated from that point and the industry experienced a growing sense of marginalisation, disengagement and disenchantment.

The Department has relied latterly on the advice of consultants and advisers rather than industry bodies. It has assumed full responsibility for advancing the programme itself in a close working relationship with Agility Trains and representative TOCs.

It is clear that UK Government and EU procurement rules determine to some extent what can be done, but I must record here that if I had a reasonably blank sheet of paper I would not manage the programme like this.

In my experience a golden rule is to involve people affected by an issue as fully as possible in its determination. In doing so you tap into their knowledge and skill to the benefit of programme and product design; you stand a good chance of earning their goodwill, commitment, loyalty and support; and you pave the way to smooth implementation. But if key stakeholders are held at arm's length and in the dark, you deprive yourself of often great advice; you generate hostility and ill will; and you invite obstruction.

The DfT has access to many external people with great knowledge and experience of railways management and it would make sense to devise constructive ways of engaging with them and benefiting from what they can bring.

Although there has been some criticism of the procurement and management model adopted by the Department, there has been no complaint about the professionalism, skill and effectiveness of the independent expert advice and consultancy services commissioned by the Department. They are regarded as competent.

It must be said, however, that this positive picture comes at a price: consultancy can be extremely costly and fees may represent a significant element of expenditure. The Department confirmed in an answer to a parliamentary question that from 2005 to October 2009 it had spent £21m on consultants. Others have estimated that when the costs of IEP bidding across the wider industry are included, the total exceeds £50m.

The process I outlined above has supplied the Department with strong advice in key areas, with transportation, legal and financial advice to the fore. I would ask how these expensive and powerful forces were coordinated and brought together under a general management arrangement.

There are six questions.

- Who was holding the ring between franchising, technical development, procurement and legal and financial advice, ensuring consistent messages?
- Were some considerations and influences allowed to prevail inappropriately, for example in the reportedly relentless protection of commercial confidentiality?
- Is it possible there has been inappropriate deference, or insufficient constructive challenge, in respect of influential in-house advice?
- What were the financial controls over a multi-million pound spend on outsourced support?
- How did these specialised sources of advice interact with the corresponding permanent functions in the department?
- What was the overall corporate governance safeguard?

Communication

I must convey a widespread view that the Department's communication with the industry has not, in recent times, been effective. There is dissatisfaction and disappointment.

Silence allows rumour to fill the information vacuum, often negative or inaccurate rumour fuelled by the irritation that exclusion engenders. I believe this is why some in and around the industry are at best sceptical about IEP, especially bi-modality, and at worst incredulous. This cannot be helpful in terms of implementation.

Even if DfT were significantly constrained in its basic approach to procurement, it should have been able to fill the information vacuum more effectively. It has a decent reputation for communication in ongoing bilateral relationships, for example with Network Rail. I believe the Department tried to conduct IEP communication well and at first succeeded. But the effort seemed to fall away.

It arranged a number of meetings in order to convey what was happening, but stakeholders report a sense of powerlessness, being heard but not listened to. Perhaps the commercial confidentiality imperative was allowed to permeate the culture of communication more extensively than was necessary. For the future, it may be important to find a more functional balance between priorities.

There may be a resonance here with a conclusion of the 2007 Cabinet Office Capability Review of the Department, which suggested that, "The Department has not drawn together and effectively communicated a compelling and enthusing vision of the future... Stakeholders consider that the Department could and should do more to explain government policy, to give them greater confidence and certainty in, and a common understanding of, the future direction". More recent comparable assessments have indicated improvement, but there may be some way further to go.

International comparisons

This is a management point of a rather different kind.

I have been surprised that more attention is not paid by DfT, and perhaps more widely by the UK railway industry, to international comparison and interaction.

The caricature I have heard is that we go it alone and miss opportunities to drive down costs and build on the experience of others. I appreciate that there are some important differences in technical standards between us and continental Europe, but are they forever writ in stone?

Any hint of narrowness or isolation should be eschewed. We should be capitalising on the research and development work carried out elsewhere, examining and improving our ability to use internationally available products, and generally taking advantage of the economies driven by competitive railway product markets abroad. I think there should be a systematic programme, organised with high-level commitment in DfT, to see if we can put this situation to rights and I welcome the rail cost study underway, led by Sir Roy McNulty.

During the review we looked for relevant experience elsewhere (detailed in the Annex). The Figures below summarise approaches taken in France, the Netherlands and Australia, and by some international manufacturers. There are lessons to be learned.

Figure 1. French Bi-modes: Autorail Grande Capacité

The only relevant deployment of bi-modes providing passenger services in comparable numbers is on the regional (TER) services in France.

Bombardier built the AGC for the French regional and suburban services and offer it in various permutations of diesel and bi-modal formation.

IEP bi-modes would be the first 125mph/200kph bi-modal Intercity trains in the world. The AGC compromises on speed and acceleration to achieve 'go-anywhere' functionality. New and untested technology introduces risk and cost and therefore seeking lessons learned internationally where similar technology has been deployed is desirable.

One of the review team visited France to experience these trains first hand and consider what useful comparison can be made to inform the present programme. In summary, performance issues exist with the bi-mode trains that would result in longer journey times than those achieved with the trains they replace.

Whilst technically plausible, nowhere has it been demonstrated that bi-modal trains can achieve an acceptable optimisation of:

- ***'Go-anywhere' functionality***
- ***Satisfactory performance***
- ***Value for money***

Figure 2. Dutch High Speed Rail: HSL-Zuid

In 1984 a group was set up to link Paris, Brussels, Köln and Amsterdam with high speed rail lines. The Dutch route was defined at 125 km in length, with most on dedicated high-speed track suitable for 300km/h trains. The Dutch government directly managed the infrastructure construction but competitively tendered a 15 year franchise with responsibility for services and for the specification and operation of new trains.

IEP is similarly complex, comprising train procurement and major infrastructure upgrades (electrification), and involving the transfer of risk to private companies. The Dutch Government-managed element (infrastructure) suffered a two-year delay, along with major scope and thus cost overruns. The private company-managed train procurement suffered delays of at least four years.

In both the Dutch programme and IEP, the rationale changed numerous times and the programme suffered major scope change and corresponding cost overruns and programme delays.

Transformational change involving integration of infrastructure, rolling stock, and technology upgrades entails high risk and requires effective management informed by international experience.

Figure 3. Australian Contract Structure: Rail Corp

The PPP project in NSW was signed in 2006 for delivery of 624 new carriages (78 x 8-carriage double-deck commuter trains) to replace older trains without air conditioning on Sydney services. The contractual arrangements are very similar to those proposed for IEP, with a detailed specification and complex performance regime. There is a 'no train, no payment' principle for every train required in service for the 25 year term of the contract; IEP would be for 27½ years. The debt/equity ratio of 94/6 reflects the easier financial climate in 2006 than in 2010, as the ratio for IEP is 85/15.

The supplier declared a delay of five months at the end of 2009, followed in March 2010 by downgrading of the company's credit rating (effectively from investment grade to low grade) due to concerns surrounding its funding profile.

Despite the lower risk arrangements that the PPP project has operated under in comparison to IEP, it has suffered delays and has not been able to maintain its credit rating. This demonstrates the risk of this sort of arrangement for new train projects.

Even in good economic times, novel contract structures do not immunise projects from risk.

Figure 4. Consultation with International Manufacturers

In the course of our work we learned that government officials in France and Germany meet informally with the rolling stock manufacturers and industry supply chains to discuss future orders for new trains.

These discussions take place with each company separately but allow the companies to declare the orders that they have in their factories and the available space and timescales that they have for further new orders.

This information allows the state-owned railway companies to time the procurement of new trains to align with available manufacturing capacity across one or several of the manufacturing and supply chain companies; this drives a more competitive price for the new trains as each company obviously wants to fill the spare capacity of its factories rather than bid for work that falls when they have little or no capacity.

Consultation with manufacturers and industry supply chains in this way makes sense both in terms of engaging with key stakeholders and in ensuring that the timing of future new train procurements aligns with capacity in the factories to drive the best price for the new trains.

Conclusions, lessons and ways forward

Coming to a view

I was asked by the Secretary of State to review the value for money and the credibility of IEP, as set out in the introduction to this report.

IEP is by its nature a mould-breaking initiative. It is ambitious and forward-looking, seeking to bring together a range of financial, technical and passenger-experience elements not brought together in this way before. What is clear is that the lessons of this experience will be of value for the future.

In this final part of the report I present my overall reflections on the programme, and some potential lessons for the future.

My team and I have received a great deal of information and heard the range of perspectives on IEP currently in play; we have used the time allotted to assess this information and these perspectives, and to consider the scope for examining further alternatives to IEP. Throughout the process I have sought to be open, balanced and objective.

There are positive things to say about the programme, which I summarise first.

Positive points

Although there may be issues with the management model adopted by the Department, it is clear that the professionalism, skill and effectiveness of the independent expert advice and consultancy services it has commissioned have been of a good standard.

I was impressed by the meetings we had with Hitachi (Agility Trains). Their proposals and the deal that awaits closure seem to me to have the potential to be transformational.

The deal could prove to be transformational in the first place because of the proposed funding arrangement (although it remains to be tested in practice): IEP trains would be paid for when they are available so that downtime risk falls entirely to the Train Service Provider. This is a sign of the confidence Agility Trains has in its product. From the DfT perspective, financial incentives are unusually well aligned with desired outcomes.

IEP proposals are transformational too because of the potentially positive impact on passenger capacity. The flexibility and impact on capacity built into the IEP specification is potentially significant. Faster acceleration has a positive impact on network capacity, and longer (26m) carriages increase train passenger capacity. Flexibility and responsiveness to the needs of different types of passenger have not been operationalised in this way before, although there may be issues about realising the potential capacity benefits.

IEP specification has taken network sustainability and environmental imperatives seriously. Analysis suggests that the distributed traction design (using modular passenger carriages with a mix of electrically powered and unpowered axles distributed down the train) causes less track and environmental damage than a traditional pulling-locomotive model.

In the five years since IEP was conceived, the economic and policy context has shifted significantly. Global economic crisis has impacted on capital debt markets, and the impact of recession in the UK has meant a drop in the expectation of passenger growth. There have also been important developments in rail policy. Inevitably, the IEP specification has undergone changes during this period so that the programme currently looks rather different from the original plans. The IEP team has persevered determinedly through these changing times.

The programme continues to be assessed as providing acceptable BCR value for money, albeit significantly lower than originally predicted. However, since the inception of the programme, a number of factors have affected the balance of risks and gains and this is the context within which my more critical reflections should be received.

More critical points

The IEP's performance in the Departmental Benefit to Cost Ratio assessments has depreciated from exceptionally high to the threshold of medium-to-high. I have offered a view on the adequacy of judging VfM, and the way forward, on the basis of a potentially narrow BCR and suggested a broader approach. Nevertheless, the fact is that IEP's BCR has fluctuated and, overall, deteriorated. This gives cause for concern.

The bi-mode element of the IEP train is new and untested in terms of the functionality that would be expected of it. The only comparable example we found was in France, where bi-mode trains are used for a quite different purpose on regional (TER) services. It seems relevant that in 2004 the National Audit Office concluded that 'most new vehicles (trains) have experienced multiple problems that take time to rectify and eliminate'. This adds significance to the lack of relevant international experience of bi-mode operation.

Despite a positive impression of the Hitachi/Agility Trains proposition, technical concerns about the bi-mode specification remain (alongside concerns about its untested novelty). A number of experts have doubts about the bi-mode's likely performance, particularly in the hillier 'off-wire' regions where they will be called upon the most. Surprisingly, I found that there would even be increases in some journey times.

It seems that the railway industry has serious doubts about the IEP programme, possibly in part because it has not been communicated well to stakeholders. It is reasonable to think that the industry's present stance could increase the challenges of implementation.

I am not convinced that the key IEP objective of increasing both train and network capacity will be fully realised because the current plan has shorter trains than originally envisaged, and some with reduced performance off-wire.

These factors temper my positive reflections on IEP. Ultimately, the pulling together of untested variables – financial because of the funding model, technical because of bi-mode, and consumer focused because of the diversity of passenger needs - has implications for the programme's balance of risk.

Moreover, the *affordability* of IEP, as distinct from its VfM, will now have to be appraised against a very different and demanding economic landscape. A programme may promise excellent value for money but with costs that exceed the resources available: changes will be made in public spending not because it is necessarily ill-judged but because it cannot be afforded.

This raises a question mark over the wisdom and practicality of continuing with IEP in its current form.

I suggest therefore that a pause for further reflection and analysis is needed, including a serious comparative analysis that reassesses the current IEP proposition in an absolutely up-to-date VfM analysis which includes the range of credible alternatives. This should take no longer than six months.

The alternatives

The IEP specification is a response to a broad and ambitious set of strategic objectives which, it was argued, only a bespoke solution could meet. Yet the shifting economic and passenger-growth context, and the changes they have precipitated in specification, has led my team and me to re-examine both the justification for this approach and the potential alternatives available (see Annex for detailed examples). They include short-term IC125 refurbishment, which would be technically feasible and cost-effective, perhaps coupled with a 'pick and mix' approach that selected the most affordable and best-fit longer term solution for each group of passenger services, based upon available and proven off-the-shelf electric trains rather than a single IEP solution.

Existing stock will need to be replaced in the short-to-medium term. Their specification would ideally allow manufacturers to tender a development of their existing product range. This would encourage a competitive and cost-effective procurement process.

Lessons and thoughts for the future

Whatever is decided about IEP, there are clearly very constructive lessons to be learnt from the experience of taking it this far.

Industry engagement

If large scale procurement is likely to remain a feature of life for DfT, it would be useful to conduct a systematic review of the IEP experience to see what lessons can be learned. It seems clear to me that there is still room to develop a more open, engaging, partnership orientation with external organisations in line with the conclusions of the 2007 Capability Review.

In particular, there is a pressing need to ensure that experienced railway engineering managers, with commercial experience, are actively involved in the key decisions in procurement processes. One possibility to be explored would be the idea of an independent procurement agency that could bring railway managers together within a framework agreed by government. This might provide a way of balancing the competing interests of funders and the operational focus of train companies.

Confidentiality-protected partnering

There might usefully be some rebalancing of priorities between legitimate commercial confidentiality requirements and the transformational value of excellent inter-organisational relationships. How far (within UK and EU rules) could DfT go down the road towards a joint venture model, moving away from an over-cautious procurement model with the Department holding tightly onto all the reins? A review of this sort could be conducted in the spirit of the direction of travel it seeks by involving externals who have experienced the IEP programme. It should aim to learn, not blame.

Internal skilled resource

Aside from the considerable cost, engaging external advice puts effective joined-up programme management at risk of becoming fragmented and misaligned. For the future, it seems that DfT would benefit from continuing to put effort into addressing the recommendation in the 2007 Capability Review to secure skilled resource internally, and to reduce its reliance on external advisers.

International comparisons

I have suggested that we should be learning more energetically from, and contributing to, international experience and expertise. This kind of engagement would almost certainly bring benefits to research and development and in terms of standardisation, as well as fostering a comparative awareness that could lead to greater competitiveness. Such a culture could be systematised within the department, with ongoing high-level commitment.

Value for money

About IEP specifically, I have already mentioned that making a rigorous analysis of the value for money it represents has been challenging, and that my team and I sometimes struggled to make sense of the multiple changes to programme specification, and their effect on the BCR upon which VfM assessment is based.

Given these difficulties, we have suggested some additional criteria against which a case for VfM and programme credibility could be measured. Using this framework and the information available, my team conducted an analysis of credible alternatives to IEP and early work suggests that they could provide sufficient benefits in the short-to-medium term, with a lower cost and risk profile than IEP (see Annex). These alternatives warrant serious scrutiny within an up-to-date VfM assessment alongside IEP.

Conclusion

At the end of the earlier section on value for money I asked why a programme which has passed its technical VfM tests is regarded so negatively. I have suggested that there are three types of reason for this: first there are unresolved technical questions, secondly it is not clear that all the potentially viable alternatives to IEP have been adequately assessed, and thirdly there are some issues around DfT's management approach and its engagement and communication with the railway industry.

In short, there is a good deal about the programme as it stands that is unresolved, unproven, uncertain and carries risk.

I suggest a pause for reflection and a fresh, detailed VfM analysis including credible alternatives to IEP. This period of reflection should also encompass the wider questions I have raised about aspects of management and overall strategy, and the evolution of a fully fit-for-purpose delivery approach. It should be framed by aims and objectives appropriate to the current fiscal context.

There has been much to be learned and retained from the programme and it is crucial that the lessons from IEP thus far are incorporated into the next stages of development.

Appendix

Perceptions

This section conveys in summary, and without comment, some of the themes that emerged from our consultations. They helped to inform and shape my views but no assumptions should be made about the extent of my agreement with what was said.

Passenger experience

It is axiomatic that public services must be built around the needs and wishes of service users, in this case the passengers. Some of those we spoke with were not convinced that this has been a driving consideration of IEP. During our consultations the point was frequently made that passenger requirements are not homogeneous, but vary according to the type of journey they are making: commuter, interurban and long-distance markets require different service offerings, although with some common standards. Some questioned the extent to which the programme has attended to these customer focus considerations in its promotion of a single, albeit flexible, new train solution.

DfT Strategy

A perception emerged in our discussions that the Department for Transport's strategic positions have been susceptible to change, which has sometimes been unpredictable or poorly understood. It was suggested that strategy is at times fashioned, and refashioned, to reflect what is actually happening: that it is a pragmatic reflection rather than a guiding framework. A number of interviewees likened DfT strategy to a moveable feast, and one to a slippery bar of soap.

One or two people suggested that policy instability, which can be especially damaging in a sphere of operations that involves long term investment and long life infrastructure, might reflect the frequent changes there have been in the Department's political leadership. There have been 33 Secretaries of State for Transport since WW2 including eight since 1997, and this report will be presented to the fifth Secretary of State to have served during IEP's lifetime.

The examples of strategic shift most commonly given were twofold: the decision announced in July last year (and widely welcomed) to electrify the route from London to Bristol, Cardiff and Swansea, and the line between Manchester and Liverpool; and the commitment announced in December to proceed with the development of a new high speed rail network. Questions arose in people's minds about the extent to which these developments, running in a different direction to the 2007 White Paper, interact with IEP and whether their impact has been fully assessed. With electrification in particular, the question was asked: has the remit of IEP been adequately rescoped?

Some people questioned the relationship between the IEP and overall DfT strategy. How for example is IEP, characterised sometimes as a 'one-size fits-all' new train, to be reconciled with the strategic segmentation model which distinguishes between commuter, interurban and long-distance journeys, with different passenger and train requirements? Even more fundamentally, people asked to what extent the IEP was 'transformational' in its goals, aiming for whole service improvement and not solely train replacement?

Management and communication

There is a widely held view that the programme management approach adopted by DfT has not been ideal. In summary, industry stakeholders feel unengaged and distanced from IEP.

The management approach is seen to have changed during the programme. At its inception as HST2, the level of consultation and engagement with the industry was high and well regarded. The turning point is felt to have been the launch of formal procurement in 2007. From that point, the industry experienced a growing sense of marginalisation.

There is a widespread opinion that the Department's communication with the industry has not, in recent times, been effective. There is dissatisfaction and disappointment, and a belief that opportunities to enrich the programme's development through wider stakeholder engagement have been missed. People feel like they have been 'heard but not listened to'.

Technical issues

Bi-modality

We repeatedly heard concerns about the bi-mode element of the new trains. There are concerns about the capability of a single diesel generator carriage to power long-distance through-trains, especially in the often hilly regions in Scotland and the South West peninsula where they would be most called upon in the absence of electrification.

Bi-mode trains are regarded as an untested and risky innovation for long-distance travel.

People argued that the alternatives to a bi-mode IEP have not been comprehensively specified or assessed on an equal footing. No Plan B is seen to have been convincingly sought or specified.

InterCity 125 life-extension

Assumptions that the IC125 was life-expired and would not be able to operate beyond 2020, because of significant technical risk in meeting compliance requirements, were questioned.

It is a legislative requirement within the UK that all trains operating after 2020 must be compliant with regulations concerning access for people with reduced mobility. Current work in progress within the rail industry is said to show that the carriages can be re-engineered largely to comply with these regulations. Practical and pragmatic solutions also exist for those few areas where absolute compliance cannot be achieved.

Capacity

Some consultees questioned how much greater, if at all, the passenger capacity delivered by IEP, as now proposed, would be than that of today's trains. Indeed it was claimed that, on the Great Western Main Line, the number of seats proposed in off-peak hours at the inception of the full IEP service would in some cases be lower than it is now.

Concern was also expressed about timetabling. Forecasts of the rate of growth in demand have been revised downwards. We were told the intended response is to maintain planned train frequency and reduce train lengths. Timetabled frequencies, we were told, would require almost 100% utilisation of network capacity, putting unsustainable pressure on day-to-day operations. Fewer but longer trains would be preferred.