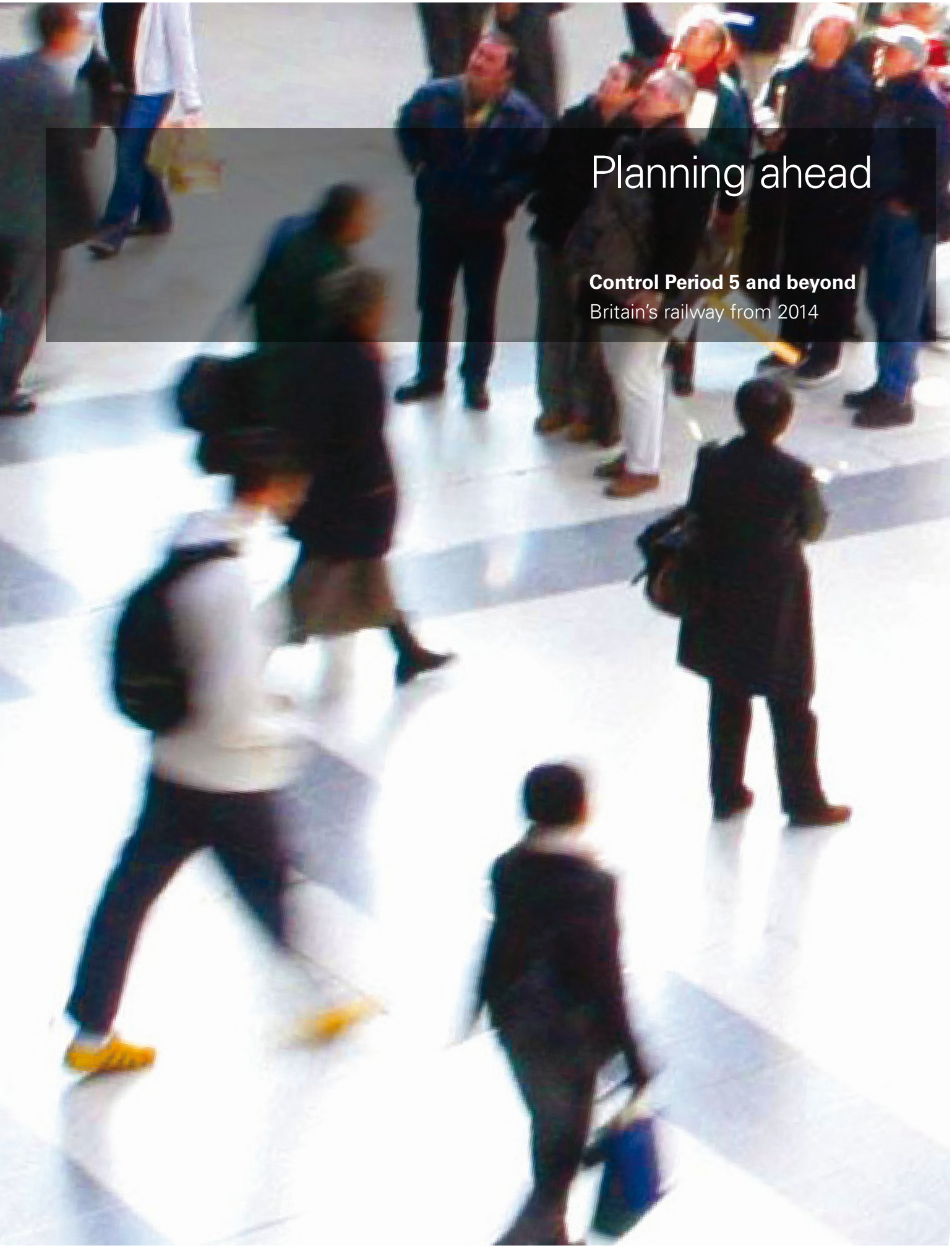

Planning ahead

Control Period 5 and beyond

Britain's railway from 2014

Network Rail

Train Operators Working Together ATOC

Rail Freight Operators' Association

Contents

Britain's railway is more popular than it has ever been. More punctual than at any time since records began. Safer than any other form of transport. And it is one of the lowest carbon forms of transport.

Over the next five years (2009–2014) the industry will work together to increase capacity, improve services and modernise the railway for the benefit of all those who use it. Passenger and freight operators are committed to a range of specific improvements and nearly £12bn will be invested in enhancements through Network Rail. And we will be looking for innovative ways of improving efficiency to make further investment more affordable.

But we need to look beyond 2014 and think about rail in a wider context to inform decisions about what outputs are required. Despite the current economic situation, demand for passenger and rail freight services is expected to double over the next 30 years and possibly triple beyond that. A strategic, long-term approach is needed to ensure the network can accommodate this growth and in turn help to drive our economy sustainably.

This is the first in a series of documents in which Network Rail and the passenger and freight operators set out our vision for the railway of the future and our approach to the planning and development of a 21st century railway that will benefit passengers, freight users and Britain as a whole.

Executive summary

The rail industry is a success. There are even more passengers than in 1946, on a network half the size, and these passengers are increasingly satisfied with their travel experience. Rail freight has grown by more than 60 per cent since 1995. Trains are more punctual than at any time since records began and rail is now recognised as the safest form of transport. There is widespread recognition of the benefits the rail industry brings to Britain, and support for its continued development.

A few weeks ago, Network Rail published its Delivery Plan for Control Period 4 (CP4: 2009–2014). Over the next five years, passengers and freight users are set to benefit from nearly £12bn of investment to enhance the network, as well as other improvements – including those committed to by passenger operators as part of their franchise agreements. The whole industry is determined to work together to improve the railway for the benefit of all those who use it.

As well as delivering over the next five years, the industry must look well beyond 2014. Over the next few decades, notwithstanding the current economic climate, the demand for passenger and rail freight services is set to rise. A return to economic growth, increasingly congested roads and skies, and a commitment that the UK cut its carbon emissions by 80 per cent by 2050 all point to a doubling in rail demand over the next 30 years, and possibly a tripling beyond that.

All players need to work together to realise this potential, so that users choose rail and its strengths in terms of speed and ability to move large volumes of traffic efficiently, rather than having little alternative but to do so. Over time, the rising expectations of passengers and those who want to move goods by rail, in terms of service quality, mean our industry must respond accordingly.

Concerted action to deliver and co-ordinate the necessary increased capacity, new technological opportunities and better environmental performance will be key if rail is to match those expectations. For passengers in particular, developing the network needs to be part of a wider agenda to make rail easier to use, through improvements in areas such as information and ticketing.

The industry needs to do this while also focusing on improving affordability to rail users and taxpayers, by challenging processes and by optimising the overall system rather than its constituent parts. And rail must be developed as a core part of a more fully-integrated transport system, which in turn needs to be joined up with wider government planning in areas such as energy, housing and land use. The current economic conditions further highlight the need for all parts of the industry to focus on innovative and affordable ways to meet Britain's transport needs.

The timescales involved mean we need to start planning ahead for this future now. The Department for Transport and Transport Scotland have already begun to plan for Control Period 5 (CP5: 2014–2019). Network Rail, passenger and freight train operating companies (TOCs and FOCs) are fully committed to engage in this process, but we firmly believe that the industry and its wider stakeholders also need now to set out a longer-term vision of where rail wants to be in 30 years, informed by what its customers need, so that we plan properly for the medium term represented by CP5.

The industry will work together to inform longer-term decisions so we can continue to build on success in delivering a railway fit for the 21st century.

This document is the first of a series that will set out and develop that vision, and the approach we will follow to develop plans for CP5 that will help us make it a reality for the benefit of passengers, freight users and Britain as a whole.

This is not about creating a plan with 30 years' worth of firm commitments to specific projects, based on a simplistic 'predict and provide' approach, but instead developing a long-term framework to set the context in which the industry and its funders can plan ahead effectively.

Our vision as an industry is of a railway of which Britain can be proud, acclaimed as one of the best in Europe and delivered by people who take evident pride in what they do every single day. This means a railway which:

- continues to be the safest form of transport;
- is designed to meet the needs and expectations of passengers and freight customers;
- provides simple, flexible and competitively priced services;
- is seamlessly integrated with the rest of the transport system, allowing rail to complement and compete with other modes;
- continuously improves in giving value for money to those who use it, and to taxpayers; and
- brings clear benefits to the environment, economy and society of Britain as a whole.

This vision needs to be supported by a framework that sets out broadly:

- what the railway should aim to deliver over the next decades in key areas such as increased capacity, better punctuality and the overall quality of service, based on a sound understanding of rail users' needs; and
- how it should be delivered, for example in terms of improvements to the network, rolling stock, stations and integration with other modes.

The industry is already working together in many of these areas. In some cases conclusions are already emerging; in others more work is needed, such as truly understanding passengers' expectations. This document adds value to those workstreams by signalling the intent of Network Rail, TOCs and FOCs to work with others to draw together this work into a coherent whole.

In June 2010, we will publish a long-term planning framework which incorporates an initial view of the options for CP5, to inform the development of the High Level Output Specifications, due in 2012, by governments in England & Wales and in Scotland. This is a collaborative process, and will involve governments, other funders, our suppliers and key industry stakeholders.

These are exciting times for the railway. The successes of recent years have become the foundations for the largest programme of investment in the railway for generations. Now the industry will work together to inform decisions about the longer term so that we can continue to build on this success in delivering a railway fit for the 21st century.

1. Introduction

1.1
The railway by 2014

Over the last 10 years, there has been substantial growth in both passenger and freight demand of over 40 per cent. Punctuality and safety are at record levels; and passenger satisfaction with rail, as measured by the National Passenger Survey, has increased consistently.

Further improvements in customer service are planned by 2014 as new franchises are let and as long-term initiatives, for example on staff training and station refurbishments, bear fruit. The 1,300 new vehicles promised in the Department for Transport (DfT) High Level Output Specification will increase the size of the national fleet by 12 per cent.

The largest ever rail enhancement plan will be implemented in CP4, the main features of which will be:

- Thameslink, offering metro-style frequencies on a key North-South London route;
- peak train lengthening on many routes into London and other cities;
- the East London Line extension, a project in which both Transport for London and Network Rail have key roles;
- freight capacity and gauge enhancement to routes linking international gateways and conurbations;
- a substantial capacity upgrade on the East Coast Main Line, including investment to allow freight trains to use the route between Peterborough and Doncaster via Lincoln, thus relieving the main line;
- Glasgow Airport Rail Link;
- introduction of Super Express trains, offering more seats on busy long distance routes;
- reconstruction of the railway lines at Reading to relieve this major bottleneck; and
- a much improved station at Birmingham New Street.

We will continue to improve the way in which the industry works together to deliver better services to passengers and freight customers.

As a result, by 2014 there will be substantial increases to capacity in some areas; punctuality will be at its highest ever level; and safety will be further improved. The industry's costs will also be significantly reduced.

We will also continue to improve the way in which the industry works together to deliver better services to passengers and freight customers. By 2014, the privatised rail structure will have been in place for two decades, and the work being done by TOC, FOC and Network Rail Boards to build better working relationships both within the industry and with funders will have improved the ability of the industry to handle major change and implement major projects.

Rail is, of course, not immune from the economic cycle. Current economic conditions are slowing the growth in rail demand, which over the whole CP4 period may be slower than envisaged in the HLOSs (published just before the downturn in financial markets started in August 2007). But the HLOSs were themselves based on slower growth than was actually seen at the time and rail demand is still ahead of the DfT's projections.

So the improvements outlined above will still be needed, despite today's economic conditions, because they address problems that already exist today. By 2014 we will have made significant progress. But we will need to build further on this over the next 20–30 years.

1.2
Beyond 2014: the need for a long-term planning framework

Looking beyond CP4 and current economic conditions, the fundamental drivers of rail growth over the last 15 years are set to continue:

- rising wealth and international trade;
- provision of higher quality and faster train services;
- increasing urbanisation and development of city centres, both in London and the regions; and
- rising road congestion and environmental concerns.

The long-term outlook for rail demand is therefore strong. Indeed, DfT set out (in its 2007 White Paper) an ambition to double both passenger and freight demand over the next 30 years. As in other areas of transport, a simple 'predict and provide' approach to satisfying growth in demand will not always be appropriate and, given competing calls on resources, there will be a need to prioritise those initiatives which deliver significant value for money. But factors other than just growth will drive change over the coming decades:

- customers' expectations will develop, for rail as for any other service or product;
- the need to improve cost efficiency, through incremental and more radical measures, will drive major changes. Technological developments such as electrification, new rolling stock, smart-card ticketing, cab-based signalling, together with initiatives for example to develop the range of skills in the workforce, may substantially reduce costs (as well as improving many aspects of customer service). But such changes require a long-term strategy, reflecting their long-term nature and the interactions between them;
- given the UK commitment to an 80 per cent reduction in carbon emissions by 2050, rail's advantages in this area (e.g. it generally emits significantly less carbon per passenger-mile, and per freight tonne-mile, than other modes) underline the importance of integrating rail fully within wider transport networks, not least as an opportunity to attract demand from other, more carbon-intensive, transport modes; and

- as transport networks (of all modes) become busier, there will be added need to plan rail as part of an integrated transport system, and to co-ordinate transport with the planning of land use and development.

The existing rail planning process is centred around the five-yearly High Level Output Specification (HLOS)/ Periodic Review process, and around the competition for franchises. The HLOS process was used for the first time for CP4, and was an improvement on previous processes through its focus on what the railway as a whole should provide, and at what cost. Significant improvements, particularly on passenger-facing elements such as staff training, station condition and better rolling stock have been delivered through the franchising process. And many future improvements can be planned in the same way.

However, rail is inherently a long-term industry, with asset lives of 30–60 years or longer. Given the scale of changes over the coming decades, it will be inefficient to plan for the future in isolated five-year periods, or franchise by franchise. This was not such an issue in CP4, as the key initiatives were relatively clear. Looking forward, however, tackling immediate problems by short-term incremental solutions only makes proper sense if done within a clear, longer-term context. There is therefore a need for a *long-term planning framework*, setting out:

- a long-term vision of the railway (notionally 30 years ahead, say);
- what this means in practice – a view of what outputs the railway should deliver in order to realise this vision, and meet the needs of rail users and society alike; and
- how this could be done – in broad terms, the solutions (or types of solutions) that should be used to deliver these outputs.

Such a framework will have clear benefits. It will enable investments to be considered, not just in isolation, but also in the context of where we expect and want to be in 30 years' time. This may mean some investments will be better value for money (because they are part of a wider plan), and some will be worse (because their value is diminished in a broader context). It will give certainty to the industry's supply chain, encouraging it to increase capacity and reduce costs. And transport planning will be much more effective if bodies such as Passenger Transport Executives and local authorities have clarity over more than five years. Ultimately, it will enable the industry to deliver what its customers want, and to do so more efficiently.

Rail is inherently a long-term industry, with asset lives of 30–60 years or longer.

It is important to emphasise that a long-term framework does not mean a '30 year plan' of firm commitments to projects many years into the future. Choices still need to be value for money, and affordable. And the framework will need to be flexible, to take into account the inevitable uncertainty in any view of the future. But it does mean knowing broadly where we are going, in order to make the right decisions now.

1.3 Purpose and scope of this document

This is the first in a series of documents in which the industry – Network Rail, TOCs and FOCs, working together – will set out its plans to deliver a railway which meets the needs of rail users and society through CP5 and beyond.

This document sets out our current view of what a long-term planning framework should cover, and the work that we are doing to develop it. It does not address all of the challenges facing the rail industry, but instead focuses in particular on those issues which will most directly shape the future network and which require a long-term view in order to be addressed effectively.

It is clear that, in addition to work already under way, we need to understand better what rail users will expect in the longer term, and to establish the key outputs that the industry should deliver in serving its customers. By June 2010, we will bring all this work together and publish our view of a long-term planning framework for rail, together with initial views on options for CP5. Those options will in turn be developed into a draft Strategic Business Plan for CP5 by June 2011 and then in more detail following the 2012 HLOSs.

The work that we will do over the next 2–3 years will cover the whole of the rail network. The network is, of course, funded by a number of different governments and authorities – the Department for Transport, Transport Scotland, the Welsh Assembly Government, Transport for London and the Passenger Transport Executives – and each has its own approach to rail planning. We will work with them to ensure that each gets the best possible industry input to planning decisions for CP5 and beyond. We also want to work closely with Passenger Focus and the Rail Freight Group to integrate their perspectives on the needs of rail users.

2. Our vision for the railway

We want to see a railway of which Britain can be proud, acclaimed as one of the leading rail systems in Europe and delivered by people who take evident pride in what they do, day-in, day-out. The railway will be more customer-focused and as a result will have increasing market share and satisfaction ratings, marking its transformation into a network that is integral to a broader transport system fit for the 21st century – not just serving the needs of passengers and freight users, but providing wider value to Britain as a whole.

2.1
Improvements for both passengers and freight users

Customers – passengers and freight users – are at the centre of our vision for the railway, and many aspects of our vision relate equally to both groups. The vision is to meet customers' needs safely, reliably and efficiently, encompassing:

- a continued focus on safety, building on rail's position as the safest form of transport, further reducing risk to passengers, the workforce and the public generally;
- punctuality even better than now, so that 'in Britain, the trains are always late' becomes a memory rather than the perception of today;
- a major increase in passenger and freight capacity, doubling over 30 years and tripling in the longer term so that travelling, even on commuter trains, never feels cramped and freight need never go by road because there is no room on the railway;
- a network that is seamlessly integrated with the rest of the transport system at all levels (from local to international), allowing rail to offer users a full range of choices as both a complement and a competitor to other modes;
- a railway that is open for business when its customers need it and does not rely on buses to cover for line closures at times of maintenance;
- a railway that continues to bear down on cost and offer better value for money to customers and funders, by taking radical steps to challenge existing ways of working, make things simpler by design and make better use of technology;
- a workforce that is motivated, driven by customers and takes evident pride in what it does 24/7, every day of the year, so that rail companies are employers of choice for the quality of jobs and development opportunities that they provide;
- a railway that sets the standard in terms of its environmental impact, offers even better carbon savings against car, lorry and air than it does today, plays a full part in the reduction of national carbon emissions, and which substantially reduces its other environmental impacts; and
- giving passengers and freight customers the assurance that should things go wrong the rail industry will take responsibility and put things right.

Customers – passengers and freight users – are at the centre of our vision for the railway.

2.2
What passengers want

Passengers' core expectations are straightforward: a safe, punctual and clean train; a seat (except for very short commuting journeys); an affordable price; and good information.

Passengers also want a continuously improving rail service, as expectations rise with living standards and improvements in the quality of competing modes. It is important to look at the whole rail 'product' from the passenger's perspective, designing the full door-to-door journey and improving interchange and service integration to ensure that rail is easy to use and progressively becomes the mode of choice compared with air and road.

Our vision thus includes:

- journey time improvements, particularly on medium and long distance journeys;
- much higher levels of comfort and convenience, including reduced crowding and better travelling conditions in the peak;
- higher frequencies, particularly on parts of the network where there is no need to remember the timetable because the railway is a 'turn up and go' service;
- making it easier to buy a ticket, change trains and get to and from stations whilst providing information which is accurate and readily available; and
- a railway that embraces the needs of all its customers and, in particular, offers services and facilities that are fully accessible to people with reduced mobility.

2.3
What freight customers want

Freight customers – the companies that send their goods by rail – need a railway that is reliably available where it is needed, when it is needed. There must be sufficient capacity to meet demand, and journey times must compare favourably with road haulage, the principal competitor.

Simplicity and flexibility of the service to customers are equally important. The railway needs to be able to respond at short notice to requests; to be flexible both in terms of the goods that are carried and in the volumes required; and to provide a one-stop shop for end-to-end logistics. Customers want access to domestic and international services and for those services to be integrated with their production, manufacturing and distribution processes. And, as with passengers, all this needs to be offered at a competitive price.

Our vision thus includes:

- improved journey times between international gateways and major conurbations;
- an improved service to shippers of bulk freight, manufactured goods and logistics traffic which is attractive to domestic and international customers;
- rail connections to terminals and distribution centres, making rail a natural choice;
- an end-to-end service that is simple to use and flexible enough to meet users' needs; and
- increased market share from 11.5 per cent to 20 per cent of surface freight.

2.4
Wider benefits of the railway to society

By providing a better service to passengers and freight customers, the railway also provides wider benefits to society as a whole, including:

- congestion relief on roads and at airports, saving time lost stuck in traffic jams, on runways or in holding patterns in the air;
- improved productivity of the economy by offering business travel that is faster than the alternatives, allows productive use of travel time, and is low stress so that passengers feel ready to go at their destination;
- improved industrial competitiveness through the provision of efficient freight transport;
- support for the development of urban areas (taking pressure off greenfield development) by providing affordable mass transit directly into city centres;
- access to retail and leisure industries and in particular access for tourists to holiday and cultural destinations, making a significant contribution to the local economy in these areas;
- lower pollution and carbon emissions by displacing lorry journeys, car and air travel; and
- provision of approximately 150,000 jobs, either directly or in the supply chain.

3. The outputs that the railway should deliver

The vision is clear. The next stage is to say what this means in practice, in terms of outputs for the railway to deliver. This should recognise the need for improvement across the board, not just in areas where numerical targets might be set, whether by funders or the rail industry itself.

We will continue to develop our thinking on this during the next 12 months, but our current view is that the long-term framework should establish the outputs to be achieved in the following key areas:

- Safety;
- Capacity;
- Train performance;
- Availability;
- Quality of service;
- Carbon impact;
- Cost efficiency.

The following sections consider these in turn, and some of the trade-offs between them. The translation of the long-term framework into outputs for each Control Period will, of course, need to reflect value for money and affordability against spending plans at the time.

3.1 Safety

Safety – of passengers, the workforce and third parties – is, and remains, the top priority for the industry and we are continually working towards a vision of zero fatalities. Good work on long-term trends in rail safety has been done by the industry, supported by the Rail Safety and Standards Board (RSSB), and we envisage that this should continue in 2009/10, to develop long-term risk-based safety measures and targets.

3.2 Capacity

Lack of capacity at certain times and locations is constraining rail's ability to meet passengers' and freight customers' service expectations. Expected growth in three markets – inter-urban passenger, urban passenger and freight – will only exacerbate this problem:

- the Network RUS[1] recently concluded that, under the most probable scenarios, inter-urban passenger demand (which has grown strongly over the last 10–15 years) is likely to nearly double over the next 30 years, due to both overall market growth and an increase in rail's market share. This conclusion does not take into account improvements in rail services, which would stimulate additional growth. With little remaining capacity on many of the key routes and TOCs already using discounted fares to make better use of off-peak capacity, substantial increases in capacity on inter-urban routes will be needed in the long term;
- crowding on commuter services into London, where rail has a dominant market position, is already widespread: more than 100,000 people stand on National Rail services every morning. Even modest demand growth causes problems and the longer-term prospects for growth remain strong as London looks to sustain its role as a major world city. Reducing crowding on commuter services, rather than simply preventing it from getting worse, presents a major challenge;
- commuting into many cities outside London, meanwhile, has grown very strongly in the last 10–20 years, so that in some of the largest cities rail now has a significant market share and crowding levels on some routes are similar to those around London, albeit on a much smaller scale. Non-London commuting could double over current levels within 20 years (a much lower rate of growth than that seen in many cities in the past), adding to this problem; and
- rail freight demand (measured in tonne-km) has grown by 60 per cent in the last 14 years as the sector has responded to major changes in freight flows and played a full part in the increasing internationalisation of freight demand. Freight customers and shippers are set to take further advantage of the convenience, speed and environmental benefit offered by rail. Continued rail freight growth in the international market and in moving many commodities means demand is forecast at least to double over the long term. This will partly be overall market growth, but a substantial part of it will be due to mode shift from roads, with the potential for rail to increase its modal share towards 20 per cent.

Overall, compared with today, demand could potentially double and, in the longer term, triple. Delivering extra capacity to accommodate this scale of increase will be a key output and will take decades to achieve (as in other major European countries such as France, the Netherlands and Switzerland which have expanded capacity substantially).

Establishing what needs to be done on capacity, however, will also rely on good analysis and clear decisions. The scale and location of any extra capacity needs to be tested against what rail users are likely to require (we plan, for example, to put together a more precise view of where increased inter-urban route capacity might be needed). Although the markets described above are separate, many parts of the network serve more than one market, so they need to be considered together and judgements reached about the best way of meeting the needs of multiple users. Eliminating standing entirely at peak times on busy urban networks is unlikely to represent value for money and judgements will need to be made on how far to tackle this issue. We intend to consider these sorts of issues as part of the next steps of our work.

3.3 Train performance

A reliable train service is a clear customer requirement and by the end of CP4 train punctuality is set to be at an all-time high.

We will then need to resolve several issues. How much better should performance be? What aspects of performance are most important to rail users? And how important are further improvements in performance, compared to other outputs?

Until recently, the industry has tended to focus on average performance, measured across all trains. However, as average performance continues to improve, the next stage might be to focus more on preventing long delays to individual trains, rather than on the average level of delay to all trains. This would put a different emphasis on performance planning and management.

There is also a need for a strategic view of the relative importance of performance compared with other goals, in particular the need to run more trains. Although we will always aim to improve both – i.e. to run more trains and improve punctuality – at the margin there is always a trade-off: the more trains that are run, the longer it takes the system to recover from any delays.

1 See the Appendix for details of the Route Utilisation Strategy (RUS) programme

Over the next 6–12 months we will work to develop a clearer picture of long-term performance goals and trade-offs, as well as the ways performance might be measured in future.

3.4
Availability
(towards a seven day railway)

An important part of making the railway truly customer-centred is being open for business when customers need it. Passengers expect to travel by train, not by a rail replacement bus service; and freight customers expect to be able to get their goods when they need them.

What this means in practical terms may differ from route to route, but in general (and particularly on busier routes) it should mean a network that is open virtually seven days per week; and which is sufficiently flexible, for example in terms of diversionary routes or arrangements for single line working, that both passenger and freight services can operate when customers require them during engineering work.

3.5
Quality of service

Rail travel is about more than capacity and punctuality: the ease of making the journey, frequency, journey time and the level of customer service received are also important features, but ones that have not always received the attention they deserve in recent rail planning given the pressures of a crowded network. Quality includes not only the more easily measurable factors such as journey time and frequency, but also other aspects of service such as comfort, information, ticketing and integration with other modes of transport.

We must also continue to increase the accessibility of the network to people with reduced mobility. This is likely to become even more important in future with an ageing population, but one that is both mobile and with disposable income for travel.

A great deal of data is collected and analysed about some of these issues, but there is room to do more to build up a much fuller picture of what is wanted by passengers as well as, crucially, those who use rail only rarely or never. There is some good research by Passenger Focus on passenger needs, but we believe that development of a durable long-term planning framework requires some more specific work to understand the market more fully, what trade-offs exist and views on the route to pay for improvements, either through taxes or fares. We propose to commission this as part of the next stage of our joint work.

3.6
Carbon

Passengers and freight customers rightly expect rail to live up to its role as a sustainable form of transport. The Government's target is that UK carbon emissions should be reduced by 20 per cent by 2020, and 80 per cent by 2050.

Rail has a major role to play in this by:

- improving its offer, so that it progressively takes a greater share of the transport market from modes with higher carbon emissions;
- continuing to reduce its own carbon footprint per unit of output, through measures such as widespread use of regeneration to recycle electricity from the braking of trains; and
- selectively, to match output to demand more effectively, perhaps by running shorter trains at off-peak times.

The DfT has a welcome intention to specify an environmental output in the next HLOS. One challenge will be to do so in a way consistent with the long-term trends which will significantly influence rail's potential as a low carbon form of transport, such as the growing demand for rail, its scope to attract traffic from more carbon-intensive modes and dependencies on developments in the energy supply industries. Assessing the implications of these trends will be important in setting out what our ambition should be for rail's contribution to a low-carbon economy in future decades.

3.7
Cost efficiency

A key part of our vision for the industry is to continue to drive down costs whilst improving services, so providing much better value for money for customers and funders. Opportunities exist to cut costs not only through incremental measures but also more fundamentally by:

- challenging existing industry processes;
- using new technology to reduce costs; and
- designing infrastructure, trains, and other assets to minimise whole-life, whole-system costs, not just immediate costs to one party.

We will drive down costs whilst improving services, so providing much better value for money for customers and funders.

In its Delivery Plan, Network Rail set out its plans to reduce its costs substantially over CP4 (with further improvement over CP5 and beyond). Changes will include the development of asset management policies to minimise whole-life, whole-system costs; greater efficiency in delivering maintenance and renewal work; improving operational control through greater use of technology; and the creation of a single centre to integrate most of Network Rail's national functions.

TOCs and FOCs have to trade profitably and also have strong incentives to reduce their costs. The combination of increasing revenue and cost efficiency suggests that in future a third of the franchises could potentially require no subsidy, even after allowing for the direct payments of Network Grant that funders make to Network Rail. These include some of the inter-urban lines and a few of the commuter lines into London. This would be a substantial turnaround from the historic view that 'all railways are loss making'.

The advances made to reduce industry costs are major achievements but are no cause for complacency. We must remain focused on further cost-efficiency initiatives while consolidating the gains made to date (for example, by ensuring that investment to enhance the network is not made at the expense of reverting to under-investment in maintenance and renewal of the infrastructure). A priority in setting out a long-term framework for rail should therefore be to establish what might be possible in terms of further gains in cost-efficiency, benchmarking ourselves against railways in other countries and against other industries – and to ensure this helps drive choices about the types of solutions, reviewed in the next section, which might best deliver our long-term vision.

4. Solutions

This chapter sets out, at a high level, some of the solutions that need to be considered in order to deliver the outputs described in the previous chapter; and the work that is under way to develop these solutions in more detail.

The solutions highlighted are not exhaustive. They focus mainly on options to develop the railway network, which (in the case of passengers, for example) would need to sit alongside other initiatives to improve the overall experience of using rail.

More radical, longer-term options need to be considered.

4.1 Network enhancements

Growth on the scale that we expect will require widespread – and in some cases radical – changes to the network.

There is considerable pressure on the lines from London to the North and West, particularly where long distance services share the network with other services. Network Rail's New Lines programme has recently concluded that capacity on the West Coast Main Line will be exhausted by 2020; that there is a good business case for a new high speed line to increase capacity on this corridor; and that, after this, the Midland Main Line and East Coast Main Line are likely to be the next routes that will need extra capacity in one form or another.

In January the DfT announced the formation of High Speed Two (HS2), a company dedicated to examining in more detail the case for a new high speed line from London to the West Midlands. The company will be working closely with the industry and will report to ministers by the end of the year.

Many of the other main commuter routes into London are also close to capacity. In CP4, growth will largely be handled by running additional services and, where this is not feasible, by lengthening trains (and platforms). However, the opportunity to cater for growth in this way is approaching its limits on an increasing number of routes, where no more trains can realistically be timetabled and almost all peak hour trains are at the maximum length that can be accommodated without fundamental changes to the network. Examples are the South West Main Line, Brighton Main Line and the route from London Bridge to Kent via Tonbridge.

On such lines it may not be value for money – or even feasible – to accommodate further growth. More radical, longer-term options need to be considered such as new lines (or use of capacity freed up by new lines). More generally, the option of rethinking the urban railway needs to be looked at. On some suburban services, simplification of service patterns could enable increased frequencies, although we recognise that a choice of destinations and through trains is very much valued by passengers. And land use and transport planning need to be better integrated, for example by encouraging housing, business and leisure development in areas where the transport system has spare capacity.

These issues will be addressed by a London-wide study, as part of the RUS programme.

There are also significant pressures on routes outside London. In urban areas, there is often still significant scope to lengthen trains further. However, there are also a number of constraints that will need to be relieved if continued growth is to be accommodated. These include single line sections, long signal blocks and flat junctions close to urban centres, such as Manchester, Leeds and Cardiff. These constraints – and others, such as two-track sections with limited overtaking opportunities for fast trains – also limit the growth of inter-urban services, demand for which has grown particularly strongly on non-London routes over the last 10 years or so. These issues will also be addressed over the next 1–2 years, building on existing RUSs and on work such as the Manchester Hub project.

A substantial increase in freight demand will require substantial extra capacity, in particular on the approaches to ports and the Channel Tunnel, and on the key inter-urban routes (which will also be under pressure from growth in inter-urban and other passenger markets). Potential solutions here include the use of capacity either on new lines (such as High Speed One) or that is freed up by new lines, and substantial upgrades to existing routes (e.g. the Joint Line upgrade in CP4 to relieve the East Coast Main Line). It is important to consider diversionary routes so that FOCs can offer a comprehensive service to customers.

However, freight growth needs more than just extra capacity. It also needs capability, for example gauge enhancement. A long term, network-wide approach is needed here. For example, gauge enhancements are only useful once completed along a whole route, and there are then progressive network benefits as further routes are cleared to, for example, mainland European gauge. A long-term view also enables capability improvement work to be co-ordinated with other work, such as electrification and operating longer and heavier trains.

The Strategic Freight Network (SFN) programme is addressing these issues. The SFN was defined in an April 2008 supplementary paper to the Strategic Business Plan, which set out a freight network consisting of core and diversionary routes. The SFN programme in CP4 will develop some of the routes for enhanced gauge, capacity and train length. This is a good start and should be continued in CP5 and beyond; an industry working group will be considering this over the coming year, as described in DfT's recent paper on the SFN.

Finally, there is a need to consider providing better access to the rail network for towns that currently have no direct rail links, with either new or upgraded lines or parkway stations. An initial assessment by ATOC, due to be published shortly, has identified a number of potential, modestly-sized, schemes with a positive business case benefiting up to around a million people.

4.2
Electrification

Electrification is a major opportunity. It offers scope not only to reduce cost and carbon, but also to address capacity (both by allowing more seats per train, and by giving better acceleration and hence better use of track capacity), air quality, noise, journey times and national concerns about energy security. Yet by European standards, a low proportion of the UK network – just 40 per cent – is electrified and this has not significantly increased (other than through the construction of High Speed One) in the last 15 years.

The Network RUS is examining the business case for electrification of parts of the network, and the industry is working with DfT and Transport Scotland to inform their decisions. In England and Wales, the main focus is on the business case for electrification of the most heavily used parts of the Great Western Main Line and the Midland Main Line, together with opportunities for economically viable infill electrification. In Scotland, the main focus is on priority electrification schemes in the Central Belt, to allow electric traction between Edinburgh and Glasgow via Falkirk, and an extension to Dunblane and Alloa. Our goal should be to focus on electrifying wherever it is economically viable so that over time the benefits are felt by a significant majority – perhaps 80 per cent – of customers.

4.3
Stations

There are over 2,500 stations on the network, from the main line termini to rural halts. Stations are the 'shopfront' of the railway, and are important to the communities they serve. Many are old, some were designed for circumstances that have long since changed, and some are no longer adequate to meet today's increased demands.

Our priorities for the future should be:

- addressing capacity issues (both track and pedestrian), particularly at the largest stations which are often those under most pressure;
- improving the quality and consistency of facilities, particularly at medium-sized stations at which current provision is often poorer than at the largest stations;
- getting the best from the many smaller stations on the network. This may include options for attracting community support, for example through station adoption or through Community Rail Partnerships;
- considering the case for new stations, for example to connect towns that currently have no rail service; to act as 'park and ride' facilities around major cities; or parkway stations to encourage people out of their cars for longer distance journeys; and
- improving the accessibility of all stations for people with reduced mobility. Around half of stations are not easily accessible for people with reduced mobility, but progress is being made: the issue is being tackled in a systematic way and has funding to support it via the Access for All programme. This needs to continue.

Although many of the issues are common to a large number of stations, many of the solutions will need to be developed locally, recognising the particular circumstances of each station. This may include involving local authorities and businesses as well as the rail industry in developing plans and attracting funding, for example through commercial development where this is realistic.

The stations workstream of the Network RUS is looking at how station capacity issues should be planned and managed. It will also look to understand the aspirations of the industry, passengers and funders, and identify how facilities can best meet the needs of the travelling public, particularly in crowded stations, those with high levels of interchange and at stations where significant growth is anticipated. Research previously undertaken by Passenger Focus will be a key input into recommendations made.

4.4
Rolling stock

Standards of rolling stock have improved markedly in the past 10 years, as a result of significant investment, and we need to build on this.

The most urgent need is for more trains. Two large rolling stock programmes are now under way, with procurement of up to 200 Super Express trains, perhaps 1,200–1,500 vehicles for Thameslink, and the 1,300 additional vehicles promised in the DfT HLOS. These extra trains are desperately needed. The rolling stock fleet is now only about five per cent larger than it was in 1994, yet it is delivering some 20 per cent more train-miles and carrying 60 per cent more passengers.

In addition to capacity, there are three factors that need to guide rolling stock planning over the next 15–20 years: accessibility, electrification and managing peaks and troughs in orders.

- Significant progress has been made in improving accessibility to people with reduced mobility over the last 10 years as old rolling stock has been replaced. The Government's decision to apply Rail Vehicle Accessibility Regulations (RVAR) standards to all vehicles by 2020 means that a significant programme of modifications, of perhaps £500m–£1bn in scale, needs to be planned in CP4 and CP5.
- Electrification will create additional demand for electric vehicles and allow redeployment of some higher quality diesel fleets on secondary routes that are unlikely to be electrified for the foreseeable future.
- Irregular ordering, with several large new builds followed by years when little new rolling stock has been ordered, has been a problem for the supply chain in the past. A more consistent approach to ordering would give the supply chain confidence to expand capacity and invest in reducing costs.

All this demonstrates that a long-term strategy is needed for rolling stock, albeit one that is flexible enough to cope with the uncertainty around what may be needed 30 years ahead. Any strategy also needs to take account of the commercial nature of the rolling stock market, using competition between suppliers to help identify better value for money solutions.

The rolling stock workstream of the Network RUS, on which the rolling stock leasing companies are represented, is working to develop an industry view on these issues.

4.5
Operational strategy

It is clear that technological improvement has a significant role in achieving our vision. A key example of this is the opportunities that exist to improve the operational control of the railway using new signalling technologies, known as ERTMS, which allows signalling instructions to be given to drivers by radio rather than by lineside signals. A major programme is underway to apply in-cab signalling in the UK.

Once the current trial on the Cambrian line is complete, the system is likely to be progressively extended to more routes, reducing whole-industry costs and in some cases increasing capacity. ERTMS will allow the operational control of the railway to be improved and enables more centralisation in train regulation, with clear benefits in recovery from incidents, a step that other European railways and US railroads have had in place for many years.

The rollout for this will take many years, and needs to be designed to maximise synergies with rolling stock deployment and the renewal of existing signalling systems.

4.6
Integration with other modes of transport

This is about the complete end-to-end journey, and applies to passengers and freight.

For passengers, there is need to plan integration in a more active, systematic way than has sometimes been the case in the past. This applies both at a strategic and a local level.

At a strategic level, the long-term planning framework needs to consider explicitly the roles of different modes of transport and what this implies for rail. On long distance journeys, for example, this may include:

- rail as a substitute for internal flights (with implications for long distance rail capacity);
- rail as a means of getting to and from airports (with implications including service frequency – so that passengers do not miss their flights if a service is cancelled – and rolling stock design); and
- the potential for new parkway stations to take longer distance journeys off the motorway network.

At a more local level, integration is about more than linking bus and train timetables. Some improvements have already been made in this area, for example:

- Plusbus provides a simple add-on bus pass for those starting or finishing their rail journey by bus. It is now offered to 260 towns throughout Britain;
- the National Rail website has local maps and details of onward bus travel opportunities as well as information on local taxis; and
- TOCs have invested heavily in expanding car parking and in providing secure cycle storage facilities.

More needs to be done, and ATOC is leading the work to develop a framework for Station Travel Plans. These are plans, specific to each station, that examine options for accessing the rail network by bus, light rail, cycle or safe walking routes, as well as by car, with a view to reducing car park demand and increasing access by more sustainable modes. They are developed jointly by TOCs, Network Rail and local authorities and should be the basis for local improvements to integration.

This is about the complete end-to-end journey, and applies to passengers and freight.

Nevertheless, it has to be recognised that the car will remain a principal mode of access to stations for the foreseeable future. In many cases, if passengers cannot go to a station by car they will not go there by another mode instead; they will simply make their whole trip by car. Accelerating industry processes for providing additional car parking, building new stations where viable to give more direct access to communities, and clearer Planning Policy Guidance from Government to recognise the positive role which station car park developments can play in integrated transport policy (yet which are sometimes blocked due to opposition from interest groups) are all options to be developed.

Multi-modal freight integration is important, not least because 40 per cent of rail freight is carried part way by another mode. Bulk freight will continue to be delivered direct from source point to destination point, a way of working ideally suited to rail operation, but increasing international trade will demand connectivity to the final point of consumption.

Rail connections from key ports and the Channel Tunnel to major sites such as Regional Distribution Centres (where freight can be consolidated for onward transportation) are another priority and should be promoted through National Planning Policy. This will enable new markets to take advantage of rail's competitive advantages of speed, aggregation, weight and distance (the last of which is absent for UK flows but is created by connection to mainland Europe).

5. Next steps

5.1
Ongoing work

A lot of work has already been done towards developing individual parts of the long-term planning framework. More will be done in the next 6–9 months as part of workstreams that are already under way, for example:

- HS2 will report to DfT by the end of the year on the business case for a line between London and the West Midlands;
- the Network RUS will publish its conclusions on electrification, stations and rolling stock;
- a longer-term view of the Strategic Freight Network will be developed by a cross-industry group; and
- technological developments will be assessed and prioritised by the cross-industry Technical Strategy Advisory Group.

Wider benefits of rail, over and above those to passengers, also need to be clearly recognised in decision making.

5.2
Additional work towards developing a long-term framework

The ongoing work described in the previous section will produce many of the individual parts of a long-term framework. However, there are four areas in which we will need to do additional work.

First, we will commission new research on passenger requirements, building on the work already done by Passenger Focus. The research will aim to understand better the relative importance of the various aspects of quality of service, looking at passengers' whole end-to-end journeys, and will include work to understand what aspects of punctuality are most important to different groups of passengers.

Second, we will clarify what long-term outputs we believe the railway should aim to deliver. It will not always be possible to do this precisely. Some outputs are not straightforward to measure explicitly and what is delivered in each Control Period or franchise will of course always need to be value for money and affordable. However, as we have argued earlier, we believe that we need to know broadly where we are going, in order to make the right decisions now.

Third, there are several wider issues that will need to be discussed with governments and others. These include:

- The links between transport and other areas of government policy, particularly on housing and land use. For example, the advantages of prioritising housing development towards less busy rail lines need to be explored. Similarly, urban planning policy should encourage office and retail development towards locations around rail stations. The industry will also need to work closely with government on the initial National Planning Statements for rail, road and air; these will effectively become the main planning mechanism for rail developments that require statutory consents.
- Funding for investment. We will need to explore potential sources of funding for the long-term development of the network. In some cases (for example station development) it may be possible to attract investment from outside the industry. However, in many cases the main choice will be the balance between taxpayer and farepayer support for rail, including the role that fares policy plays. The balance is of course a decision for governments and other funders. We understand the pressure on subsidy – particularly in the current economic situation – but the wider benefits of rail, over and above those to passengers, also need to be clearly recognised in decision making.

Finally, we need to draw together the various strands of work into a coherent long-term planning framework for the railway, identifying the linkages between them and (in particular) the implications for CP5.

It is important to note that the long-term framework is not expected to cover everything. Other issues are also fundamental to realising the long-term potential for rail, some of which are passenger-facing in nature (such as the quality of information available to customers), while others (such as the opportunity to work with employees throughout the industry to strengthen the existing technical and customer-facing skills) are also key to how the industry can deliver the vision. We believe developments in these areas can best be addressed separately, but in parallel with and informed by our work on the issues covered by the framework.

5.3
Planning for CP5

Plans for CP5 can only be finalised against the context of the long-term planning framework. However, the development of options for CP5 has been going on for some time, and will continue over the coming year, in particular as part of the RUS programme.

It is already clear from this work that a number of generic types of option will need to be considered for CP5. These include:

- further incremental capacity improvement, where this is good value for money and is unlikely to be made redundant by the need for bigger schemes in the medium or longer term;
- a project to plan and obtain consent for HS2, if current work shows a good case for it;
- rethinking of the role of the suburban railway to reflect its role as a high density people mover, particularly where fundamental capacity constraints are being approached;
- improvements to stations;
- continuing a programme of electrification, including infill electrification;
- selective journey time improvements, particularly on key inter-urban corridors;
- extension of the Strategic Freight Network;
- international freight connectivity via European loading gauge enhancements; and
- continuation of the Network Rail Discretionary Fund and improvement in processes for doing small enhancements or franchise changes that are important locally.

5.4
Processes and timescales

The main decision making processes for CP5 are the next Periodic Review and future re-franchising competitions.

The starting point for the next Periodic Review will be the publication by funders – DfT and Transport Scotland – of the outputs they want from the railway, the High Level Output Specifications for CP5. DfT and Transport Scotland have already set out, in broad terms, how they intend to develop the next HLOSs:

- DfT's process *Delivering a Sustainable Transport System* is under way, with option generation and assessment due to start later this year. This will lead to development of the HLOS for England & Wales.
- Transport Scotland has published its National Transport Strategy and, following from this, the Strategic Transport Projects Review. Close work is under way between Transport Scotland, Network Rail and the principal TOC – First Scotrail – to develop plans for CP5 in more detail.

Other funders such as the Welsh Assembly Government, PTEs and Transport for London are also closely involved in specifying outputs for CP5, both by contributing to the development of the HLOSs, and in some cases through having the option to specify additional outputs directly.

We look forward to delivering a railway that meets the needs of passengers, freight users and the country as a whole in the 21st century.

The key milestones in the lead up to, and during, the Periodic Review will be as follows:

- June 2010: Our view of the long-term planning framework and our initial view on CP5 options
- June 2011: Initial Strategic Business Plan for CP5 (published by Network Rail but based on planning by the whole industry)
- Summer 2012: HLOSs issued by DfT & Transport Scotland
- October 2012: Strategic Business Plan for CP5
- October 2013: Completion of the Periodic Review

The work that we are undertaking, and the specification by funders of HLOSs, will also inform the re-letting of franchises that is due to take place in CP4.

We look forward to working together, and with governments, other funders, our suppliers and key industry stakeholders, to deliver a railway that meets the needs of passengers, freight users and Britain as a whole in the 21st century.

5.5
How you can contribute

Network Rail, ATOC and the Rail Freight Operators' Association welcome feedback on the contents of this publication.

Feedback can be submitted electronically to:
planningahead@networkrail.co.uk
planningahead@atoc.org

Appendix: The RUS programme

Current RUS programme

The map overleaf shows the programme for the development of Route Utilisation Strategies (RUSs). RUSs are developed under the guidance of a Stakeholder Management Group comprising train operators (passengers and freight), relevant funders (e.g. DfT, Transport Scotland, Transport for London and Passenger Transport Executives) and other key industry stakeholders, as well as Network Rail.

Changes to the publication dates for some of the RUSs currently in progress are being considered by the Rail Industry Planning Group. Changes are subject to approval by the Office of Rail Regulation (ORR).

Future RUS work

The current RUS programme covers the whole of the National Rail network. However, RUSs need to be kept up to date if they are to be useful. In particular, some of the earlier RUSs either have planning horizons that do not reach to the end of CP5; or do not treat CP5 in sufficient detail to form the basis for specific recommendations for the 2012 HLOSs; or need to be updated to reflect developments since they were published.

A programme of further work is therefore being considered by the Rail Industry Planning Group. The precise scope of this work is being defined but, in broad terms, there is likely to be a series of studies including:

- a study looking at London and the South East as a whole;
- a study bringing together a number of related issues around the North of England, including 'cross-boundary' issues from the current RUSs and the outcome of the Manchester Hub project; and
- a study covering the railway in Scotland, consistent with the Strategic Transport Projects Review recently undertaken by Transport Scotland.

RUS	Start of work	Publication of consultation document	Publication of final RUS	Current status
South West Main Line	December 2004	November 2005	March 2006	Established
Cross London	January 2005	December 2005	August 2006	Established
Scotland	July 2005	August 2006	March 2007	Established
Freight	September 2005	September 2006	March 2007	Established
North West	May 2005	November 2006	May 2007	Established
Greater Anglia	February 2006	April 2007	December 2007	Established
East Coast Main Line	October 2005	June 2007	February 2008	Established
South London	May 2006	July 2007	March 2008	Established
Lancashire & Cumbria	October 2006	April 2008	August 2008	Established
Wales	October 2006	May 2008	November 2008	Established
Yorkshire & Humber	June 2006	September 2008	July 2009	Further work following consultation
Merseyside	February 2007	November 2008	March 2009	Published – awaiting establishment
Network	**January 2007**	**See below**	**See below**	**See below**
Kent	January 2008	Spring 2009	Autumn 2009	Consultation
Sussex	January 2008	Spring 2009	Summer 2009	Option appraisal
East Midlands	February 2008	Spring 2009	Summer 2009	Option appraisal
West Midlands & Chilterns	February 2008	Spring 2009	Summer 2009	Gap analysis
Great Western	February 2008	Spring 2009	Summer 2009	Option appraisal
West Coast Main Line	September 2008	Summer 2009	Autumn 2009	Defining scope

Network RUS:	Start of work	Consultation	Final publication	Current status
■ Scenarios and Long Distance Forecasts	January 2007	April 2009	June 2009	Consultation
■ Stations	January 2007	August 2009	November 2009	Baselining and gap identification
■ Rolling Stock and Depots	January 2007	August 2009	November 2009	Gap identification
■ Electrification	Autumn 2007	April 2009	June 2009	Option appraisal

RUS map

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