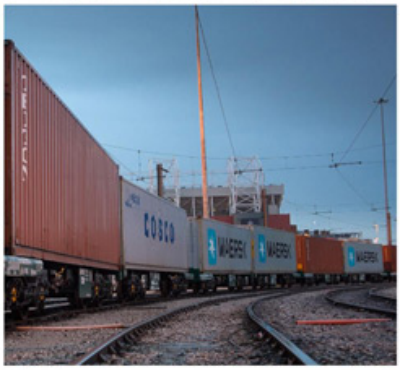


Industry Strategic Business Plan

Scotland

Industry's response to the High Level Output Specification for CP5

January 2013


RFOA
Rail Freight Operators' Association

Railway Industry Association

Train Operators Working Together ATOC

NetworkRail

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Foreword

Leadership and a clear vision are key to the rail industry meeting the expectations of its customers and funders.

The industry has delivered unprecedented growth, at record levels of performance and safety. The key challenge for the industry is to continue this success whilst delivering better value for money. The franchising process in England and Wales is currently under review and, whatever the implications this might have for Scotland, the industry as a whole must demonstrate its ability to meet the challenges ahead in partnership with a common purpose.

In taking this forward, the establishment of the Rail Delivery Group (RDG) has formalised and enhanced the leadership cohort for the industry. Under the guidance of RDG, Planning Oversight Group (POG), the industry's senior planning body has created consensus as to the long term vision for the railway across Great Britain.

This vision places the railway at the centre of a transport system that drives economic growth, moving people and goods across Scotland and to and from England and Wales in a safe and sustainable way.

This Industry Strategic Business Plan sets out the plans for Control Period 5 (CP5) to make progress towards this vision, delivering the outputs specified by the Scottish Government in its High Level Output Specification. To deliver this successfully the industry needs ongoing reform to the environment within which it operates:

- the re-franchising programme in Scotland should emphasise the opportunities for improved passenger outcomes
- the regulatory framework must be simplified and made more flexible to facilitate more efficient delivery across the industry
- the franchising and regulatory frameworks must seek consistent outcomes and provide aligned incentives

These changes will allow the industry to drive better value for money. They will support the industry making explicit value for money trade-offs about the balance between capacity, performance and cost. They will facilitate Network Rail, train operators and the supply chain in working together to find more innovative ways to deliver greater efficiencies.

The outcomes of the periodic review and the franchising programme will be critical in setting the agenda for the rail industry in Scotland during CP5 and create an opportunity for significant improvement. The industry has all the building blocks in place - vision, leadership, plans and partnerships - to meet the challenges ahead. It now needs government and the Office of Rail Regulation to provide the right environment to support it in meeting these challenges and delivering this plan.

Tim O'Toole
Chair, Rail Delivery Group

Executive Summary

The rail industry is a success story, carrying high number of passengers and goods, at record levels of safety and performance and delivering improved value for money.

Further improving value for money solutions while continuing to grow and satisfy customers is one of the industry's biggest challenges. The industry has developed a vision and strategy for the railway aimed at achieving this. There are key enablers and actions required from all parties in the industry to facilitate this:

- franchising has been at the heart of the growth of the industry. The franchising programme for ScotRail and the new Sleeper franchise will commence shortly. This will give a clear process and framework that provides the incentives for train operators to deliver enhanced value
- the regulatory framework for Control Period 5 (CP5) needs to enable and support Network Rail in working with train operators to make the right decisions at a local level and to strike the right balance between cost, capacity, and performance
- regulatory and franchised outputs and incentives must be aligned in order to allow Network Rail and train operators to explore new ways of working to the benefit of customers, passengers and taxpayers
- greater collaboration or partnership are key enablers to provide focus and responsiveness to the needs of the train operators for improved efficiencies
- the industry, with oversight from the Rail Delivery Group (RDG), needs to continue to find greater efficiencies beyond those that the individual organisations are already committed to delivering.

The industry has a track record of success and is confident it can deliver even greater value for money with these enablers in place.

A track record of delivery

The rail industry has delivered unprecedented growth, carrying record levels of passengers and freight traffic, and at record levels of performance and safety. The railway plays an essential role in supporting and creating economic growth by enabling the safe, fast and efficient movement of passengers and goods into and between major economic centres and international gateways. The railway today also makes a significant contribution towards the social and environmental welfare of the country, linking people and communities across the country in an environmentally sustainable way.

This has placed it at the centre of the Scottish Government's vision for a safe, efficient and effective transport system that drives economic growth and competitiveness. The Strategic Transport Projects Review (STPR) in 2009 set out how rail is central to a transport system that supports sustainable economic growth, facilitating business, commuting, and leisure journeys, providing a greener transport option than road and aviation.

The publication, in June 2012, of the High Level Output Specification (HLOS) and Statement of Funds Available (SoFA) committed significant further investment in CP5 to deliver this strategy. This plan is the industry's response to the HLOS.

This vote of confidence in rail is built on an impressive track record:

- one of the safest railways in Europe, significantly safer than road and comparable with air transport
- around 30 per cent more people carried by ScotRail services since 2001/02. In 2011/12 there were around 81 million ScotRail passenger journeys
- doubled the demand for rail freight in Scotland between the mid 1900s and 2006, but has stabilised since then
- delivered consistently high levels of punctuality and reliability – last year 90.7 per cent of ScotRail passenger services arrived on time, an increase of more than eight per cent since 2001/02
- a network that is increasingly 'open for business', allowing more services to be operated when passengers and freight operators require them
- high levels of passenger satisfaction (currently at 83 per cent nationally with ScotRail achieving a high of 89 per cent).

A long term vision for rail and industry's plans for CP5

The industry's ambition is to support the government's transport strategy through increasing rail's contribution to economic, social and environmental welfare. Rail is very well placed to respond to growth, as economic and environmental trends in the market play to rail's core strength of moving large volumes of goods and passengers over long distances, and between and into city centres.

The Initial Industry Plan, published in September 2011, set out the industry's what the industry aspires to achieve in areas such as performance, capacity and customer satisfaction by 2035, in line with the above ambition. The Industry SBP focuses on what the industry plans to do in CP5 to move towards those long term ambitions and in particular to deliver the outputs specified by the Scotland Government in its June 2012 HLOS (see figure 1).

The industry's approach during CP5 incorporates the following key features:

- a strong emphasis on the need to deliver better industry value for money, building on recent progress made by the industry, through continued efficiency gains by NR and potential further contributions from train operators
- a major programme of network improvements (including electrification) worth around £1.2 billion
- other industry-wide strategies, for example on station improvements and customer information which can further help improve overall customer satisfaction; on sustainability, for example, to support other interventions to reduce environmental impact; and to stimulate more innovation on a whole-industry basis in developing technical solutions to rail's challenges in CP5 and beyond
- a series of 5 funds with an aggregate value of around £144 million over CP5.

Delivering better value for money

Delivering a better value railway for customers and funders is one of the industry's biggest challenges. In 2011/12 the rail industry in Scotland received more than £700 million of support from the taxpayer, a figure which enables rail to contribute substantially to the economy, its users, and society as a whole. However, care needs to be taken in interpreting overall support figures, as cross-border passenger and freight services operate across a number of Network Rail operating routes. Cross-

border passenger services are specified and funded by the Department for Transport (DfT).

The industry is taking responsibility for its future through the RDG, which brings together the most senior leaders of the rail industry. RDG has initiated a number of working groups to examine opportunities to deliver efficiencies across the industry including asset, programme and supply chain management, contractual and regulatory reform, train utilisation, technology, innovation, and working practices. A workstream to examine the opportunities to reduce the costs of major projects through greater industry engagement in development and delivery of enhancement schemes has also recently been started.

The initial finding of these working groups has informed the development of both this Industry SBP and Network Rail's SBP, as well as the forecasts of efficiency included in these plans. Network Rail has confirmed its commitment to deliver 16 per cent efficiency by the end of CP5. The RDG work provides Network Rail with greater confidence it can deliver this level of efficiency and the potential to go beyond it. RDG will continue to develop a more comprehensive assessment of the possible efficiencies to inform industry plans for CP5.

The RDG working groups have also identified opportunities to improve the efficiency of delivering train services through the franchising process.

Meeting the HLOS performance outputs

Performance is at historically high levels across the network. The HLOS requires us to continue to deliver 92 per cent PPM each year and achieve 92.5 per cent PPM by the end of CP5 for both Scotland franchises. Analysis has shown that base levels of performance would be expected to continue to improve further in CP5, based on the improvements and investment in recent years, more efficient working practices and building reliability into infrastructure and fleet assets.

However, forecasting the precise level of performance to the end of CP5 and then delivering it poses considerable challenges to the industry. The likelihood of more congestion on parts of the network, the operational impacts of delivering major engineering projects and introducing new fleet, together with the prospect of a busy period of refranchising, all need to be factored in.

The starting point for the industry has therefore been to develop a scenario-based approach to planning for the delivery of performance. This plan is expected to deliver within a range of 91.5 to 93 per cent PPM by the end of CP5. The HLOS target falls within this range. The industry will also prepare a National Performance Improvement Programme (for commencement in CP5) to improve confidence in delivering the HLOS outputs.

Continuing to deliver a safe railway

Safety is reserved to the UK Secretary of State, and the HLOS, as specified by the Department for Transport (DfT) describes the safety requirement for the whole of the GB railway in CP5. This plan has been prepared in line with the DfT HLOS requirement that the industry continue to improve its record on passenger and worker safety through the application of the "so far as reasonably practicable" approach. We expect the programme of network and rolling stock investments underpinning this plan to reduce the risk per passenger journey by around nine per cent over CP5.

Investment in track worker safe access equipment, improved traction power isolations and plant safety will reduce workforce risk.

Promoting a low carbon railway

There has been good progress in implementing the industry's carbon management framework outlined in the IIP, and a carbon accounting system is now being developed. Further electrification is the key element of a low-carbon railway, but there are also opportunities for the industry itself to make carbon and associated cost savings, potentially leading to a 43 per cent reduction in per passenger kilometre CO_2 emissions, and a 6 per cent reduction in net freight tonne kilometre CO_2 emissions. The industry also takes its wider sustainability responsibilities seriously and is developing recommendations for further embedding the industry Sustainable Development Principles.

The table below sets out the vision for the rail industry in Scotland looking to 2019 and the longer term.

Figure 1: Vision for Rail in Scotland

Industry today
A railway today that: • is one of the safest in Europe • has customer satisfaction at 83 per cent across Great Britain, with ScotRail achieving 89 per cent • is running more trains with 18 per cent more train kilometres than 2003/04 and an almost 40 per cent increase in freight moved since privatisation • has the highest ever levels of performance in Network Rail's history.
By 2019
A railway by the end of CP5 that: • continues to be one of the safest in Europe, reducing risk at level crossings by eight per cent in CP5 • delivers an additional 7,500 extra seats over CP5 into Glasgow and Edinburgh during the weekday morning peak • has a performance of 92.5 per cent PPM for the ScotRail and Sleeper franchise whilst successfully delivering significant enhancement schemes • delivers continuous improvement in customer satisfaction • delivers a step change in connectivity e.g. the re-opening of the Borders line between Tweedbank and Edinburgh • transforms the nature of the rail network, with over 413 kilometres additional electrified railway, approximately 200 additional vehicles, and the completion of major enhancements to the network including Edinburgh Glasgow Improvements Programme and a rolling programme of electrification • contributes to a lower carbon economy, reducing CO_2 emissions per passenger kilometres by 43 per cent • increases freight tonne kilometres by 18 per cent from 2011/12 • is more efficient. Network Rail will deliver efficiencies in line with the Initial Industry Plan.
The longer term
By 2035 the industry aspires to deliver: • levels of reliability and safety that are among the best in the world • passenger satisfaction of at least 90 per cent • capacity to accommodate twice as many passengers as today, including the integration of the High Speed Rail network with the national network • further improvements in the product offer for freight customers • a financially more sustainable railway through improved efficiency and revenue generation • a further reduction in CO_2 emissions.

1. Context

In September 2011, the rail industry published its Initial Industry Plan (IIP), setting out its views on how to continue delivering growth and efficiency while supporting the needs of passengers, freight users, funders and stakeholders. The IIP was a key milestone in the ongoing Periodic Review process that will set Network Rail's outputs and funding for Control Period 5 (CP5), and informed both the Office of Rail Regulation's (ORR) Advice to Ministers in February 2012 and the subsequent publication of the High Level Output Specification (HLOS) in June 2012.

The publication of Scottish Ministers' High Level Output Specification marked a further significant milestone in progressing plans for the development of the rail network. At the same time, Ministers announced their conclusions on the Rail 2014 consultation (www.transportscotland.gov.uk) setting out their approach to the future procurement of internal Scottish services, and the Sleeper services under separate franchises.

This Industry Strategic Business Plan (Industry SBP) for Scotland therefore sets out the industry's response to the HLOS, updating the IIP and setting out how the railway will continue to develop and work together to deliver the outcomes required by users and funders. In the context of a rapidly evolving industry, the Industry SBP's function is to provide clarity and assurance that there is a common view of the challenges ahead and a coherent and structured programme that supports Network Rail's Strategic Business Plan (SBP).

The Industry SBP sets out how the industry will work together to deliver these outcomes.

1.1 Developments since the Initial Industry Plan

There have been a number of key developments in the wider industry framework that underpin the planning within this document.

Any rail network is a complex system, with interfaces between train operations, the infrastructure and the wider supply chain. The industry has worked closely together to develop this Industry SBP, which supports Network Rail's SBP. Scottish Ministers' HLOS set out clearly the requirements and expectations from the rail network going forward. Taken in the context of the forthcoming franchise competitions in Scotland, and the growth and strategic importance of freight and cross-border passenger services, the Industry SBP sets out the issues and challenges that need to be addressed as HLOS outcomes are delivered.

The IIP identified that the Scottish rail network is and will remain a mixed-traffic network, catering for a number of passenger and freight markets. In delivering the required HLOS outputs, there will be choices available as well as decisions that can be taken to drive maximum value for money for both users and Scottish Ministers. The Industry SBP builds on the IIPs integrated approach and puts forward a whole industry perspective on some of the key areas.

1.1.1 Electrification

The opportunities provided by a rolling programme of electrification will continue into Control Period 6 (CP6) and beyond, already identified in Scottish Ministers' Strategic

Transport Projects Review (STPR). However, this needs to be considered in a system-wide context, to ensure that the programme reflects the requirements of all train operators, providing synergies with the procurement and deployment of rolling stock, train service specification and network capability.

The industry's future electrification proposals will take into account all these elements, working through existing industry process. The provision of a robust change control mechanism within the CP5 settlement for Network Rail is needed to provide assurance that best value can be delivered. Where variations or reprioritisation are required to reflect passenger and freight requirements or the availability of suitable rolling stock, the industry will develop and propose options.

The benefits from electrification are well known, including more consistent performance, better acceleration and braking, and lower carbon emissions. These will underpin the phasing of further electrification, recognising that there are significant benefits that can be delivered through considering wider issues including:

- diversionary routes – providing performance resilience, as well as reducing the need to substitute train services with buses, when engineering work is taking place if a business case can be made
- connectivity – relatively short in-fill electrification can allow more freight to be electrically-hauled, improving capacity utilisation and potentially permitting higher payloads, although this may also require the consideration of wiring of other freight loops, terminals, yards and sidings that are linked to the operation of these services
- station capacity – additional demand will require operational and passenger improvements, and there may be benefits from delivering early enhancements, particularly at Glasgow Queen Street, Edinburgh Waverley and Glasgow Central
- depot planning – the stabling, cleaning and maintenance of rolling stock must be integrated with wider electrification issues, including commissioning of new vehicles and the availability of access to and from depots
- rolling stock – Scottish Ministers have set out their views on future rolling stock requirements – electrification and its phasing will be important if best value is to be secured and appropriate fleet strategies put in place.

The early benefits derived from the ScotRail/Network Rail alliance's delivery of electrification to Paisley Canal also provide lessons for the future direction and management of electrification projects. Improved techniques for delivering the infrastructure works required to run electric trains and reducing unit costs will improve the business case for further works.

The industry recognises that getting the right order of routes for electrification is key to driving the greatest benefit to users of the network. There are a number of issues that will need further iteration to produce a final programme. This is discussed further in 5.2.5.

Further electrification needs to be integrated with a system wide approach. An example is electrification of the Edinburgh South Suburban line, which would allow freight services, diverted passenger trains and, if the Edinburgh to Glasgow Improvements Programme depot is located at Millerhill, empty stock workings, to be routed away from Edinburgh Waverley station and its congested approaches.

1.1.2 Industry planning

The Industry SBP has been developed by the Scotland CP5 Group on behalf of the Great Britain wide Planning Oversight Group which reports to RDG. It represents the industry's current view as to the best way forward for the rail network.

Network Rail has set out its future approach to its statutory responsibility for leading industry planning. Building on the successful completion of the Route Utilisation Strategies, the new Long Term Planning Process will ensure that industry plans are updated to reflect new challenges and opportunities. The Scotland CP5 Group has also continued to review, and where necessary challenge, future plans, and has been an important forum that has assisted in the development of the Industry SBP. The industry's commitment to working together to ensure that planning for both infrastructure and operations are co-ordinated to deliver best value is fundamental in responding to the HLOS and wider requirements from the market.

1.1.3 Cross network issues

The industry is developing a high-level strategy addressing passenger rolling stock requirements going forward. This will support both the electrification strategy at a national level and Scottish Ministers' requirements, ensuring that there is clarity over the dimensions of the future fleet size that will provide assurance to the supply chain and therefore maximise value for money from rolling stock going forward.

During CP5 all the cross-border franchises let by the UK Secretary of State for Transport are scheduled to be relet. Scottish Ministers have the opportunity to issue non-binding advice as part of the refranchising process, and this provides the framework within which the important cross-border passenger services can be shaped to support Scotland's growth and development. The industry will work with both administrations to ensure that the East and West Coast Main Lines are considered as a linear whole and to ensure that where changes and enhancements are made they optimise benefit to Anglo Scottish passengers and freight users.

The industry will continue to work to identify opportunities for improvements to the network especially around renewals, and to work with funders and stakeholders accordingly. Opportunities to improve collaboration between passenger and freight operators may provide further improvements in value, particularly if they can result in more effective deployment of industry resources.

The creation of a specific Scottish freight fund in CP5 will support the development of rail freight, as well as providing the potential for modal shift. The establishment of the Scotland Freight Joint Board and Freight Working Group for Scotland will enable the industry parties to work together to determine priorities and ensure that maximum benefit is derived across the network.

The industry wants to drive forward solutions that meet the requirements of funders. The degrees of freedom given to the industry with respect to developing delivery solutions will have an impact on the extent to which additional value can be driven through enhancements, renewals and service specification. The industry has to achieve this with transparency and assurance to funders and stakeholders, and this underpins our approach in the Industry SBP.

1.1.4 Rail Delivery Group

At the time of the IIP publication, the Rail Delivery Group (RDG) had just been established as part of the industry's response to the VfM study. Participation in the RDG is expected to be formalised through a licence requirement across the industry. It is addressing the key opportunities for improving efficiency and value for money across the industry, and its work is summarised in this Industry SBP. RDG is providing industry leadership and a forum to engage with wider partners and stakeholders, as well as identifying the best way forward for the rail industry and will continue to tackle major cross-industry issues.

1.1.5 RSSB

In July 2012 RSSB (Rail Safety & Standards Board) initiated a strategic review. RSSB supports the industry by managing many cross-industry activities, such as interface standards, safety monitoring and analysis, cross-industry research and development, facilitating the Technical Strategy Leadership Group (TSLG) and hosting the new Enabling Innovation Team. In view of the many changes in the industry RSSB wants to ensure that the company meets the challenges of CP5 and beyond. The review is currently defining, with RSSB members and stakeholders, how the purpose of the company is best expressed for the next decade, what functions it will fulfil in CP5 and how we can work more effectively to realise its full potential.

1.1.6 Alliancing

Continuing progress is being made with the establishment of alliances between train operators and Network Rail. The first "deep alliance" was established in England between Network Rail's Wessex Route and South West Trains in May 2012. In Scotland a framework alliance has been formed with ScotRail. Beyond 2014 the opportunity to form a deep alliance with the successful franchise bidder is currently being explored. Early indications are that the model is already delivering efficiencies and closer alignment between industry parties. Going forward there will be continuing evolution to reflect experiences and new opportunities.

1.2 Key Challenges

There are a number of key challenges ahead:

1.2.1 Improving value for money and efficiency

Delivering better value for money is the biggest challenge facing the rail industry. This will be achieved by delivering greater economic value, generating more revenue and improving efficiency. This applies across the spectrum of railway activities, from the provision of information and ticketing, facilities at stations, the delivery of more frequent and faster services, the economic and financial returns from investment in new infrastructure and rolling stock and opportunities to invest to reduce the future cost of the railway through enhanced productivity.

Achieving greater value for money and efficiencies requires operators, Network Rail and the wider industry to work together with a clear focus on achieving these goals and an agreed strategy for doing so. The industry, led by the RDG, is developing a range of initiatives to achieve this including improving the productivity of access arrangements and current operations, the specification and delivery of projects, reform of the contractual and regulatory framework to generate greater revenue and

reduce costs, and the opportunities to invest to improve current productivity as well as investment in research and development for longer term benefits.

The delivery of greater value for money requires support from the Scottish Government and other stakeholders. This will include reform to the franchising and regulatory framework to align incentives and provide the freedom for the industry to make the right choices between outputs and costs to deliver better value for money to the farepayer and taxpayer.

1.2.2 Improving customer satisfaction

The industry has achieved high levels of customer satisfaction but recognises maintaining and driving further improvements in satisfaction will require the industry to address a number of key drivers of satisfaction including:

- maintaining high levels of performance, reducing the gap in the performance between different services, and providing sufficient on-train capacity for rising passenger demand
- enhancing aspects of the journey experience including the provision of customer information, especially during disruptions
- improving value for money by improving unit cost efficiencies and making the railway more affordable to funders.

This plan sets out proposals aimed at tackling these challenges.

1.2.3 Maintaining high levels of performance

Over the last decade, rail's performance has improved. The challenge for CP5 and beyond is to sustain this and to improve consistency across the network while at the same time ensuring that major projects are delivered effectively.

The industry works together through the National Task Force to address network wide performance issues, and this Industry SBP reflects a considerable amount of analysis and discussion from across the rail industry. It is recognised that there are significant challenges surrounding the delivery of timetabled services as a result of the network being busier than ever, and this plan sets out the key issues that the industry will take forward, recognising the increasing volumes of both passenger and freight traffic as well as the major programme of improvements across the network.

1.2.4 Balanced access strategies

The rail network needs to be open for business to generate revenue. At the same time, the infrastructure must be maintained, renewed, and enhanced as efficiently as possible. The level of access is a key determinant of the volume and cost of work that can be delivered. Strategies must be agreed between Network Rail and train operators providing services for increasing levels of passenger journeys and freight volumes striking the correct balance between these requirements. This is an issue being tackled by RDG.

At this stage of planning it is only possible to undertake a high level assessment of the volume and scope of work required. This will be refined as more detailed work banks are defined. This assessment shows a significant increase in the expected annual volumes of access required for the CP5 plans and it is recognised improved collaboration with the passenger and freight train operators to develop a "Line of Route" access strategy will be essential in order to support the successful and

efficient delivery. This will also include consideration of extended midweek access opportunities. The further development of the Route Network Availability Strategies will be critical in determining a better understanding.

1.2.5 Improving sustainability

Rail delivers significant sustainability benefits for the country. It offers low carbon passenger and freight transport that connects people to opportunities and businesses to their markets. Yet challenges remain if rail is to maintain and enhance its sustainability credentials. Other sectors are not standing still and rail needs continuously to improve; much also still needs to be done to develop a whole-life, whole-industry approach to sustainability.

In overall response to this challenge, the industry has developed ten Sustainable Development Principles, spanning the social, environment and economic elements of sustainability. Work has begun to encourage industry players to embed these principles more firmly within their actions and decisions (see Section 5.4.6).

Alongside the principles, action is also needed to address individual elements of sustainability. In the case of environmental impact, for example, rail has an important contribution to make as part of the wider national effort to mitigate climate change. This plan sets out how the industry can do this by initiatives to reduce its carbon emissions (see Section 4.5). Regarding another area of environmental impact, the industry's work on mitigating noise pollution has been transferred to the Network Rail Track Asset Management Plan.

1.2.6 Managing trade-offs

A key theme throughout this Industry SBP is the need to take informed decisions that deliver the best outcome for passengers, freight users and funders. Financial, physical and operational resources are finite, and the challenge is to get the right balance of outputs. The rail network serves a large number of different markets and has different constraints and opportunities. The Industry SBP recognises that at times one aspect may need to be given priority over others.

Parts of the network are increasingly congested, and the significant improvements in capacity set out in this plan are being delivered whilst continuing to provide train services. It may be more important, for example, to maintain the total capacity of commuter services during major enhancement works, even if that means a slight reduction in operational resilience. In taking the industry forward through the major changes ahead, there will be choices to be made – and these will need to be managed transparently. Many trade-offs must be resolved locally, using the knowledge and skills of Network Rail and operators to deliver the best outcome. A consistent approach to ensuring that the needs of users are met will provide assurance that the best combination of capacity, performance and journey time are provided.

1.2.7 Understanding the impact of the HLOS

The publication of the HLOS gave the industry clarity on outputs required. Alongside the delivery of major enhancements, such as the Edinburgh to Glasgow Improvement Programme (EGIP), Highland Main Line Improvements Phase 2 and Aberdeen to Inverness Rail Line Improvements Phase 1, it sets out Ministers' continuing commitment to rail's contribution to Scotland's economic growth.

The industry has worked closely with funders to bring forward proposals as to how these outputs can be delivered, looking to co-ordinate and align with renewals, rolling stock availability and other projects. Inevitably, some proposals are more developed than others, and the priority between now and the publication of Network Rail's Delivery Plan in March 2014 will be to provide increased certainty and clarity. There is a large volume of ongoing cross-industry work to deliver the HLOS requirements effectively and to identify opportunities where further improvements to efficiency and value for money can be delivered.

1.2.8 Delivering the plan

This Industry SBP sets out a significant programme of enhancements. The scale of the change is very large, and in order to meet the challenge the industry, its suppliers, and partners need to have visibility and certainty over the outputs required. Network Rail has to deliver further efficiencies in its core business while driving forward major projects. Freight and passenger operations operate within a competitive market, and the forthcoming franchise competitions will enable Ministers to establish a framework where further efficiencies could be delivered.

The industry, including its suppliers, is working together to ensure that the contents of this Industry SBP are deliverable.

RDG, supported by robust and mature cross-industry planning activities and working closely with Ministers, is best placed to ensure that, as delivery of CP5 plans takes place, issues and potential conflicts across Great Britain are identified, and, resolved within the industry.

2 Understanding our markets and customers

2.1 Introduction

This section sets out the key requirements for the Scottish rail industry. This provides the context for the outputs planned to be delivered in Control Period 5 (CP5) and the strategies for delivering these outputs. As in the Initial Industry Plan (IIP), we cover ScotRail, Anglo Scottish and Freight.

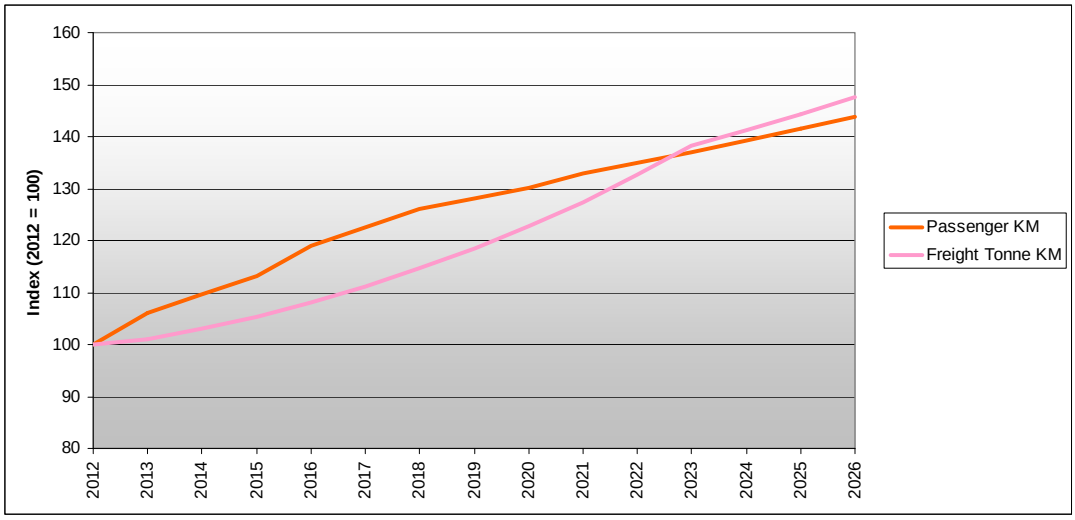
2.2 Scotland context

The Scottish Government's strategy for the railway sets out how rail is central to a transport system that supports economic growth, facilitating business, commuting and leisure journeys, and providing a greener transport option than road and aviation, and relieving congestion on our road network.

It is the industry's ambition to increase rail's significant contribution to Scotland's economic, social, and environmental welfare. Rail is best placed to respond to growth, as economic and environmental trends in the market play to rail's core strength of moving large volumes of goods and passengers over long distances, and between and into city centres.

While in the shorter term growth may fluctuate year on year, in the longer term we forecast strong and steady growth rates.

Figure 2: Scotland passenger and freight demand projections



The outlook for the rail industry is strong. However the industry continues to receive significant subsidy from government and the industry must aim to deliver maximum value to users and funders from this subsidy. If the railway is to fulfil a central role in government's transport and wider economic strategy, it will continue to require investment in capacity to capture the anticipated long term demand. This will drive economic growth, but services which fulfil key social, economic and strategic needs will continue to require operating subsidy.

2.3 ScotRail

2.3.1 Strategic importance

The current ScotRail franchise operates virtually all internal passenger services within Scotland extending to Carlisle / Newcastle (via Dumfries), as well as overnight sleeper services from various Scottish towns and cities to London. The ScotRail franchise outputs are specified and funded by Scottish Ministers and overall the franchisee is responsible for 95 per cent of trains operating in Scotland and 75 per cent of all train miles.

Scotland currently has a population of 5.2 million, and this is forecast to grow by 0.3-0.4 per cent annually over the next few years. Seventy per cent of the Scottish population is resident in the central belt of the country. Beyond the Central Belt, Aberdeen is the next most significant area of economic importance due, in the main, to the oil industry, together with other key cities and towns, including Inverness, Dundee, Perth and Stirling.

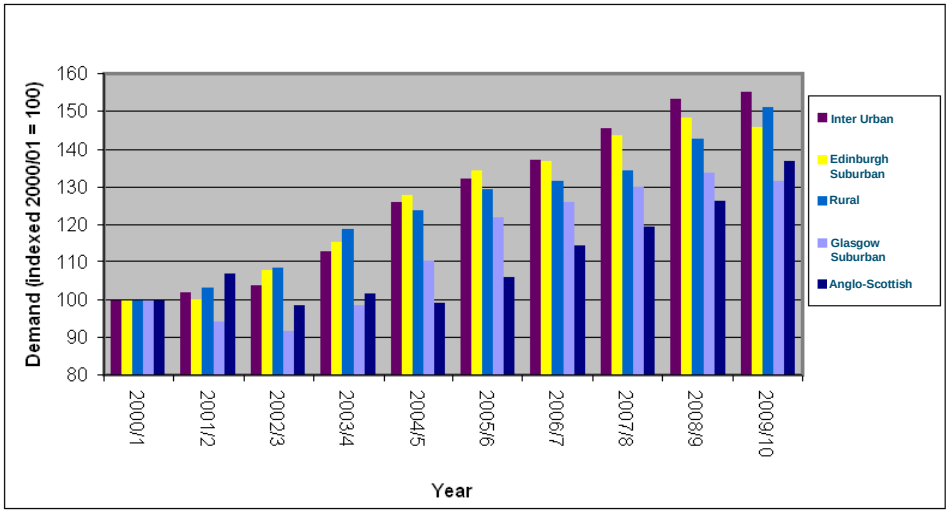
Scotland's railways will continue to play an important part in providing a safe, integrated, effective and efficient transport system. The rail network provides high quality commuting services into the major centres including Glasgow, Edinburgh, Aberdeen and Dundee. This allows access to jobs, education and leisure services within the city centres taking pressure off the road infrastructure. The network provides longer distance services which link Scotland's major cities, and towns between them, as well as playing a role in providing essential access to services and employment opportunities for some of Scotland's rural areas.

Scottish Ministers recognise that:

"The rail network in Scotland supports economic growth, provides a quality interurban link between city regions in Scotland as well as links to major English cities and connects people to jobs and families, thus supporting local economies." *Source – Scotland Railways December 2006.*

Scottish Ministers fund, through Network Rail, the rail infrastructure in Scotland and through the ScotRail franchise, the train services internal to Scotland as well as the Caledonian sleeper service to London. Anglo Scottish daytime passenger services are specified by the Department for Transport in Westminster.

Figure 3: Passenger growth in Scotland 2001-2010



There has been substantial growth in demand for rail travel within Scotland. Increasing concentration of employment in city centres, and the increased relative attraction of rail as road congestion has increased. The commuter market into Scottish centres benefits from modal shift and continued growth in employment. The ability of the rail sector to serve these markets is essential to supporting sustainable economic growth as well as providing access to employment.

Currently, there are approximately 80 million journeys on ScotRail services each year. Sixty five per cent of these trips are made in the Strathclyde area, reflecting the fact that the Glasgow suburban rail network is the largest outside London. Around 35 per cent of passengers journeys are for commuting purposes, 8 per cent are for business, with the remainder being for leisure.

The Edinburgh Waverley – Glasgow Queen Street service via Falkirk High is the 'flagship' ScotRail service, with four trains per hour each way throughout most of the day. This service contributes 15 per cent of the total revenue, and nine per cent of total journeys and when combined with the other three services linking Edinburgh and Glasgow accounts for over one quarter of total revenue and journeys, underlining the importance of these two cities in terms of the overall Scottish economy and its transport requirements.

The demand for longer journeys continues its strong growth reflecting an increasingly attractive rail product relative to car, particularly between the Central Belt and Aberdeen. Services from the Central Belt to Aberdeen contribute six per cent of the Scottish passenger journeys, but 16 per cent of the revenue and this is now reflected in some significant overcrowding on this route at certain times.

Rail's competitiveness on the other interurban routes from the Central Belt to Inverness, and between Inverness and Aberdeen is currently more limited because of the quality of historic and current investment in the parallel road network.

2.3.2 What users want

According to the National Passenger Survey (Spring 2012), passengers travelling on ScotRail services demonstrate a relatively high level of overall satisfaction with their journeys, six per cent higher than the national average.

Analysis of customer satisfaction drivers has confirmed that performance underpins overall satisfaction, value for money and many other attributes. When punctuality and reliability results (or perception of real performance) are suboptimal, customer satisfaction scores in other areas tend to suffer also.

Over recent years there has been considerable improvement in meeting passenger expectations in a number of areas, including punctuality and reliability, sufficient room on trains, information provision, and dealing with delays.

ScotRail services also score higher than the Great Britain average with regard to perceptions of value for money (9 per cent points higher than the national score), reflecting the generally lower fare levels in Scotland, although the absolute percentage satisfied in this area remains below 60 per cent. ScotRail is below the national average on perceptions of connections with other transport, but it is worth noting that the sample size is small.

2.3.3 Demand for rail - market analysis

The future demand for rail travel within Scotland was forecast in 2010 for the Scotland Route Utilisation Strategy (RUS) (Generation Two). The forecasting approach considered two scenarios for growth, a low and a high, taking account of growth over the last 10 years. The results of this analysis demonstrate the growth potential of the Scottish railways over the next three control periods. The forecasts included the impact of the committed schemes known at the time.

The forecasts for growth in the Glasgow commuting market from 2008/09 to 2024/25 is between 24 and 38 per cent, which corresponds to between 7 million and 11 million additional trips in the Strathclyde area.

The Edinburgh commuting market is forecast to grow faster but from a much lower base, at between 90 and 118 per cent from 2008/09 to 2024/25, corresponds to between 3 million and 4 million additional trips. The higher growth rate is directly related to the completion of a number of major schemes - the Airdrie to Bathgate re-opening, Borders New Railway and the Edinburgh to Glasgow Improvement Programme (EGIP).

The interurban services likewise are affected by EGIP, and the Airdrie to Bathgate reopening which will increase demand between Edinburgh and Glasgow. This market has forecast services to grow between 48 and 74 per cent from 2008/9 to 2024/25.

The rural market, which is the smallest in terms of total demand, is forecast to grow between 27 and 46 per cent. The rural railways within Scotland continue to deliver important connectivity to those parts of the country. Further refinement of the service patterns on rural routes may improve their value for money, as well as reflecting seasonal and tourist requirement, recognising the importance of social inclusion and the effective use of scarce resources.

Coping with the growth across all parts of the market raises issues about the ability of stations, particularly in Edinburgh and Glasgow, to cope with the volume of passengers in the long term. During CP5 further work is planned to develop options to improve passenger capacity at the major stations.

2.3.4 The current railway

2.3.4.1 Outputs

Train service specification

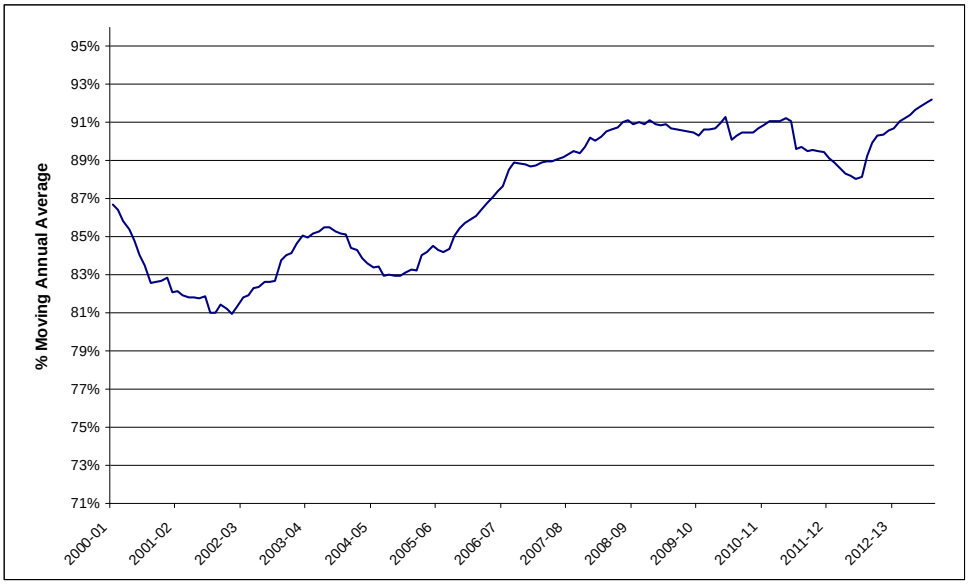
Train services are specified by Scottish Ministers through the service level commitment (SLC) for the ScotRail franchise. The new franchise, due to be let in 2015 represents an opportunity for a reassessment of train service levels.

In general, train services are fixed for the duration of a franchise, but where the operator can demonstrate improvement or wider benefit, Ministers can exercise a change mechanism to alter the service specification.

The current base level of service operating in Scotland broadly reflects that operating at the end of the first franchise in 2004, with a number of additional services added. In order to deliver maximum value, there needs to be a means to add new services quickly and cost-effectively, but also a mechanism to enable withdrawal or change, should the services not deliver the anticipated benefits.

Performance
The ScotRail franchise is currently on track to meet the performance target set for Control Period 4 (CP4). Performance has reached record levels in 2012/13 against a background of increasing traffic.

Figure 4: Public Performance Measure (ScotRail)



Network availability
The current timetables reflect the requirement to accommodate all operators on a congested network which results, in many cases, in not being able to provide a regular off-peak service pattern. This is exacerbated by individual timing of Anglo Scottish services (particularly northbound) arriving on the Scottish rail network at other than a standard time each hour – driven by the desire to provide the shortest possible journey times to maximise the passenger demands and benefits.

Furthermore, passenger demands show that weekends are now much more important and on many routes (both internal to Scotland and cross-border), there would be merit in working towards a regime whereby fundamentally the same off-peak timetable is operated on a daily basis every day of the week. This needs to be delivered in a way that balances with the need to access the railway to maintain and upgrade it, and take account of the overall cost to the rail industry, including both the cost of providing replacement services when the network is not available and the higher unit costs associated with undertaking work in shorter periods of access.

Network Rail has prepared a Joint Network Availability Plan (JNAP) with ScotRail to balance the level of access required for maintenance and renewal with the need to operate services at times when passengers require them and will continue to monitor and review progress in CP5 and beyond.

Capacity
The CP4 enhancements programme has delivered increased capacity and capability across a number of routes, and further improvements are being delivered.

These include:

- additional services provided between Glasgow Central and Edinburgh Waverley via Motherwell and Carstairs from December 2012

- the completion of electrification between Glasgow Central and Paisley Canal in December 2012
- the completion of the Glasgow South Suburban Renewal (GSSR) project with the major renewal of the signalling system as well as the remodelling of Busby Junction in 2013
- the switches and crossing renewals at Stirling Middle, Ladybank and Midcalder for delivery in conjunction with enhancement schemes in 2013/14.

2.3.5 Stations

A well designed, maintained and operated station supports and enhances the passenger experience of rail services, including interchange with other modes, encouraging additional trips and supporting shift from other modes of transport. Stations provide a broader contribution to their communities, supporting economic activity in the station catchment, accessibility to jobs, cultural and community facilities and activities.

Passengers expect the quality of station facilities to reflect those provided in other places such as at airports and shopping centres. On suburban routes the availability of staff caused significant levels of dissatisfaction which was also reflected in concerns about personal security. The focus of station development should therefore be:

- improvements to the general ambience of stations, including the station buildings, facilities, and signage, as well as continuing to improve levels of lighting
- improvements to parking facilities (highlighted as an issue in the Scotland Route Utilisation Strategy (RUS) 2007), which on many routes are a key determinant to the attractiveness of rail services.

In addition, the provision of accurate real time information on train services (described below), is critical as part of broader efforts to improve customer satisfaction.

Looking more widely than the responses of existing rail customers, effective intermodal interchange, cycle parking (and, where appropriate, car parking) are important to facilitate the sustainable growth of rail demand.

In CP4 the industry is undertaking a number of initiatives to improve stations in Scotland, including:

- the improvement of access to rail stations, which has remained a high-profile commitment of the industry. The Great Britain wide Access for All programme has funded the installation of lifts, ramps and footbridges and other enhancements and is on track for delivery benefitting more than 17 stations in Scotland
- 27 Scottish stations will have received infrastructure changes and/or platform extensions to accommodate new or lengthened rolling stock
- investments to alleviate congestion at larger stations (such as Edinburgh Waverley, Haymarket and Glasgow Central)
- the development and growth of income from ancillary trading (such as at Aberdeen)
- the redevelopment of Dundee Station as part of a wider regeneration project promoted by Dundee City Council.

Scotland's around 350 stations range from major urban hubs to rural halts. Annual passenger usage of these stations ranges from over 25 million at Glasgow Central to less than 100 at Breich. Most stations in Scotland are operated by ScotRail, with the exception of Glasgow Central and Edinburgh Waverley which are operated directly by Network Rail and Dunbar which is operated by East Coast Trains.

Current passenger levels at Edinburgh Waverley are around 20 million per annum and at Glasgow Central 25 million per annum. These are expected to increase further by the end of CP5. Some other stations on the network are also likely to become a constraint to growth within the next two control periods, as noted in the Network Route Utilisation Strategy (Stations) published in 2011 including Edinburgh Waverley, Haymarket and Glasgow Queen Street. Work is already underway in CP4 to improve Haymarket station for passengers.

Proposals for improvements to passenger experience and capacity at Edinburgh Waverley, Glasgow Queen Street and Glasgow Central stations are now being developed, due to a number of projects which will require some infrastructure interventions. These include EGIP and the Intercity Express Programme (IEP) where there is a requirement to extend platforms to accommodate longer trains.

The ability of passengers to access the rail network is recognised as being essential to make best use of the rail services provided. It is recognised that some stations are not designed to enable easy access for all members of the travelling public. Improving access to the station for less mobile passengers as part of improving the station environment is likely to increase patronage, although finding sufficient financial resources to make every station in Scotland fully accessible remains a significant challenge.

The introduction of the Scottish Station Fund in CP5 potentially opens up more opportunities to improve the station environment going forward. More details of this fund can be found in section 5.1.3.

2.3.6 Strategic options

Making best use/asset utilisation
The franchising process encourages operators to make the most efficient use of rolling stock and train crew resources within the constraints of the requirements to deliver those services specified in the SLC. It is clear that more effective use of resources is likely to be achievable if the specification is more flexible in future franchise competitions, perhaps by reverting to specifying the minimum service level. This would allow a future franchisee the flexibility to match demand, capacity and resources in a more targeted way, helping to ensure the optimum value for money was delivered.

A move towards a more flexible SLC minimum service level, with the requirement for station calls in peak periods being expressed as a required minimum quantum within a specific time period, rather than specifying which services are required to call, would allow the franchisee to better respond to demand. A review of the maximum standing time target and capacity definitions might allow the deployment of high density rolling stock. Evidence elsewhere in Great Britain, for example London Overground, suggests that this can improve customer satisfaction through appropriate configuration of interiors to move large numbers of passengers on highly-peaked services.

Outside the major centres there are some rural routes with relatively low load factors. Although the train length is normally optimised for the level of traffic carried with significant use of two coach trains, the current specification requires some services which have poor load factors, which may not be easily improved. Some services are required to operate to facilitate train stabling and maintenance and traincrew resourcing.

On a mixed traffic network, the priorities of different operators need to be balanced. There is infrastructure where there is conflict over which services have priority for the available capacity. This leads, in some instances, to timings of regular interval Glasgow suburban services being altered to suit the needs of the Anglo Scottish services. This can lead to a less than optimum use of the existing infrastructure capacity, rolling stock and train crew. Further work is required on this issue to ensure that capacity utilisation is maximised to the overall benefit of both groups of services. This might include a move towards all services on congested sections of the network operating at regular intervals to make best use of the available capacity. The industry parties will continue to work together to achieve this identifying where there are opportunities for trade-offs.

Sustainability
The plan proposes a series of investments to reduce the financial and carbon impacts of the railway. This is to be delivered through the electrification of a number of routes (see section 5.2.1 and 5.2.5) which were identified in the Strategic Transport Projects Review (STPR) electrification proposals. Electrified services are recognised as cheaper to operate, produce less carbon emissions and offer an improved passenger product. In addition there would be the opportunity for improved integration with the existing fleet.

Fares / pricing
The planning assumption used for the Industry SBP is that the Scottish government will cap the increase in peak fares in January 2014 and 2015 to RPI. Ministers will specify fares policy going forward through the refranchising process.

Fares may also provide a lever for delivering better utilisation of rolling stock outside periods of peak demand, and this is a matter that Ministers may wish to consider in terms of specification of the next franchise.

Providing additional capacity
The plan proposes schemes to deliver targeted additional capacity. These are discussed further in Section 5.

Journey times
The plan proposes a number of options for the reduction in journey times in Scotland. The need to reduce journey times is noted as a key goal for Scottish Ministers, “which impact on our high level objectives for economic growth, social inclusion, integration and safety “and is specifically included in the HLOS. *Reference – Scottish Executive transport objectives in the 2004 Transport White Paper.*

2.4 Anglo Scottish

The Anglo Scottish market includes long distance passenger train operations on the Scottish rail network outside the ScotRail franchise. Within Scotland funding and specification of these services is split; infrastructure within Scotland is funded by Scottish Ministers, and train services are specified by the Department for Transport (DfT) through the service level commitments in the franchises. Scottish Ministers

have the opportunity to issue non-binding advice to the DfT as part of the refranchising process. A small number of cross-border services are operated under contract to Scottish Ministers, including Sleeper services to and from London.

2.4.1 Strategic importance

The cross-border rail links are important to the economy of both Scotland and England providing access to major cities and economic opportunities in both countries. The Scottish Government consistently recognises this.

"Fast and efficient rail services across Scotland, between Scotland and the rest of the UK and beyond are vital to opening up new markets and business opportunities, driving up competitiveness and increasing access to employment and education." *Reference – 2012 Scottish HLOS*.

"Cross-border rail services provide vital connections for passengers, key routes to market for freight users and contribute to regional economic development, including within Scotland. " *Reference – Scotland Railways*.

Anglo Scottish services are part of the Great Britain long distance sector which serves a range of markets including long distance leisure travel (e.g. tourism, visiting friends and relatives) and interurban business travel.

They also serve shorter-distance markets, for example links between regional centres (Lockerbie to Glasgow, Berwick-upon-Tweed to Edinburgh). A number of Anglo Scottish services operate north and west of Edinburgh towards Aberdeen, Inverness and Glasgow, both linking these cities with the English centres they serve and integrated into the domestic service pattern in Scotland in conjunction with ScotRail. This diversity presents challenges in balancing market needs, for example in providing stopping patterns which address the local market, while offering attractive journey times to the longer distance business and leisure markets.

Through serving the business, leisure and commuter markets, the Anglo Scottish sector plays an important role in providing a more sustainable and carbon efficient alternative to road and air travel for longer distance journeys.

Anglo Scottish services thus need to be seen as a key component of the wider rail network in Scotland. Collaboration, cross-industry planning and co-ordination are all central to delivering efficient and customer focused services to passengers, in the context of a system that balances the needs of all operators, including freight.

In delivering these outputs the Anglo Scottish franchisees form part of the wider rail network. This requires all operators to collaborate to provide the most efficient service possible on a constrained infrastructure.

2.4.2 What users want

According to the National Passenger Survey (Spring 2012), the principal drivers of satisfaction for passengers travelling on longer distance services are train service performance, train cleanliness and the ability to get a seat on the train.

Overall satisfaction in the long-distance sector in Great Britain is generally higher than the national average. The sector generally scores highest in most areas of passenger satisfaction, with the exceptions of value for money and sufficient seating/standing room, in which the sector lags behind the regional sector.

The survey also showed that passengers are generally satisfied with the punctuality and performance of these services although it is acknowledged that the Public Performance Measure (PPM) for these services is not as good as for shorter distance services. This may be driven to an extent by the fact that a delay which causes a PPM failure may represent a relatively small proportion of the overall journey time compared with the shorter distance of most journeys in the regional sector. Longer distance travellers also tend to travel less frequently than in other sectors.

2.4.3 Demand for rail

Passenger demand on Anglo Scottish services grew by almost 49 per cent between 2000/01 and 2010/11. The growth has been driven by:

- continued economic growth in most years
- increased propensity for longer distance travel for leisure purposes
- train service improvements, especially on the West Coast Main Line (WCML) following the delivery of the route modernisation
- modal shift from air and road.

Demand is expected to continue to grow, as a consequence of these factors, further stimulated by the major enhancements in the sector, including the Intercity Express Programme and additional train capacity on WCML services.

Each of the two cross-border routes are important strategic links between Scotland and England. The East Coast Main Line (ECML) was electrified to Edinburgh in 1991 and there has been a steady growth in patronage since then, and the WCML is delivering significant growth following the route modernisation project that resulted in increased frequency and journey times from December 2008.

There are 286 services each week between Edinburgh and London, operating with an average frequency of three trains every two hours on weekdays and two trains per hour each weekend.

For East Coast, there has been steady growth in the market over the last four years, outperforming other routes within the franchise. The market share from London to Edinburgh has grown from 18 per cent in 2009 to 23 per cent in 2012, reflecting improved journey times, more regular stopping patterns and increased capacity.

The December 2008 timetable delivered the most frequent service ever from Glasgow to London, further increased to hourly through the day from December 2012, with further additional capacity on trains to and from the West Midlands. Allied to increased frequencies and capacity on First TransPennine services to Manchester, and Cross Country trains linking Glasgow and Edinburgh with North East England, the Midlands and the South West of England, there are significantly more cross-border services than ever before.

For travel to and from London, Edinburgh is the dominant market for both rail and air, reflecting its large catchment area and the close commercial links between the Scottish and English capitals. On the city centre to city centre flows from November 2011 to October 2012 the market shares were as follows:

	Glasgow	Edinburgh
Rail journeys	529,000	868,000
Air journeys	2,177,000	2,886,000
Rail market share	19.6%	23.1%

(Source: Lennon, CAA statistics)

This has led to a significant improvement in rail's competitive position with air in recent years and it is anticipated this will continue. There are a number of reasons for this. The impact of accelerated journeys on the WCML is undoubtedly a factor in a significant reduction in the number of airlines and flights between Glasgow and Heathrow, as well as in the regional air market within Great Britain.

In addition, airlines are being driven to reduce domestic services as a result of lower net yields. Direct and opportunity costs are rising as a result of fuel prices, increased security (which also has an affect on overall air journey time which is significant on short flights) and the higher value of longer haul "slots" at major airports. It is anticipated that there will be continued pressure on domestic air services as airports approach capacity and focus more on medium and long haul services. Because of the distances between Scotland and most other parts of mainland Great Britain, domestic air links have generally played a relatively important part in Scotland's connectivity over recent decades, and current trends in the aviation sector could result in a reduction in key economic linkages unless cross-border rail services are in a position to provide an effective substitute.

The forecasts published in the West Coast Main Line Route Utilisation Strategy (RUS), show that growth on WCML Anglo Scottish services is forecast to be significant with growth in demand for travel to and from London and Glasgow of around 50 per cent between 2009/10 and 2024/25. On the East Coast Main Line (ECML) journeys between London and Edinburgh are forecast to show similar growth.

It is worth noting that over the last few years actual demand has considerably exceeded forecasts over Anglo Scottish routes. This has been partly driven by the step change in journey time and service frequency on the WCML but the industry will continue to review its forecasting methodology to improve its reliability.

2.4.4 The current railway

Outputs

2.4.4.1 Train service specification

The DfT specifies daytime Anglo Scottish train services. Some long distance operators also operate services beyond the baseline franchise outputs on a commercial basis. All of the Anglo Scottish franchises are due to be replaced between now and the end of CP5, providing opportunities for service specifications to be reviewed as an enabler to improving overall value for money. These franchises generally pay premiums to the Secretary of State and are market driven businesses.

2.4.4.2 Performance

Train service performance on cross-border long distance services has historically not been as strong as on domestic Scottish services. Remedial plans are in place or being developed for each route recognising that Anglo Scottish performance needs to be managed on a whole-route basis.

2.4.4.3 Network availability

Network availability needs to take account of passenger demand as well as the need for access to the network to undertake maintenance, renewals and enhancements. Traditionally much of this work has been done at weekends but on the Anglo Scottish routes (like most long distance services in Great Britain); peak demand is on Sunday afternoon and evening. As such, Network Rail has agreed with train operators on long distance routes such as the ECML and WCML routes to limit disruption to Saturday lunchtime to Sunday lunchtime wherever practical. This needs to be balanced on routes with local operators with higher demand on Saturday afternoon and evenings.

In CP4, Network Rail has attempted to meet Scottish Ministers' High Level Output Specification (HLOS) of keeping one route between Scotland and London available during engineering work periods and in 2011/12 this was achieved on all but five weekends with the WCML having the more significant work at Easter which equated to 4 per cent of the total year and the ECML route between Newcastle and Edinburgh having the more significant work in the Autumn which equated to 6 per cent of the total year. In CP5, the HLOS has specified that where maintenance, renewal or enhancement activity is required on cross-border routes, it is the overall intent that at least one of those routes should be made available to timetabled services, for the passage of scheduled sleeper, passenger and freight services between Edinburgh or Glasgow and London without the need for change. On certain dates (particularly English bank holidays) the volume of work may make this difficult to achieve. Such instances will be advised to Transport Scotland as early as possible.

Joint Network Availability Plans (JNAPs) are being developed with each operator agreeing how to balance their requirements based on passenger demand with the need for access to the network for engineering purposes.

All long distance operators are beneficiaries of route categorisation principles that protect key flows from disruption as a result of engineering work. This includes routes between Edinburgh/Glasgow and London. On these routes, Network Rail and train operators have agreed that wherever possible, passengers will be carried by a diverted train rather than by bus and any such diversion will not add more than 30 per cent to the journey time between key locations.

2.4.4.4 Capacity

Because of the nature of their markets, the Anglo Scottish franchisees are generally in a better position to manage capacity through demand management techniques than the ScotRail franchisee. A number of tactical schemes have been implemented to provide additional capacity, such as the current project to lengthen Class 390 trains on the WCML. The Intercity Express Programme (IEP) will provide additional capacity on ECML services.

As recommended in the West Coast Main Line RUS, in addition to the baseline of an hourly London Euston to Glasgow Central service, additional trains between London and North West England (Preston) could release capacity on London - Scotland services for long distance passengers. The RUS also recommended the use of longer trains on the Birmingham New Street and Manchester Airport to Scotland routes. In general no additional infrastructure would be required to deliver these options. The industry anticipates that future franchise competitions will produce market driven solutions to providing additional capacity.

The West Coast Main Line RUS recommended longer and additional loops between Preston and Glasgow. This is being considered further in a joint timetable study with freight operators (as part of the Strategic Freight Network workstream), feeding into the 2013 WCML timetable study. Additional/improved loops would provide the potential for additional paths for both freight and passenger services.

On some Anglo Scottish services, train utilisation is relatively low for at least part of a journey. This is partly a consequence of relatively high frequencies, the need to provide for intermediate markets of varying size, the number of station calls, and the use of fixed-formation trains. Operators already use sophisticated yield management techniques to match the provision of capacity and passenger demand, and this will continue and assist in ensuring that capacity and capability are matched to the best possible degree. Franchise replacement may give the opportunity to optimise service patterns to better meet demand and reflect emerging market needs.

2.4.4.5 Affordability

Where train services are funded by the DfT the overall affordability of Anglo Scottish services is included within the England and Wales Industry Strategic Business Plan. Scottish Ministers fund the infrastructure in Scotland but Network Rail receives an allocation of the variable track access charges from the DfT specified operations in Scotland.

2.4.5 Strategic options

2.4.5.1 Fares / pricing

Anglo Scottish operators have taken opportunities to manage demand and improve yield by using revenue management techniques similar to those used by the airline industry, and it is assumed that unregulated fares will continue to be optimised on this basis to provide maximum yield per train.

2.4.5.2 Growth

The England and Wales Industry SBP offers options for tactical interventions to accommodate the forecast demand growth. The key schemes in the sector are:

- IEP
- Industry Timetable Working group developing the future timetables for the WCML and ECML in 2018
- lengthening of existing train formations.

Many of these changes are funded through the DfT and its Statement of Funds available (SoFA). They are covered in more detail in the England and Wales Industry SBP – but we recognise that there may be choices and decisions in Scotland that can deliver significant benefit to cross-border services.

2.4.5.3 Journey times

Improvements in journey times on the Anglo Scottish services continue to be essential to meeting the strategic needs of the sector in promoting modal shift and a value for money product. The STPR confirmed Scottish Ministers' commitment to improved journey times and frequencies to and from key English destinations such as London, Manchester, Leeds, and Birmingham.

Anglo Scottish operators and their stakeholders have expressed a desire to reduce advertised journey times, as they are known to stimulate demand growth and improve the competitive position of rail compared to other modes.

Some operators have already taken the opportunity to reduce the differentials between the working timetable and the advertised timetable. This does not generally affect the actual journey time or performance of a train (other than slightly changing the performance management focus), but it does allow a shorter journey time to be advertised. Such changes to the timetable increase the challenge to deliver PPM.

Analysis of the working timetables on Anglo Scottish routes has shown that some routes have journey times lengthened considerably by the allowances included for train pathing (including junction conflicts), performance, engineering works (speed restrictions), and station dwell times (related to the rolling stock used). For example, threading long distance Anglo Scottish services through the intensely used Glasgow network with numerous flat junctions and single line branches, can result in the need to trade-off journey time between operators. This needs to take account of the resource impact of journey times for operators, as well as passenger perception.

The evidence suggests that there may be opportunities to improve journey times without significant expenditure on infrastructure enhancements, but there is no simple, formulaic relationship between reduced journey time and other outputs, and initiatives in this area will require substantial analysis of the overall timetable on a case by case basis to determine whether there are opportunities to be gained. The rail industry will use the timetable development processes to seek opportunities to identify improved timetable paths. In addition there may be opportunities as renewal plans are developed further to deliver linespeed enhancements that contribute towards reducing journey times. In doing this, the benefits (economic and social) need to be balanced against the cost by developing appropriate business cases.

This plan includes initial options for linespeed improvements on the following sections of route which are served by the Anglo Scottish markets. These are being developed to establish an appropriate business case:

- Carstairs Junction upgrade
- Portobello Junction upgrade including bidirectional signalling (being developed by EGIP)
- Haymarket to Carstairs linespeed improvements.

There are also a number of potential infrastructure changes that will assist in supporting Anglo Scottish growth.

On the East Coast these include:

- improvements at Edinburgh Waverley to accommodate longer trains, and provide additional capacity for higher frequencies and larger passenger volumes
- review of linespeeds between Edinburgh Waverley and Berwick-upon-Tweed.

On the West Coast these include:

- Motherwell re-signalling enhancements
- WCML (north of Preston) capacity enhancements
- platform and station capacity at Glasgow Central.

2.4.5.4 Performance

The industry plans to maintain the high levels of performance of the current railway, and specifically focus on improved resilience of the network to extreme weather conditions. Performance for long distance operators is monitored at both train operator and Network Rail route level although PPM can only really be reported on end-to-end journeys. The focus in CP5 must be on moving Anglo Scottish operators closer to the industry average and managing whole-route performance effectively.

2.4.6 A value for money strategy

The key issues affecting Anglo Scottish operators in this plan are how to:

- support economic growth through accommodating future demand
- optimise the service specification to better respond to passenger demand
- developing options for targeted enhancements to improve journey times
- addressing the specific areas of poor performance of the current railway.

The industry will work with Scottish Ministers, and the UK Department for Transport to drive forward a growing, efficient cross-border passenger network.

2.5 Freight

The rail freight industry delivers significant economic and environmental benefits to the British economy. Each year it directly contributes approximately £900 million to the UK national output (of which about a third is attributable to profits and wages). When indirect effects are taken into account, this rises to around £5,900 million and the support of 67,000 jobs.

Its strategic importance to the national economy is significant. It is vital to electricity generation, the construction industry, the transport of imported and exported goods. Other sectors include petro-chemicals, metals, and the movement of nuclear waste.

In carrying goods that would otherwise have been transported by road, the rail freight industry also contributes significantly to reducing road congestion and road accidents. Rail freight produces 76 per cent less carbon than road freight and opportunities to maximise this benefit can be realised by running longer freight trains. This plays a significant role towards meeting environmental targets.

The Scottish Minister's HLOS objectives are to encourage rail freight and reduce emissions. The ring fenced fund of £31 million was specified in the HLOS for CP5 to fund improvements identified through the Scotland Freight Joint Board. The main focus of the group is to:

- improve productivity
- allow focused input from the freight industry into the development of the railway
- promote rail freight
- explore opportunities to reduce whole industry costs
- promote collaborative working
- provide a strategic and high level overview of safety, performance and security.

Current forecasts are that freight tonne-kilometres will grow by 18 per cent between 2011/12 and the end of CP5. In England and Wales the Government and industry are aligned with the objective of promoting a Strategic Freight Network (SFN). This is defined as 'a core network of trunk freight routes, capable of accommodating more and longer freight trains, with a selective ability to handle wagons with higher axle loads and greater loading gauge.'

The nine core principles for rail freight improvements in Scotland need to be aligned across the Great Britain network and they are:

- longer heavier trains – to optimise path and asset utilisation, the aim is to move towards the operation of longer and/or heavier trains with the future standard intermodal train becoming 775 metres long (including locomotive)
- efficient operating characteristics (to achieve more through running without the need to loop or recess, thereby delivering journey time and environmental benefits)
- seven day and 24 hour operation – whilst recognising the need to maintain and enhance the railway, the industry aspires to operate freight trains over more hours per week, requiring less disruptive track maintenance policies, coordinated planning of engineering possessions and the provision, where justified, of diversionary routes with appropriate capability
- W12 loading gauge – all strategic intermodal routes identified will offer W10 gauge and W12 where it is economical to do so in order to provide clearances for short sea and deep sea high cube containers on standard wagons. Where the route is also identified as a further option for electrification, it will also have clearance for electrification
- UIC GB+ gauge clearance – there is an operator aspiration to provide the ability to carry European gauge freight beyond the limits of the High Speed route without trans shipment to other parts of the country
- new freight capacity – to meet the forecast freight growth
- electrification of routes used by freight – including the investment in selective infill electrification as part of a rolling programme of electrification
- strategic freight interchanges and terminals – the ongoing provision of suitable terminals and interchange facilities is vital to achieving modal shift.
- strategic freight capacity initiative – to provide a quantum of protected freight paths across the network where growth is forecast, alongside a tighter 'use it or lose it' criteria, in order to optimise the use of capacity and to facilitate competition.

The Freight Working Group has identified a number of proposals which will contribute to the Strategic Freight Network goals. They fall into a number of categories:

- **Mossend Yard**, provision of 775 metre loops will improve capacity to enable the use for longer freight trains
- **Slateford Junction**, enhancement of the current junction layout to provide either a double junction or faster single lead junction, providing greater capacity
- **Inverness Yard**, improving capacity and flexibility where the freight operator and ScotRail operations co-exist in close proximity
- **Elgin to Inverness gauge improvement**, increasing the gauge clearance from W7 to W8 providing enhanced capability
- **Edinburgh South Suburban electrification**, enabling greater flexibility for freight as well as empty coaching stock moves by freeing up capacity through

Edinburgh Waverley station and providing access to the proposed rolling stock depot at Millerhill as part of EGIP.

The SFN Steering Group is developing a number of projects in CP4 with a view to commissioning in the early part of CP5. The West Coast Main Line (north of Preston) capacity enhancements, providing network capability for growth in passenger and freight traffic over the largely two track section between Preston and Glasgow Central and the ECML W12 gauge clearance project from Newcastle to Carstairs via the Edinburgh Suburban line will benefit Scotland during CP5.

Experience has shown that there needs to be sufficient flexibility within the Scottish Strategic Rail Freight Fund to allow for changes in the portfolio if there are changes in demand, synergies are identified with other schemes, additional funding becomes available or there are changes in the cost drivers of schemes.

There is also an awareness that the power generation market is changing, particularly with regards to the proportion of power stations that are expected to cease burning coal. The Freight Working Group will work within the industry's Long Term Planning Process to understand the opportunities which may arise to carry biomass and to understand the enhancements required to transport it.

3 A more efficient industry

The industry acknowledges one of its biggest challenges is to deliver better value for money whilst maintaining the current level of service. A key element of this is to continue to deliver further efficiencies. To achieve this, the industry recognises it must find new and innovative ways of working. Alignment of objectives and incentives is critical to delivering efficiencies beyond those already committed. The creation of the Rail Delivery Group (RDG) is a key enabler to achieving this.

3.1 Rail Delivery Group

RDG brings together leaders from the principal passenger owning groups, the largest freight operators and Network Rail. Initiatives are being explored primarily through its subject-specific working groups. Each of these groups is led by a member of the Rail Delivery Group and includes senior managers from across the industry.

3.1.1 Asset, programme and supply chain management

The management of assets and investment programmes and the role of the supply chain are all critical to the success of the Great Britain rail industry. RDG believes that significant savings are available, in particular through greater co-ordination of planning, together with aligned incentives. To tackle specific areas RDG has established working groups looking at:

- access planning
- route based workbank planning
- network optimisation
- cost of contingency
- scope and accountability for major projects.

The groups have been estimating potential efficiencies by assessing the impact nationwide of a range of case studies. There needs to be care to avoid double-counting savings between working groups or between the working group and Network Rail's own work for its Strategic Business Plan. Work to date, excluding major projects where work is just beginning, suggests a range of potential savings across Great Britain of between £430m and £1130m across CP5.

3.1.2 Contractual and regulatory reform

The industry's contractual relationships and the nature of regulation are critical to the future of the industry. This working group is taking a cross-industry view on the role of the regulator, the ability of the industry to embrace change and the effect of the contractual matrix on efficiency.

3.1.3 Passenger train utilisation

RDG's working group concluded that the analysis in the Rail Value for Money report was flawed. There are, however, opportunities to improve rolling stock utilisation through a mixture of demand management, matching service specification to demand and targeted investment to enable rolling stock to be used more effectively. Implementing these changes will require close co-operation with Government, who specifies much of what the railway has to deliver in these areas.

3.1.4 Technology, innovation and working practices

The advent of new technology in areas such as signalling, communications, retailing and training means that railways around the world are introducing innovations that change the way in which people work in the industry. RDG is looking at the implications for GB rail. The Initial Industry Plan (IIP) highlighted the work undertaken by the Rail Value for Money Study, which focused on the impact of technology on areas such as train and station operations, retail and training. Whilst implementation of changes in these areas is a matter for individual operators RDG will continue to explore how technology can create a better railway for passenger, freight shipper and taxpayer.

3.1.5 Franchising

The Rail Delivery Group is working to bring together the industry's views on franchising recognising that franchising has been at the heart of the growth of the railway.

3.1.6 Formalisation

To enable RDG to fulfil its leadership role and to maintain involvement at a time of commercial and political change RDG asked to formalise the Group as a company limited by guarantee. By formalising RDG it will establish a better defined relationship with, and give guidance to, cross-industry groups such as Planning Oversight Group, National Task Force and Technical Strategy Leadership Group. It will also allow it to develop relationships with other industry bodies such as RSSB and enhance its communications with the industry, funders and other stakeholders.

This ownership means that the industry's plans are endorsed and supported by the leaders of the companies and organisations that will be expected to bring the plans to fruition.

3.2 Network Rail's efficiency plans

In Network Rail's SBP it confirmed its commitment to deliver 16 per cent headline efficiency over CP5. The pace of change over the next control period is key in determining whether this challenging level of efficiency can be achieved.

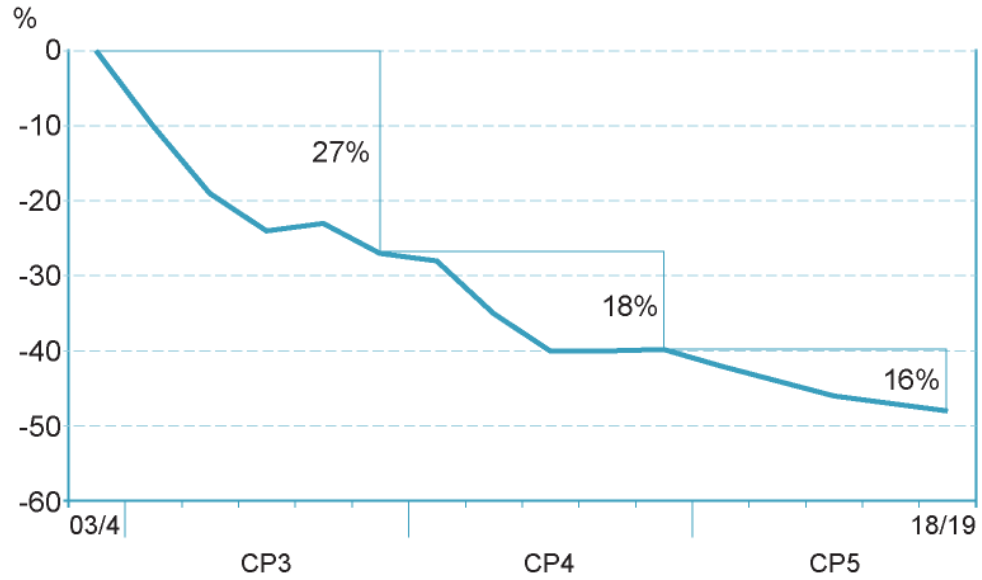
These savings build on the efficiencies of over 40 per cent achieved over the last two control periods. Network Rail has undertaken a comprehensive benchmarking programme to inform its view of the opportunities. The efficiency proposals it has developed represent a challenging step-change in the way it runs its business.

The key initiatives to deliver further efficiencies beyond those achieved in Control Period (CP4) include:

- Renewals – savings of around £188 million will be made by implementing more cost effective asset policies, improved scheduling of work, more effective contractual relationships, standardisation processes and multi-skilling of staff
- Maintenance – net savings of around £4 million per annum by the end of CP5 will be delivered through standardisation, greater mechanisation, increased risk-based maintenance enabled by improved asset information and multi-skilling leading to rationalisation of staff

- Operations – reduction of cost through a programme of consolidation towards two route operating centres and two radio signalling centres, delivering savings of around £5 million per annum by the end of CP5
- Support functions – savings of around £9 million per annum by the end of CP5, delivered through better utilisation of resources.

Figure 5: CP3 – 5 Efficiencies



Network Rail is undertaking a substantial cultural and structural change to meet the needs of its customers and drive efficiency and value for money. A range of programmes are underway:

- Alliancing – working more closely with train operating companies, aligning behaviours through shared incentives and objectives
- Devolution – devolving decision making and management accountability to route level to focus efforts on continuous improvement
- The Quadrant at Milton Keynes – the national centre brings together staff to support the devolved business and allow more efficient delivery of outputs
- DIME – a new structure for how capital projects that will deliver savings through internal reorganisation and competition
- ORBIS – improvement in the way asset information to facilitate many of the planned maintenance and renewal savings.

To deliver these savings will require more collaborative working across the industry. Industry help will be required in order to go beyond the efficiencies delivered by our current plans. The initial findings of the four RDG workstreams examining the opportunities to save costs in relation to asset, programme and supply chain management (APSCM) have been shared with Network Rail. The scale of opportunities identified is consistent with the level of efficiency Network Rail has already included in its plans. The RDG work therefore gives Network Rail greater confidence in the level of efficiency it has assumed in our plan and the future work of the RDG workstreams will also help to explore the opportunities to go beyond the level of efficiency already planned.

The RDG work confirms the view that the level of access is a key factor in the level of cost savings Network Rail can deliver.

3.3 Train operator efficiencies

Funders drive value for money from passenger train operators primarily through franchising - a highly competitive process which has attracted the involvement of companies with strong track records in cost efficiency. Within the constraints of structural, commercial and policy framework for rail, bidders demonstrate value against specifications set out by the tendering authority.

Train operator costs per passenger kilometre (excluding access charges) have fallen since privatisation. In addition, train utilisation (average loading calculated as passenger kilometres per train kilometre) has risen by 24 per cent. Benchmarking indicates train operator costs per train kilometre are slightly lower than those of comparator railways in other European countries.

The IIP set out ways in which train operators contribute to industry value for money and the RDG working groups have developed these opportunities further. The challenge for Scottish Ministers will be to ensure that their franchise specifications, going forward, permits optimising value for money and efficiency while delivering the required outcomes for passengers.

3.4 Support for the rail industry

The industry's subsidy requirement is driven to a significant extent by the need to pay back the cost of previous investments that are reflected in Network Rail's Regulatory Asset Base and associated debt. This debt reflects recent investment to expand the railway to support economic growth but also historic costs inherited when Network Rail took over ownership of the infrastructure and in the cost of addressing the backlog of previous underinvestment in the infrastructure. Network Rail will continue to explore with ORR and government options for financing the regulatory asset base.

It is unlikely that the railway in Scotland will ever be subsidy free. There are, however, significant steps that can be taken to reduce the subsidy per passenger kilometre as well as improving the efficiency of train service provision. All parties must develop aligned and suitably incentivised relationships that optimise the provision and management of infrastructure and train service delivery. By the end of CP5 it is anticipated that direct cost recovery from the ScotRail franchise will be 42 per cent (compared to 47 per cent for regional services in England and Wales). The analysis carried out for this Industry SBP demonstrates that affordability in Scotland is dominated by industry costs more than by revenue.

4 Outputs to be delivered in CP5

4.1 Introduction

This section summarises the key outputs to be delivered by the industry in response to the High Level Output Specification (HLOS) in terms of safety, performance, capacity and carbon. It also addresses the issue of managing trade-offs.

4.2 Safety

Rail continues to be one of the safest forms of transport and Britain's railways compare very favourably with the rest of Europe. Since the beginning of Control Period 3 (CP3), and against a background of increasing rail usage, industry initiatives have brought about improvements in the safety of both passengers and the workforce from train accidents and personal accidents. Safety is reserved to the UK Secretary of State, and the HLOS, as specified by the Department for Transport (DfT) describes the safety requirement for the whole of the GB wide railway in Control Period 5 (CP5) in the following manner:

"the Secretary of State considers the continued safe operation of the railway to be of the utmost importance. She therefore requires the industry to continue to improve its record on passenger and worker safety through the application of the 'so far as is reasonably practicable' approach and to ensure that current safety levels are maintained and enhanced by focusing domestic efforts on the achievement of European Common Safety Targets."

The Scottish HLOS assumes a background growth of at least 15 per cent in passenger kilometres and 18 per cent in freight train kilometres over CP5 plus additional route based growth supported through the specification of the ScotRail franchise. This growth will appear in the form of more train and services and more people on trains. In response to this demand, investment in improvements to capacity, journey time and other modernisation schemes will result in the replacement of infrastructure and rolling stock with modern equivalents, which are at least as safe as, and often safer than, older equipment. Following the production of the HLOS, the impact of the proposed projects on the safety risk forecasts was updated from the forecasts in the Initial Industry Plan (IIP). Although the total risk to passengers is predicted to increase, the percentage increase is less than the increase of passenger journeys. The risk per passenger journey is predicted to fall by around nine per cent over CP5.

Scottish Ministers included ring fenced funding for level crossing closures: £10million for Scotland. Network Rail will continue their programme to reduce risk at level crossings and take increasingly innovative approaches to reduce risk which are commensurate with maturing attitudes and increased understanding of behaviour.

The industry will continue to review the overall safety risk profile and trends to identify, evaluate and implement risk reduction measures. More information is available within the supporting document on safety.

4.3 Performance

There has been significant positive progress in Scotland over the duration of Control Period 4 (CP4). We are running more trains than ever before, with 18 per cent more train kilometres than 2003/04 and a 40 per cent increase in freight moved since privatisation. Safety performance has continued to improve, customer satisfaction

has reached an all time high of 89 per cent, and train performance is also at historically high levels across the Scottish network.

For the ScotRail franchise, the Route is currently on target to achieve an overall reduction in passenger delays of 44 per cent since 2004, despite the significant level of passenger and service growth. The objective for the end of CP4 is to achieve a 92 per cent Public Performance Measure (PPM) figure. The HLOS for CP5 requires further improvement, with the target for the final year of CP5 being 92.5 per cent. This presents a challenge, with risks including the impact of continued future growth on a network close to capacity in parts, the extent of enhancement project work being constructed on a live railway, and the frequency of severe weather events impacting on performance delivery.

4.3.1 Route required outputs

The HLOS specified that the operators of each franchise let by the Scottish Ministers will achieve a Public Performance Measure (PPM) of 92.5 per cent by the end of CP5, with a minimum PPM of 92 per cent achieved across each year of that Control Period.

4.3.2 Route proposal on outputs

ScotRail franchise

It is expected that base levels of performance would be expected to continue to improve in CP5, based on the improvements and investment in recent years, more efficient working practices, and building reliability into infrastructure and fleet assets. However, the effect of predicted increases in passenger and freight traffic, together with the impact of enhancement works during construction, new fleet and re-franchising needs further analysis. We have a plan to deliver the HLOS requirements, based on our current understanding of the inputs and an ability to have a change control process for deliberate trade-offs between industry outputs – principally capacity, journey time and train performance. Our plan is expected to deliver 92.5 per cent PPM for the ScotRail Franchise by the end of CP5.

Sleeper franchise

The current sleeper services are measured on a 0-5 minute PPM basis, consistent with the rest of the ScotRail franchise. However the duration and nature of sleeper journeys is more in keeping with the long distance sector, which measures PPM on a 0-10 minute basis. Given the small number of trains currently aligned to the franchise, and the interdependency of those trains because of the joining and splitting of services (two trains from England split into five portions within Scotland, and vice versa), the ability to deliver 92.5 per cent PPM, is limited, with the current services never having achieved that level of performance. Therefore Network Rail propose to measure the sleeper franchise on a 0-10 minute basis, analogous with the long distance sector.

Using the proposed new measure, analysis has shown that base levels of performance would be expected to continue to improve further in CP5, with the same caveats as those expressed above for the domestic franchise.

Our plan is expected to deliver 92.5 per cent PPM for the Sleeper Franchise by the end of CP5.

Key performance indicator package

In their HLOS, Scottish Ministers required Network Rail and the industry to develop KPIs which build on the PPM targets. They have been extensively discussed within industry groups, and will be developed with an aspiration for shadow running in the final year of CP4. These KPIs will be refined in agreement with Transport Scotland and the wider industry as experience is gained of their usefulness.

The following KPIs will have an agreed target and associated delivery plans against which progress will be measured. The rationale for inclusion is also outlined below:

- right time for ScotRail and Sleeper franchises
- PPM and right time for passenger operators who operate in Scotland
- Freight delivery metric.

The following proposed KPIs provide a more detailed view of overall performance and will be measured and tracked as a package of performance indicators. These KPIs will not have a target but trends will be reviewed and any improvement plans, where required, will be developed, implemented and tracked:

- measuring PPM and right time at a service group level
- measuring peak commuter services PPM and right time at destination and any relevant heavily used intermediate stations
- measuring PPM and right time on the most heavily loaded trains
- measuring the number of weekday services which are consistently late at destination
- measuring the impact of severe disruption.

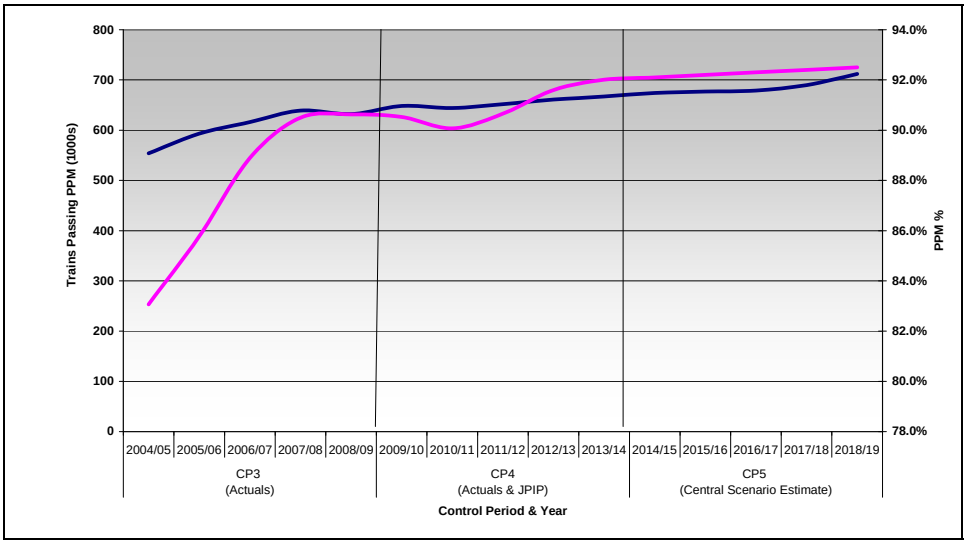
A proposal for a KPI to measure passenger experience is still at early stage of development, and the intention is that this will be developed in conjunction with Passenger Focus.

4.3.3 Delivering CP5 performance

Our work on performance should be seen as a statement of strategic commitment to deliver the specified outputs, based on a range of inputs and likely finance available. Our focus will be on minimising the risk of infrastructure enhancements during construction, improved timetable resilience, spreading the impact of change and making optimal choices for the benefit of passenger and freight users. Outputs will be further refined through the Joint Performance Planning process.

There have been a number of significant achievements in CP4, and the introduction of some innovative technology. Widespread deployment of Remote Condition Monitoring, better seasonal preparation, contingency planning and more focus on performance as an output, have all taken the industry forward. In fact, the absolute number of trains achieving PPM has continued on an upward trend through CP4 and this is planned to continue in CP5.

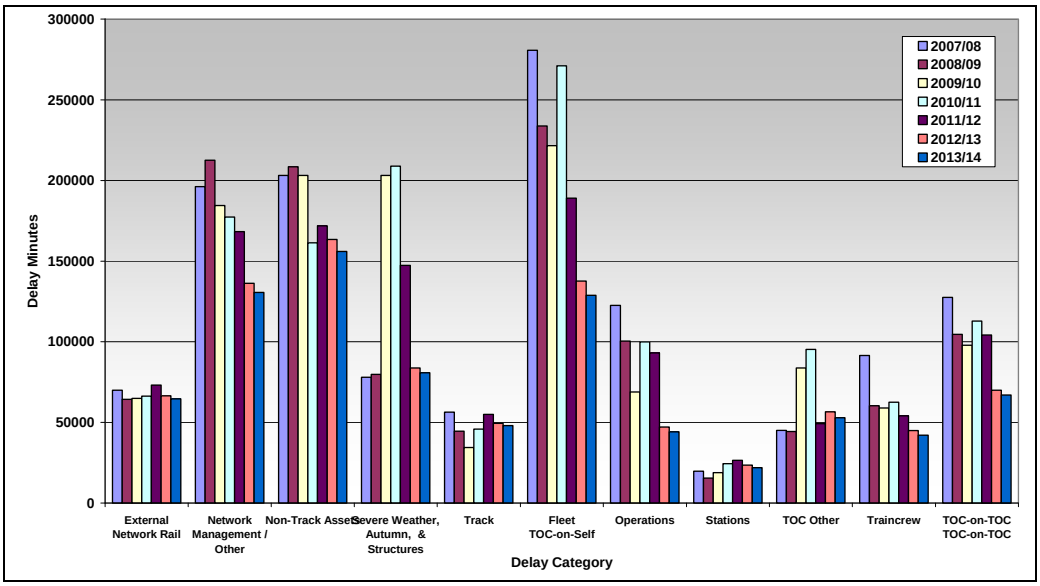
Figure 6: PPM as a percentage and number of trains achieving PPM



However, traffic will continue to grow and the “hot spots” on the network will get more congested. Passenger train kilometres are forecast to grow by 15 per cent in CP5 and freight train kilometres by 18 per cent.

As part of a continual improvement approach, the industry has paid close attention to all categories of delay. Through CP4 we have seen a steady overall decrease in delay minutes year on year. While this is good news, there are some trends within specific delay categories that will continue to require close attention in CP5, as can be seen below.

Figure 7: Five year trends: delay minutes for major categories



The industry long term performance plan is a mixture of benefits delivered through asset renewals, component overhauls, and refurbishments. The continued refinements of industry rules, processes and procedures as well as the development of improved management tools for handling incidents on the network will also improve performance.

In addition Scottish Ministers have provided a 'Scottish Network Improvement Fund' which has a value of £62 million. The intent of the fund is to enable interventions on the Scottish network which support the development of the capacity and capability of general infrastructure and network communications systems in line with the strategic priorities of the Scottish Ministers, including improved journey times, improved connectivity and resilience.

In addition the Scottish Freight Joint Board is reviewing a number of projects to improve freight capacity and performance. Current discussions have included Edinburgh South Suburban line electrification, Elgin to Inverness gauge improvement, Inverness Yard, Mossend loops and Slateford Junction as potential schemes. See section 2.5 for more details of the schemes.

The infrastructure enhancement schemes specified in the HLOS will provide an overall benefit to the Scottish Network, meeting the forecast growth. As with all major work on a live network, there is a risk to train performance, both planned and unplanned, whilst project activities take place. The current phasing of engineering access points to a peak in work activities during the latter stage of CP5, requiring increased performance risk focus during those times.

The majority of enhancements planned for CP5 are at an early stage in respect of scope and so performance modelling has yet to be undertaken. It is therefore not yet possible to assess the impact that the following schemes may have on the achievement of the HLOS performance target, and further analysis will take place as scope and outputs are finalised:

- Edinburgh to Glasgow Improvement Project
- Borders Project
- Aberdeen Inverness improvements
- Highland Main Line improvements
- the introduction of Intercity Express Programme (IEP) trains
- new franchise commitments in terms of increasing service levels and stations.

As well as the infrastructure improvements taking place, the passenger railway will be re-franchised during CP5. This affects the ScotRail franchise and also, at various points in CP5, cross-border operators. This provides funders with the opportunity to re-define the outputs that they wish to buy through the franchises. Operators may also be given greater freedom, subject to meeting their franchise commitments, to find the best commercial balance between outputs. These opportunities are intended to lead to better value for money and reduced net industry cost. However, they also create a risk that Network Rail's regulatory outputs, as set in the periodic review, may be inconsistent with future franchise commitments, or with operators' commercial decisions.

In order to enable the industry to properly reflect any impact from this process in respect of performance outputs, we propose a change control mechanism for CP5. The mechanism would be a means of changing regulatory output target(s) to reflect deliberate trade-offs between industry outputs when necessary – principally between capacity, journey time and train performance. The scope of the mechanism would be limited to trade-offs that are deliberate decisions, initiated by funders and/or operators; for circumstances that are unforeseen in the periodic review.

In delivering our plans, innovation will continue to be key. Examples are expected to include the implementation of traffic management technologies to improve

operational decision making, the introduction of Global Positioning System (GPS) to improve train location information, thus informing regulating decisions and timetable quality, and further roll out of remote condition monitoring to inform proactive maintenance decisions.

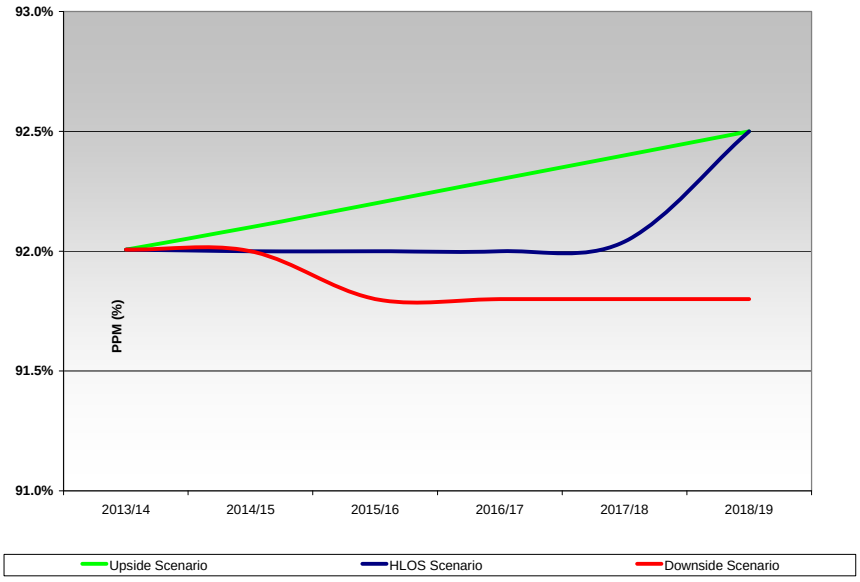
All of this will be underpinned by resilient timetables, a focus on attention to detail by all involved in delivering the railway, and continued focus on effective mitigation plans to reduce the impact of severe weather, and external factors such as cable theft, fatalities, and level crossing misuse. We will continue to focus on fleet reliability, particularly as rolling stock is replaced and cascaded through CP5. We will carefully consider the balance between delivering the required efficiencies from our plans against delivery of the performance outputs.

All of the evidence, analysis and assumptions made in respect of the performance plan have been collated into a hybrid (top down / bottom up) model, further supplemented by detailed analysis to statistically show a confidence range, based on the randomisation of the set of input assumptions.

The output of this modelling work, in the form of a PPM graph, shows three trajectories:

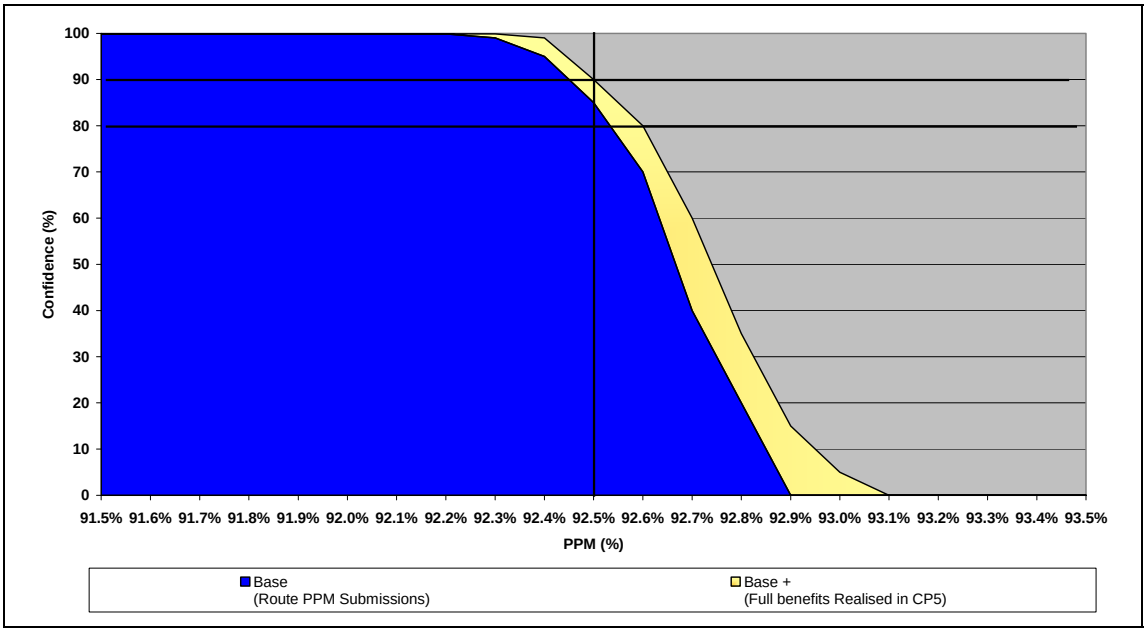
- A **best case** based on achieving exit-CP4 targets and estimated impact of change steadily progressing throughout CP5 (green line). Equates to 90 per cent confidence
- The HLOS is based on achieving exit-CP4 targets and estimated impact of change at the minimum levels throughout CP5 (blue line). Equates to 90 per cent confidence
- A **worst case** based on achieving exit-CP4 targets but the impact of change is at the high end of estimates and severe risks materialise, such as severe weather risk (red line). This has not been included in the simulation analysis below as this would adversely skew the confidence to deliver the required outputs.

Figure 8: Forecast ScotRail performance (PPM) trajectories in CP5



To improve our confidence levels that the HLOS targets for performance will be achieved, a National Performance Improvement Programme will be developed for commencement in CP5, with a focus on additional initiatives over and above core JPIPs, including for example control centre actions, timetables for performance, improvements to incident response times, rule changes, fleet initiatives and improved performance modelling. The confidence range is shown in the graph below:

Figure 9: Graph showing CP5 exit PPM confidence levels



We would expect further improvement to come from Network Rail and passenger operators through the JPIP process, and by realising benefits (particularly timetable changes) from an improved and aligned franchising approach. This has been included as part of the route based submissions.

For freight, we propose that the Freight Delivery Measure should continue to be a regulated output at an industry level. We do not believe it is sensible to disaggregate the regulated output to an individual operator as it is not possible to know which operators will be operating particular freight timetable slots in CP5. Annual performance plans will be produced with each freight operator and these will include forecast performance measures for each operator. These will have the status of customer reasonable requirements.

In conclusion, the industry must work together to deliver performance in CP5, with involvement from a wide range of stakeholders including Network Rail, freight and passenger operators, Department for Transport, Transport Scotland, Office of Rail Regulation, Rolling Stock Companies and Infrastructure Delivery Partners.

We will plan for alignment between the parties. We will seek to understand the impact of decisions and will endeavour to control changes which could affect performance and other outputs. We must start with timetables that are optimised or we will always be constrained by a lower base capability. The industry must work together to establish appropriate governance processes to drive the right industry decisions.

4.4 Capacity and Capability

This plan proposes a number of schemes to increase passenger capacity and capability over CP5. In particular, the Industry SBP complies with the HLOS for Scotland, published in June 2012.

Plans to develop the rail network to accommodate anticipated longer term growth in rail freight markets are covered in section 2.5 of the Industry SBP.

The Scottish Minister's HLOS specified a number of key projects which will deliver capacity enhancements, such as an hourly service between Inverness and the Central Belt, instead of specific capacity metrics and are discussed in Section 5 below.

The HLOS also requires the rail industry in Scotland to work together to meet future reasonable passenger and freight capacity requirements. In addition, the following strategic projects are to be developed to an appropriate level to inform potential future funding decisions for CP6:-

- phase 3, 4 and 5 electrification in line with the conclusions of the Scottish Transport Projects Review (STPR)
- Aberdeen to Inverness corridor improvements phase 2
- Highland Main Line corridor phase 3
- Aberdeen to Central Belt
- passenger capacity at Glasgow Central, Glasgow Queen Street, Edinburgh Waverley and Haymarket, including any requirements resulting from the introduction of high speed rail services
- train handling capability at Glasgow Central, including potential to use the Glasgow Central low level line for additional local services
- train handling capability at Edinburgh Waverley.

The industry will continue to work to develop the most effective solutions to increase capacity and capability at the stations with interventions likely to be required in CP5. The establishment of collaborative planning as well as a long term strategy for station capacity enhancements is required to ensure that passenger disruption is minimised.

Cross-border projects are specified in the England and Wales HLOS which impact on the Scotland route:-

- Intercity Express Programme, to provide capability to support the operation of the Super Express train (10-car, 260 metre) to be introduced on the East Coast Main Line. Platform lengthening and/or selective door opening will be considered
- WCML (North of Preston) capacity enhancements (SFN), there is a workstream looking at freight capacity north of Preston on the West Coast Main Line that will assess what options may be appropriate to cater for the forecast increase in freight and passenger traffic north of Preston, in the periods up to 2019, and between 2019 and 2030. Options will not be restricted to infrastructure enhancements, but may include timetabling solutions and routeing options.

The industry continues to look for opportunities to increase gauge capability across the network. Careful prioritisation of gauge improvement projects will take place through the Scotland Freight Joint Board and the Route Investment Review Group. A number of gauge improvement projects are being reviewed in CP4 for delivery in

CP5 including the Elgin to Inverness project where the gauge is proposed to be increased to W8. Improving the gauge on the route will enable any new business more flexibility for routing trains either via Aberdeen or Inverness.

The outstanding capacity gaps identified in the Scotland Route Utilisation Strategies (RUSs) included:-

- EGIP future phases, will need to be considered following a change to the outputs, after publication of the HLOS
- lack of stabling capacity at Perth
- lack of passing loops of adequate size between Dundee to Aberdeen
- additional services on the Argyle line
- single lead junctions: Slateford, Westerton, Bellgrove and Winchburgh
- restrictive signalling headways across the Forth and Tay Bridges and between Haymarket and Carstairs
- location and length of freight loops
- the single line section between Mauchline - Newton-on-Ayr and Montrose - Usan.

The RUS highlighted these as locations where the demand forecast indicated these constraints would be a restriction on further growth. The industry will take cognisance of these capacity gaps when developing and implementing schemes for delivery in CP5 and beyond.

4.5 Carbon

The industry set itself an ambition in the IIP to reduce carbon emissions by 28 per cent per passenger kilometre by the end of CP5. The HLOS for Scotland seeks a continuous and sustained carbon reduction per train kilometre and freight tonne kilometre in the operation, maintenance, renewal and enhancement of the network.

The approach to meeting the industry's ambition and the HLOS requirements is built on the following four elements, set out in a more detailed supporting document produced by RSSB on behalf of the industry as part of the Sustainable Rail Programme.

First, the main opportunities for the industry remain in addressing traction emissions, which account for 88 per cent of its direct CO_2 emissions. The electrification projects planned for CP5 will complement Government plans to de-carbonise electricity generation, such that the combined effect is forecast to reduce the absolute level of annual traction carbon emissions by the end of CP5, even after allowing for expected growth in passenger demand.

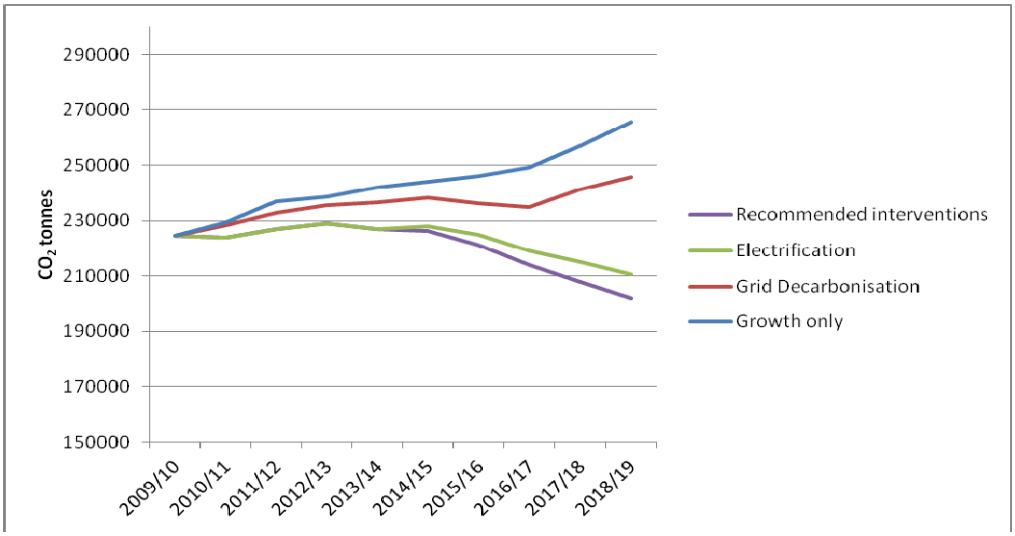
Second, research commissioned by the industry following the IIP has identified two key network-level interventions that could further reduce traction carbon emissions, each with a positive business case over the course of CP5:

- extended adoption of energy-efficient driving (84 per cent of identified extra savings)
- weight reduction of new trains (16 per cent).

If implemented, the combined impact of the interventions could, over the course of CP5, mean a further emission reduction of 26,000 tonnes with a positive business

case of £200,000. Together with the impact of de-carbonisation and electrification, this would cut absolute annual traction emissions from 225,000 tonnes CO_2 (2009/10) to 210,000 tonnes CO_2 by the end of CP5 (see figure 10). This equates to a fall in emissions per passenger km of 43 per cent and per net freight tonne km of 6 per cent.

Figure 10: Traction CO_2 emissions trajectory, Scotland



Third, the industry will continue to support initiatives that help to unlock the potential for further interventions to improve energy efficiency in CP5. In particular:

- ORR's plan to further incentivise operators to meter their trains
- the inclusion of energy and carbon targets in the 2015 ScotRail franchise competition.

Fourth, the industry will develop further its understanding of its non-traction and embedded emissions, and the scope for cost-effective reductions in these areas. Progress has already been made in the last year:

- to measure non-traction emissions, this should fall due to planned de-carbonisation of electricity generation. More savings might be achieved (e.g. introducing more efficient lighting technology), but it has not yet been possible to develop a robust enough network-level cost benefit analysis in support of this
- with a commitment to develop its Carbon Management Framework. The industry has agreed updated protocols for reporting traction and non-traction emissions, which will be the basis for reporting emissions to the ORR.
- under the Carbon Management Framework, the industry is also commissioning a rail-specific carbon accounting tool for use in infrastructure projects. This will be valuable in helping to understand the scale of industry embedded emissions and will be available for CP5.

5 Industry strategy and plans

This chapter sets out how the industry will deliver the outputs required by Scottish Ministers in Control Period Five (CP5) and beyond. It covers the industry funds set out in the Statement of Funds Available (SoFA), the specified projects and other interventions needed to support the continuing success of the railway.

5.1 Ring fenced investment funds

This section describes the funds that were specified in the HLOS to support the industry to deliver the required outputs and make progress towards the industry's long term vision. The principles of governance for each ring fenced fund have been agreed with the industry and Transport Scotland. The funds are identified below:

Figure 11: Ring fenced funds in CP5

Fund	Funding (2012/13 prices)	Industry Oversight Group
Scottish Strategic Rail Freight Investment Fund	£31 million	Scotland Freight Joint Board
Scottish Network Improvement Fund	£62 million	Scotland Route Investment Review Group
Scottish Station Fund	£31 million	Scotland Route Investment Review Group
Level Crossing Fund	£10 million	Scotland Route Investment Review Group
Future Network Development Fund	£10 million	Scotland Route Investment Review Group

5.1.1 Scottish Strategic Rail Freight Investment Fund

The Scottish Strategic Rail Freight Investment Fund of £31 million (at 2012/13 prices) was specified in the HLOS. The governance of this fund should be consistent with objectives of the Scottish Ministers to encourage growth in rail freight and reduce emissions, the Fund should support sustainable rail transport for freight, thereby reducing the supply chain's transport emissions and reducing road congestion. The fund will facilitate, or contribute towards, strategic infrastructure interventions on the Scottish network to enable rail freight to deliver against these objectives. This fund does not replace, nor will it replicate, the grant elements of the Scottish Government Future Transport Fund, which aim to encourage a shift of freight to rail and water.

5.1.2 Scottish Network Improvement Fund

The Scottish Network Improvement Fund of £62 million (at 2012/13 prices) was specified in the HLOS. The purpose of this fund is to deliver, or support the funding of, interventions on the Scottish network which support the development of the capacity and capability of general infrastructure and network communications systems in line with the strategic priorities of the Scottish Ministers. This includes improved journey times, improved connectivity and resilience. The fund should exploit opportunities available through current or planned works in CP5.

5.1.3 Scottish Station Fund

The Scottish Station Fund of £31 million (at 2012/13 prices) was specified in the HLOS. The purpose of the fund is to improve the public's access to railway services. To support this objective the Scottish Ministers would expect that this will fund, or support the funding of:

- improvements to station buildings and facilities
- improvements to passenger facilities at stations supporting long-distance services including the Caledonian sleeper services
- the development of new and improved car and cycle parking facilities
- new stations
- accessibility works.

Transport Scotland have prepared a guidance note in conjunction with Network Rail on how potential investors can progress the development of applications for new or improvements to stations in advance of CP5. Link to guidance note www.transportscotland.gov.uk/rail2014.

5.1.4 Level Crossing Fund

The Level Crossing Fund of £10 million (at 2012/13 prices) was specified in the HLOS for the purpose of closing level crossings. The industry believes that the alternative approach of eliminating vehicular access from higher risk level crossings could reduce the overall risk profile more than full closure of a low risk level crossing.

Where baseline (ALARP) funding and third party funding is not sufficient to promote risk reduction at a level crossing, it is intended that this fund shall be used as a supplement.

The industry believes that Network Rail avoided renewal funds could be considered as third party funding in respect of this fund.

5.1.5 Future Network Development Fund

The Future Network Development Fund of £10 million (at 2012/13 prices) was specified in the HLOS. This will fund or support the development of proposals for strategic interventions to improve the capacity and capability of the Scottish network in Control Period 6 (CP6) and beyond. The fund should exploit opportunities available through current or planned works, including improving journey times, improved connectivity and resilience.

5.2 HLOS Specified Projects

This section describes the projects specified in the HLOS to be implemented by the industry to deliver the required outputs and make progress towards the industry's long term vision.

The high level output requirements are:-

5.2.1 Edinburgh to Glasgow Improvements Programme

Edinburgh to Glasgow Improvements Programme (EGIP), electrifying the route between Glasgow Queen Street and Edinburgh Waverley (via Falkirk High) providing increased capacity and faster rail services between Scotland's two principal cities. In

addition the target is to reduce the end to end journey time to between 42 and 43 minutes as well as delivering infrastructure changes to Haymarket Station in CP4, a new station at Edinburgh Gateway and enhancements to Edinburgh Waverley and Glasgow Queen Street Station in CP5.

5.2.2 Borders Railway

Borders Railway, supporting the reinstatement of the former Waverley line between Edinburgh and Tweedbank by providing 30 miles of new single track railways with passing loops and seven new stations. Advance de-vegetation and mining works are well advanced, with the main works due to start from early 2013, with completion scheduled for summer 2015.

5.2.3 Aberdeen / Inverness

Aberdeen to Inverness improvements phase 1, make progress during CP5 towards delivering longer term requirements to:

- provide an hourly service between Aberdeen and Inverness
- provide a half hourly service between Inverness and Elgin, including at a new station at Dalcross
- provide a half hourly service between Inverurie and Aberdeen, including a new station at Kintore
- enable journey time improvements to provide an average end to end journey time of around 2 hours, calling at all stations
- retain freight capacity.

During CP5, the extent of progress is expected to include construction of new stations at Dalcross and Kintore, and the introduction of enhanced commuter services on the Inverness – Elgin and Aberdeen – Inverurie sections of the route.

5.2.4 Highland Main Line

Highland Main Line journey time improvements phase 2, as part of a longer term programme of improvements on the Highland Main Line that will achieve during CP5:

- an hourly train service in each direction between Inverness and Perth extending to either Glasgow or Edinburgh with an average end to end journey time reduction of around 10 minutes, measured against the timetable in place at the time of the HLOS June 2012 statement or any improvements introduced between then and 31st March 2014 when CP4 ends.
- more efficient freight operations that better respond to the demand from freight customers.

5.2.5 Rolling programme of electrification

Implementation of a rolling programme of electrification works which will cover around 100 single track kilometres per annum commencing from the completion of EGIP. Specific routes should be agreed with Scottish Ministers and the rail industry. The rail industry is working through a number of iterations to produce a final electrification programme. The likely potential routes on completion of EGIP include:

- Edinburgh & Glasgow diversionary routes (Cumbernauld to Greenhill, and Greenhill to Polmont via Falkirk Grahamston) will provide additional

operational flexibility, reduce the use of mixed traction on the Edinburgh and Glasgow via Falkirk High route, and potentially allow electric haulage of freight to Grangemouth, which could free up capacity on the West Coast Main Line

- Larbert – Stirling – Alloa / Dunblane will further improve performance in the Central Belt and provide for future passenger growth, as well as reducing the use of diesel traction, particularly on already electrified routes
- Rutherglen – Whifflet will free up capacity at Glasgow Central High Level through diverting services to the Argyle Line, as well as providing an additional electrified diversionary route. This could be aligned with resignalling required in CP5 and is potentially able to be resourced without the provision of additional rolling stock
- electrification of the route between Glasgow and Edinburgh via Shotts will provide additional capacity for passenger and freight trains in the Central Belt, as well as potentially releasing capacity at Glasgow Central and Edinburgh Waverley stations, as well as providing a diversionary route for electrically operated cross-border services.

The electrification of East Kilbride branch is also planned to be undertaken in CP5 through a similar alliancing project which successfully delivered electrification of the Paisley Canal branch in CP4.

5.2.6 Motherwell area stabling

Motherwell area stabling, improvements to support more effective operations of train services in the area, improved servicing of trains and improved track maintenance opportunities. The electrification of sidings will help to reduce empty train miles and additional driver/unit mileage costs.

5.2.7 Motherwell resignalling enhancement

Motherwell resignalling enhancement, increase capacity between Carfin and Holytown through the introduction of additional signalling as well as providing operational flexibility through enabling bi-directional working over the West Coast Main Line between Carstairs and Law Junction.

5.3 Other strategic projects

This section describes the key projects that the industry believes should be delivered in CP5 to deliver the required outputs and make progress towards the industry's long term vision.

5.3.1 Carstairs Junction remodel

Carstairs Junction remodel, the opportunity to rationalise and enhance the infrastructure has been identified due to the synergy with signalling and track renewals planned at Carstairs. The proposed increase in speed over the junctions may offer reductions in journey times for both passenger and freight operators as well as increasing the capability and performance of the network. This enhancement opportunity has not been included in the Scottish Ministers HLOS, however as it will deliver the outputs specified for improving journey times in conjunction with planned works. Network Rail's Strategic Business Plan (SBP) will include a bid for funding to enable this enhancement to take place in CP5.

5.3.2 Journey time reduction

Improvements to journey times and connections are specified in the Scottish Ministers' HLOS. A clear process for measuring opportunities as part of renewals is required. This process currently exists and is managed via the Route Strategy Planning Group (RSPG) Sub Group meetings. The opportunity to raise linespeeds and improve capability of the network is considered when renewals are identified and discussed at this forum. Scottish Ministers anticipate that, in time, this will result in an improvement in journey times across the network.

There are a number of proposed options for the reduction in journey times in Scotland. The need to reduce journey times is noted as a key goal for Scottish Ministers,

"which impact on our high level objectives for economic growth, social inclusion, integration and safety "

Government's expectation for the ScotRail franchise is for an improvement in rail journey times. In the shorter distance market, commuters tend to value service frequency and punctuality over end to end journey time. EGIP will improve train and passenger capacity between Edinburgh and Glasgow, providing passengers with improvements in journey times between the two cities. The electrification programme for EGIP will improve journey times by being able to take advantage of the faster acceleration and deceleration of electric rolling stock.

Beyond this, journey times can be improved by taking advantage of planned renewals for small improvements, deployment of new rolling stock and the ability to recast the timetable to create a more 'tiered' service (e.g. inner suburban, outer suburban and interurban) across a number of routes and service groups.

On the longer distance interurban services, there is a potential to provide more attractive journey times, particularly between the major cities. The Scottish Government recognises the need to improve journey times between the major Scottish centres, especially to allow business to make effective use of the working day. The proposed plan is for a step change in frequency and journey times on the route between Perth and Inverness, and for enhanced commuter services and two new stations between Aberdeen and Inverness. These are predominantly single lines with passing loops which significantly impact on both the frequency and journey times of services using these routes. Significant infrastructure enhancements are planned on both of these routes to facilitate the service enhancements. Inevitably the timetable will remain a compromise between quantum of service and journey time, without significant enhancement of the amount of double line on these routes, (as for every train that requires to be 'crossed', additional time is introduced to the journey).

Journey times could be reduced in certain areas by undertaking infrastructure enhancements to increase line speeds or improve the capability of the network by removing junction conflicts or capacity pinch points. This plan includes options to enable these improvements where a business case exists. There is also the potential to reduce journey times by considering the opportunities within the existing train plan. For each of these proposals, the actual interventions progressed are inevitably a compromise between the minimum requirements for a specific timetable and the optimum layout to facilitate long term flexibility.

There remain opportunities across Scotland to introduce timetable recasts to optimise journey times on priority flows. Additionally, with the improvement in rolling

stock and signalling systems, the planning rules used for timetabling are, in some cases, out of date, and require to be reviewed. The implications in terms of performance and capacity utilisation would need to be studied in detail so that decisions can be made as to the optimum balance between journey time, performance and network capacity.

Proposals:

- deliver improved frequencies between Aberdeen and Inverness
- deliver improved journey time and frequencies between Perth and Inverness
- upgrade Carstairs Junction to improve journey times between Glasgow and Edinburgh via Motherwell and Edinburgh and the West Coast Main Line.

5.4 Wider industry strategies

5.4.1 Passenger rolling stock and depots/stabling

The combination of growth, electrification and the need to integrate rolling stock planning with wider industry strategies, requires funders, rolling stock leasing companies and train operators to work together to ensure that there is appropriate rolling stock available at an affordable price, and to provide certainty to the wider supply chain. The industry is working together to produce a long-term rolling stock strategy, which will inform GB-wide and Scottish decisions.

The EGIP programme remains to be finalised, but the current working assumption is that it will require between 20 – 24 x Electric Multiple Units (EMUs). This is based upon a service assumed at four trains per hour, including strengthening during the peaks plus two additional morning 'peak buster' services in each direction. Assessing the requirement for additional vehicles for further electrification, a number of high-level planning assumptions have been made and will continue to be refined. The additional vehicles are shown below:

Edinburgh Waverley- Alloa / Dunblane
9 – 10 EMUs required in total for the base service and additional capacity for the peak periods.

Glasgow Queen Street - Stirling / Alloa / Dunblane
9 – 10 EMUs required in total for the base service and additional capacity for the peak periods.

Glasgow Central - Whifflet
4 EMUs required in total with no strengthened services (to note that the current service operating to Glasgow Central High level requires three units – but electrification and running through Glasgow Central Low Level to Exhibition Centre requires an additional train).

Glasgow Central to Edinburgh Waverley via Shotts
8 – 10 EMUs required in total - 6 for basic service plus 1 -2 additional for morning and evening peak strengthening. This will also interwork with the existing EMU rolling stock in use between Glasgow Central and Edinburgh Waverley via Carstairs.

Route	Unit length	Unit nos. for daily service
EGIP (Phase 1 – Edinburgh Waverley – Glasgow Central)	95m	20 - 24
Glasgow Queen Street & Edinburgh Waverley to Dunblane and Alloa	73m	18 - 20
Glasgow Central to Whifflet	73m	4
Glasgow Central to Edinburgh Waverley via Shotts	73m	8 - 10
	TOTAL	50 - 58

With the introduction of additional electric services, this will allow an assessment of the current allocation of Diesel Multiple Units (DMUs), and will allow a cascade where appropriate to address already identified shortfalls. A high level estimate is that 8-14 units will be required to address crowding issues on the following routes:

- Aberdeen – Inverness
- Glasgow Queen Street – Aberdeen
- Edinburgh Waverley – Fife
- Edinburgh Waverley – Glasgow Central via Shotts in advance of electrification.

There is currently an identified shortfall in the availability of DMUs to support the opening of the Borders rail link – and this will be addressed through the franchising process.

Any further DMUs cascaded and displaced will either be taken off lease, or retained to support future growth.

Maintenance, servicing and stabling requirements:

To manage the planned growth in services and electrification, much work has been undertaken to identify the shortfalls in stabling, servicing and maintenance capability in Scotland.

To support the first phases of EGIP, Network Rail and ScotRail have worked with Transport Scotland to identify a site for the maintenance, servicing and stabling of EMUs, and for stabling of DMUs, primarily in connection with the EGIP scope, but also to address the future stabling requirements for the Edinburgh area.

A site at Millerhill Yard has been identified as the optimum location for delivery of EGIP requirements and Network Rail are progressing the plans for delivering this in time for the commencement of EGIP services.

Additionally, a shortfall in stabling capacities has also been identified in the Glasgow South area at Shields / Corkerhill and Motherwell, and at Perth / Dundee in Central Scotland. Detailed analysis is currently being undertaken to quantify and support any future proposals for enhancement at these locations.

The industry will also continue to work within the GB wide rolling stock strategy to identify synergies and opportunities to deliver better value for money.

5.4.2 High Speed Rail

The Scottish Government announced in November 2012 its commitment to open a high speed route between Edinburgh and Glasgow by 2024 and reduce the journey time to around half an hour. The creation of a new high speed line was welcomed by the Industry in Scotland as high speed is not just about faster journeys, but is also about releasing capacity on the existing network to provide more services for passenger and freight operators.

The announcement followed the publication of "Fast Track Scotland" in December 2011, which had been developed through a number of organisations looking at possible routes and the benefits high speed could bring to Scotland. Further work will be undertaken by "Fast Track Group" during the remainder of CP4 to move this announcement forward.

The Scottish Government is keen to see the High Speed 2 (HS2) route in England and Wales to Birmingham and Manchester be extended to Scotland. HS2 is proposed to be delivered in two phases – first phase to Birmingham by 2026, second phase to Manchester & Leeds by 2033. The route to Scotland will initially be on the conventional West Coast Main Line (WCML). By providing a high speed route between Glasgow and Edinburgh earlier, the Scottish Government goal will be to link up with the high speed route in England earlier than currently proposed.

HS2 will offer a major opportunity to improve services for all existing and future users of the WCML. It will provide faster, higher capacity and more frequent services to the biggest cities such as Birmingham, Manchester, Liverpool and Glasgow via the new line, whilst also offering the opportunity to improve services on the classic WCML. There will be significant opportunities for freight growth, taking lorries off congested roads, and as a result reducing carbon emissions.

The Industry in Scotland is managing the interface between renewals and enhancements on the WCML to tie-in with any proposed infrastructure changes required to accommodate HS2 on the conventional network.

5.4.3 Rail technical strategy

The Rail Technical Strategy (RTS), published in December 2012 has been developed by the Technical Strategy Leadership Group (TSLG) in consultation with the whole industry. It builds on the first RTS published by the Department for Transport in 2007. The new edition takes account of the work during the intervening five years, addressing ways to improve the railway's performance in four primary areas: customer satisfaction, capacity, cost and carbon.

The RTS addresses six key themes of Infrastructure; Rolling Stock; Control, Command and Communications; Information; Customer experience; and Energy. These are interdependent as many technical developments focus on the interfaces between systems and span the boundaries of traditional technical domains. Importantly, it addresses the three common foundations that underpin the delivery of these; Enabling Innovation; Whole Systems Approach; and People. It also introduces common design concepts, which are technical issues that stakeholders have consistently identified as applicable to all the main themes: Whole-system Reliability, Resilience, Security, Automation, Simplicity, Flexibility and Sustainability.

The RTS provides a long-term holistic vision of the future railway from a technical perspective, not readily available in any single part of the industry. It is intended to

be particularly valuable for suppliers to the railway, by presenting an industry view of the direction of technical developments in the coming decades. Even in areas where certainty is not possible, a sense of the options to be explored should provide useful indicators to the implementation and delivery of integrated solutions.

On behalf of the rail industry, the National Skills Academy for Railway Engineering (NSARE) has undertaken a skills forecasting exercise to predict the resources required to deliver the Industry SBP in parallel with Transport for London's investment programme, HS2 and light rail schemes. The model predicts the number of engineers, technicians and artisans required for Track, Signalling & Telecommunications, Electrification & Plant and Traction & Rolling Stock. Initial findings have resulted in NSARE working with Network Rail and the Railway Industry Association (RIA) on the specific Electrification & Plant challenges. In addition, NSARE has submitted a bid to the Department for Business, Innovation and Skills (BIS) for a National Training Academy for Traction & Rolling Stock, in conjunction with Siemens plc.

5.4.4 Technical Strategy Leadership Group (TSLG)

The development of cross-industry technology and innovation is co-ordinated by the Technical Strategy Leadership Group (TSLG), which has governance links to RDG and is administered by RSSB. TSLG has recognised the need for increased activity in cross-industry research and development, and has provided input into a number of cross industry studies including initiating projects that form part of this plan (such as the Electric Spine). TSLG is supported by 5 System Interface Committees (SICs) and a support group (TSSG) and is steered by a Core Group. By demonstrating the benefits of research and development in rail, TSLG has been successful in increasing the research and development activity and has been supported by the RSSB Board increasing the allocation of funds to TSLG. In addition, TSLG worked successfully with the Technology Strategy Board during 2012 in a call for projects which generated research to a value of £10m for an investment of £2.5 million of TSLG funds.

While TSLG's focus is largely on long term system issues, a growing activity in CP5 will be demonstrating the impact of new ways of working and in further exploring the potential from technical solutions in each of the areas identified in the RTS2012.

TSLG also made arguments in support of a CP5 innovation fund of at least £50 million to take forward strategic cross-industry research and development. The central assumption in this plan is that £52 million will be provided from the £144 million DfT Development Fund. Due to this increased activity and with RDG support, TSLG has established an Enabling Innovation Team (EIT) to support the industry and manage the increased portfolio of innovation projects. The EIT aims to improve the efficiency of GB railways by addressing rail business challenges and grow worldwide opportunities for the existing and potential GB rail supply chain. Network Rail and TSLG have presented arguments to further increase spend (over and above the £52 million CP5 innovation fund) on research and development, demonstrator and innovation programmes, based on the opportunities to transform the cost base of the industry. As such, the plan includes a further £300 million in CP5 to progress these initiatives across Great Britain.

5.4.5 Cross-industry research programme

RSSB manages on industry's behalf, and through cross industry governance, a programme of research and development, which is funded by direct grant from

Government (£10.7 million in 2012/13). It uses these funds to support cross industry research across many technical, environmental and economic issues, to facilitate the TSLG and its programme of strategic research and to support (in conjunction with Network Rail) the Rail Research UK Association. Additionally, it supports the Sustainable Rail Programme, develops knowledge sharing partnerships with other research and rail bodies that can benefit the industry and promotes the implementation of research findings across the industry. The programme supports research and development activities that would not otherwise take place, given the structure and incentives faced by individual companies. The current assumption and understanding with Government is that this level of direct grant funding will remain broadly the same during CP5 while the focus will continue to be directed towards industry priorities – particularly those articulated by RDG.

5.4.6 Sustainability

Cross-industry sustainability initiatives are managed through the cross-industry Sustainable Rail Programme (SRP), facilitated by RSSB. Since 2006 the SRP has delivered a series of evidence-led programmes to help integrate sustainable development into the way the industry operates. In 2009 the SRP published the rail industry Sustainable Development Principles with the aim that they will become an integral part of the culture and decision making of the industry:

- customer driven
- putting rail in reach of people
- providing an end to end journey
- being an employer of choice
- reducing our environmental impact
- carbon smart
- energy wise
- supporting the economy
- optimising the railway.
- being transparent

In the Initial Industry Plan for CP5 the industry made a commitment to implementing the Principles.

To support this, in 2012, the industry launched the Sustainable Development Self-Assessment Framework (www.sustainablerailprogramme.co.uk), a bespoke online tool designed to support individual organisations in the rail sector to understand their sustainable development performance, highlighting strengths and gaps, and provide clarity on what can be done to make improvements.

However, embedding the Principles is complex, with a need to balance a range of issues in achieving a more sustainable railway overall, as well as balancing whole life, whole system sustainability with more short term considerations such as affordability.

To help to meet the requirement of the HLOS, industry has commissioned guidance on implementing the Principles. This will be developed to help organisations to embed the Principles in decisions, programmes and projects and will be available by CP5.

The industry has made significant progress in implementing the Carbon Management Framework and has identified key interventions to help meet its carbon ambition, as

well as commissioning a carbon accounting tool for infrastructure projects. While this guidance can support industry implementation it is not in itself a plan. Further commitment from organisations in the industry as well as some form of monitoring will be needed to ensure that the HLOS requirement is met. The SRP has convened a cross-industry working group that will be making detailed recommendations in the coming year on how best to embed the principles and monitor progress.

5.4.7 European Rail Traffic Management System

The European Rail Traffic Management System (ERTMS) has been successfully trialled and brought into operation on the Cambrian line in Wales. Network Rail has sought to use technology which will deliver the lowest whole life costs. Network Rail has chosen ERTMS as one of its recommended methods of resignalling. Significant work has been carried out to demonstrate that the capital costs and the ongoing operation and maintenance costs are cheaper than conventional resignalling.

ERTMS is not planned to be rolled out in Scotland during CP5, but a rolling programme has been produced from 2021 onwards. It is intended that the new Intercity Express Programme (IEP) trains due to run on the East Coast Main Line from 2017 will be fitted with ERTMS on delivery. For most existing trains on routes where ERTMS is to be installed it will be necessary to retro fit the system. The plans for the wider rollout in Scotland are being developed consistent with the targeted renewal policy Network Rail's operational strategy and recognising the limitations of fleet fitment in terms of costs and timescales.

6 Next steps

This chapter sets out the next steps that the industry will take to develop its plans for the railway.

6.1 Further development of industry's plans

Over the coming year the industry will work to together to refine the proposals for CP5 including:

- further examination of opportunities to deliver efficiencies, continuing the leadership and work overseen by RDG
- development of two year Joint Performance Improvement Plans (JPIPs) for the final year of CP4 and first year of CP5
- scheme development, particularly of the enhancements portfolio, in order to get more robust definitions of outputs, scope and costs
- development of Network Rail's delivery plan for CP5, working with its operators and delivery partners and continued refinement of its plans at a route-level.

6.2 Concluding the periodic review

ORR will review this plan alongside Network Rail's Strategic Business Plan to assist it in establishing the proposed outputs to be delivered and funding available to Network Rail in Control Period 5 (CP5). It is scheduled that ORR will publish its draft determinations in June 2013 and final determinations in October 2013.

Establishing a clear baseline set of out outputs with an appropriate level of funding is the key outcome required from the periodic review process. This will then enable the industry to deliver the plan whilst providing value for money for customers and funders.

The industry will continue to engage in dialogue with the ORR during the periodic review process, collectively through the RDG, Planning Oversight Group and National Taskforce.

6.3 Franchising

The opportunity to deliver improved outputs in Scotland will be supported by the franchising process. With the procurement competitions for both daytime and sleeper services expected to commence during 2013, the future direction of specification will become clear, and allow the industry to work together to deliver quality outputs. Identifying where further efficiencies and improvements can be delivered through alliancing and other closer alignment between industry parties will be central to this process.

Ensuring that the periodic review process and the franchising programme are considered together will be key to the delivery of better value for money, with outputs and incentives aligned to meet passenger and funder expectations.

6.4 Longer term plans

The industry has set out a vision for the longer term and this plan outlines the key steps in CP5 to deliver that vision. The industry will continue to develop its strategy

and central to informing this will be the Long Term Planning Process. This builds on the successful completion of the Route Utilisation Strategies and provides a framework (at a market and route level) for updating plans to reflect new opportunities.

The industry stands ready to meet the challenges within CP5 and beyond.


RFOA
Rail Freight Operators' Association


Railway Industry Association


Train Operators
Working Together
ATOC


NetworkRail