Transport Scotland

Borders Railway Final Business Case final version

November 2012

Ernst & Young LLP

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Abbreviations

BCR	Benefit Cost Ratio
BRP	Benefits Realisation Plan
CEC	City of Edinburgh Council
CLM	Council Liaison Manager
CoCP	Code of Construction Practice
CRN	Calculation of Rail Noise
DECC	Department for Energy and Climate Change
DMU	Diesel Multiple Unit
EIS	Environment Impact Assessment
ERM	Environmental Resources Management
FBC	Final Business Case
GDP	Gross Domestic Product
GI	Geographic Information
GSMR	Global System for Mobile Communications - Rail
GRIP	Network Rail's Guide to Railway Investment Projects
HLOS	High Level Output Specification
IDM	Investment Decision Maker
IFRS	International Financial Reporting Standards
MLC	Midlothian Council
NPD	Non Profit Distribution
NPV	Net Present Value
NR	Network Rail
OBC	Outline Business Case
OLE	Overhead Line Equipment
ORR	Office of Rail Regulation
PAN	Planning Advice Note
PDG	Project Delivery Group
PER	Post Evaluation Review
PIR	Post Implementation Review
PVB	Present value of benefits
PVC	Present value of costs
RAB	The Network Rail Regulated Asset Base
SBC	Scottish Borders Council
SBC	Strategic Business Case
SIMD	Scottish Index of Multiple Deprivation
SPV	Special Purpose Vehicle
SRO	Senior Responsible Officer
STAG	Scottish Transport Appraisal Guidance
TOC	Train Operating Company
TPO	Transport Planning Objective
TS	Transport Scotland
VfM	Value for Money
WEBs	Wider Economic Benefits

Executive summary

Introduction

This Final Business Case (FBC) seeks approval of the Transport Scotland (TS) Investment Decision Making (IDM) Board to invest £299m (Dec 2012 prices) in the construction of the Borders Railway. Construction is scheduled to begin in 2012 with services commencing in 2015.

The investment case

The development of the final business case

Since the completion of the Outline Business Case (OBC) there have been significant changes to the way projects are appraised and changes to key variables within the project. As project development has progressed a more accurate picture of the passenger timetable has emerged, as well as capital and operating costs and the project opening year. Economic model parameters, such as values of time, have also changed as the transport appraisal technical guidance has been updated to reflect the latest GDP forecasts. These latest forecasts have been revised downwards to reflect the recent economic recession.

In general, the performance against the investment objectives remains unchanged. Three out of the four investment objectives are focussed on accessibility and social inclusion. The Borders Railway is expected to increase accessibility and social inclusion in the Scottish Borders and Midlothian significantly with the Borders Railway securing access to Edinburgh's labour market. The economic appraisal has substantially worsened, with the Benefit to Cost Ratio (BCR) falling from 1.2 to 0.5. However, the main reasons for this decrease relate to the way the project has been appraised, rather than changes to the project itself. Moreover, it is important to note that accessibility and social inclusion benefits are not taken into account in the core economic appraisal. When the benefits are included this increases the BCR to 1.3.

Additionally, the project appraisal has confirmed:

1. Substantially the same benefits will be delivered i.e. a new railway, 2 trains per hour with the majority of services having an anticipated Journey Time of 56 minutes

2. Overall, the RAB finance model projected outturn, in whole life cost terms is substantially less than the NPD model projected outturn (15%) but remains comfortably within previously set affordability levels

3. A different approach to risk ownership has been taken which allows key risks to be more effectively shared and therefore better managed

Appraisal against investment objectives

The table below summarises the performance against each objective:

Table 1: Performance against investment objectives

Investment objective 1: The promoting of accessibility to and from the Scottish Borders and Midlothian to Edinburgh (including the airport) and the central belt.	The project continues to perform well in improving accessibility, with two trains per hour in each direction providing regular and reliable access to Edinburgh city centre.
Investment objective 2: Foster social inclusion by improving access to key services for those without access to a car.	Approximately 21% of households in the Scottish Borders do not have access to a car. The Borders Railway alongside schemes such as the public transport interchange at Galashiels enables those without a car to access key services and markets. This project contributes positively to this objective.
Investment objective 3: To prevent decline in the Borders population by securing ready access to Edinburgh's labour market.	By delivering a fastest end to end journey time of 56 minutes this project still performs well against this objective. Between 2001 and 2011 the City of Edinburgh saw a 10.3% growth in population, in comparison to the 5.8% and 1.8% growth in the Borders and Midlothian respectively. The new train service will provide those living in the Borders and Midlothian the opportunity to commute into Edinburgh and readily access the Edinburgh labour market. This is likely to improve the attractiveness of living in the Borders and Midlothian and will help ease constraints on labour market growth facing the City of Edinburgh due to planning constraints.
Investment objective 4: To create a modal shift from the car to public transport.	The Borders Railway meets this objective successfully as the opening of the railway is forecast to reduce the number of annual car trips along the route approximately by 530,000 and the forecast number of annual return trips in the railway's opening year is approximately 650,000.

The commercial case

Procurement strategy

Four procurement routes were originally identified at the OBC stage: Network Rail (NR) Traditional Approach, NPD (Non Profit Distribution), PFI (Private Finance Initiative) and Design and Build. After quantifying the cost of delivery and identifying the risks / benefits associated with each procurement route, the OBC concluded that the preferred procurement route at that time was NPD. As a result, the competitive dialogue process was used to run a competition and evaluate bidders based upon this structure. However, this process was subsequently abandoned in 2011 due to market failure and prompted TS to re-appraise the delivery route.

PFI and Design and Build have been discounted from further assessment at the FBC stage. PFI does not fit with current Scottish Government policy and the structure has been replaced by the use of NPD. Design & Build was also considered to be inappropriate as it requires significant capital funding which has not been budgeted for and there is also a disconnect between whole life costs and VfM under this approach.

As a result of this initial de-selection, traditional NR and NPD have been taken forward for further analysis:

Commercial analysis

The cost, risk and benefits associated with each route have been analysed and the conclusion of TS is:

- The risks associated with NPD are too great given the previous market failure in 2010
- The Traditional NR approach provides the most benefits when compared to the others. It provides the optimum balance of risk, control and funding.

- TS and NR have undertaken a detailed risk assessment and are continuing to monitor and mitigate the risks on an ongoing basis. TS is proposing to transfer similar risks under both the NR Traditional approach and the previous NPD structure.

Potential for risk transfer

The general principle is that risk should be passed to 'the best party able to manage', subject to VfM. Detailed schedules and work has been undertaken and final discussions are ongoing with NR and the final risk allocation is nearing agreement.

Target Price mechanism

TS and NR are currently in negotiations to agree the Target Price mechanism. The mechanism will broadly cover:

- Anything under 10% of the Target Price, TS will solely take gain
- Up to and including 10% under the Target Price. NR and TS will share gain 50/50
- Up to and including 10% over the Target Price. NR and TS will share pain 50/50
- All costs above 10% over the Target Price, TS solely incur cost.

The financial case

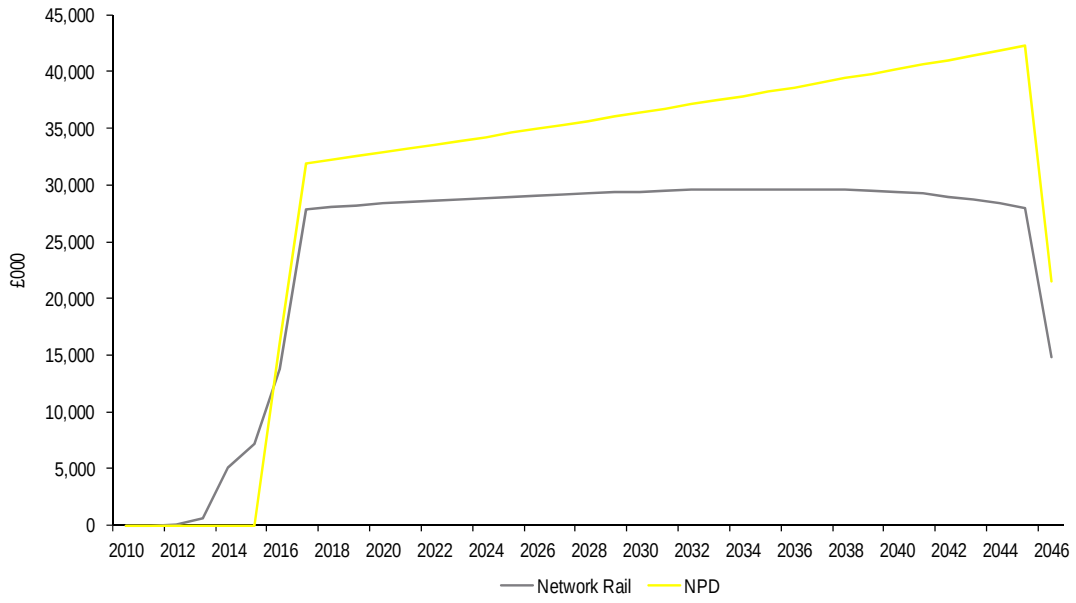
NPD and NR comparison

The table and graph below compares the nominal cash flows for the NR and NPD options and the resulting Net Present Value (NPV) using a discount rate of 6.09%.

Table 2: Comparison of NR and NPD

	30 year cash flow (£000)	NPV (£000)
NR	885,433	294,168
NPD	1,106,309	348,081

Figure 1: NR and NPD comparison



The graph clearly shows that lower levels of payment are required for the NR option.

Franchise subsidy

The overall impact of Borders Railway on the net franchise operating position will be the net effect of changes in the franchise operating costs incurred and the revenues received. The following table illustrates the increase/(decrease) in estimated subsidy payment for the period from 2014 – 2023.

Table 3: Increase/(decrease) in estimated subsidy payments (outturn prices, £000s)

Year	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24
Franchise Operating Cost	476	4,929	4,711	4,850	4,993	5,141	5,293	5,449	6,043	6,220
Revenue		114	3,236	4,358	5,355	6,505	7,100	7,740	8,425	9,161
Subsidy	476	4,816	1,475	492	(362)	(1,364)	(1,808)	(2,290)	(2,383	(2,941)

Source: Transport Scotland Investment case bespoke economic model

Overall, Borders Railway is forecast to run an operating surplus over the 60 year period of the economic appraisal. The table shows that a surplus is expected after year 4, the table illustrates the first 10 years. The revenue forecasts have been calculated using the bespoke modelling used in the investment case. Consequently, the revenue increase contains a degree of uncertainty as the forecast is highly dependent on whether the forecast patronage is achieved.

Overall affordability

The proposed cost of the project to TS is £856 million at outturn prices until the expiry of the 30 year concession period. TS has signified its agreement to the required level of funding as shown in the table below.

Table 4: Funding requirement from Transport Scotland (outturn prices, £000)

	Total
NR RAB payment	**885,433**
Council contribution	**(29,447)**
TS funding	**855,985**

The management case

Robust governance and management structures have been developed for the Borders Railway project. The governance protocol between TS and NR will be set out in the transfer agreement.

The management structure is set out in the table below.

Table 5: Management structure

TS Chief Executive	► responsible for decisions on the Agency's capital investment programme ► supported by the TS Investment Decision Making (IDM) board in key financial and programme decisions
TS Board/IDM	► responsible for ensuring that the Chief Executive is advised and supported in the fulfilment of his role
Project Delivery Group (PDG)	► monitors the progress of the Borders Railway against the requirements set in the Delivery Plan ► monitor progress and budget on the project ► give clear direction to the NR Project Director and the NR Borders team
TS Director of Rail	► Director responsible for the ScotRail franchise, the funding relationship with NR and the delivery of all TS's Rail Projects ► the Senior Responsible Owner (SRO) following the hand over of the delivery to NR
Borders Railway Sponsor	► responsible for heading up TS's Rail Projects Team ► reports to the Director of Rail

Delegated authority

The project is governed by TS, under the oversight of the IDM Board, which retains the power of approval over funding decisions in excess of £5m, advancing between project stages, and significant changes to the project specification.

The IDM will be informed of progress by and receive recommendations from the Project Board, which includes external stakeholder representation. A TS core team is responsible for the daily management of the project in accordance with the project execution plan, and the senior project manager has delegated authority up to £100,000.

Benefits Realisation Plan

The success of the project will be judged in part on the successful delivery of the project outputs but ultimately on the successful realisation of the benefits. The Borders Railway Benefits Realisation Plan (BRP) sets out the project benefits and the processes and actions required to ensure they are successfully realised.

Post project evaluation arrangements

TS will undertake two post project evaluation reviews:

- a Post Implementation Review (PIR) to measure whether the anticipated benefits have been delivered compared with expectations and is timed to take place on completion of the project and commencement of passenger services.
- Project Evaluation Review (PER) to appraise how well the project was managed and delivered compared with expectations.

Conclusion and next steps

This document has set out the FBC and presents the evidence for approval to invest £299m (Dec 2012 prices) in the construction of the Borders Railway. Further details of each case are presented in the remainder of the report.

The next steps to approval and commencement of the project include:

- Completion of Gateway 3 Review: 21 September 2012
- Authorisation from IDM to Proceed to Contract: 8 October 2012
- Final submission to Minister / Cabinet Secretary for approval: 9 October 2012
- Signing Ceremony: week commencing 15 October 2012.

Contents

1. Investment case

1.1 Introduction

This section sets out the Investment Case for the Borders Railway, with particular focus on the strategic fit. The purpose of the Investment Case is to:

- Establish the rationale and the objectives of the intervention.
- Demonstrate why the proposed Programme is the most suitable method for meeting the objectives.
- Set out how the Borders Railway contributes to the objectives of Scottish Government.

1.2 The Strategic Vision

The Government Economic Strategy (2011) reaffirms the core purpose for the Scottish Government:

"*To focus Government and Public Services on creating a more successful country, with opportunities for all of Scotland to flourish, through increasing sustainable economic growth.*"

Furthermore, the strategy sets out a Cohesion target, which aims:

"To narrow the gap in participation between Scotland's best and worst performing regions by 2017."

The strategy also sets the following objectives for transport:

- Making connections across and within Scotland better
- Improving reliability and journey time
- Maximising the opportunities for employment, business, leisure and tourism.

In addition, the National Transport Strategy (2006) highlights the following high level objectives:

- Promote economic growth
- Improve integration
- Promote social inclusion
- Improve safety of journeys
- Protect our environment and improve health

The aim of the Borders Railway is to support the Scottish Government's Purpose by delivering improvements in access to Edinburgh and important regional markets for those living in the Scottish Borders and Midlothian, securing access to Edinburgh's labour market. The Borders Railway also contributes to fulfilling the transport objectives set out in the Government Economic Strategy, by improving the opportunities for leisure and tourism in the region, and the National Transport Strategy's objectives by improving integration, promoting regional cohesion/social inclusion and by helping to promote economic growth.

1.3 Summary of the Strategic Business Case findings

The Strategic Business Case set out the following investment objectives:

Table 6: Strategic objectives

Investment objective 1:	The promoting of accessibility to and from the Scottish Borders and Midlothian to Edinburgh (including the airport) and the central belt.
Investment objective 2:	Foster social inclusion by improving access to key services for those without access to a car.
Investment objective 3:	To prevent decline in the Borders population by securing ready access to Edinburgh's labour market.
Investment objective 4:	To create a modal shift from the car to public transport.

A range of options was considered through the initial appraisal report. In addition to the railway, the options considered in detail included a minimum intervention option, where only limited improvements to existing transport provision were made, the creation of a specific express guided bus way, along the route of the previous railway, and light or heavy rail options.

The initial appraisal report established that only the rail proposals were likely to contribute to all the investment objectives of the project, with heavy rail having the superior performance. Due to this superior performance against the investment objectives heavy rail was the only option taken forward to the more detailed assessment stage.

1.4 Summary of the Outline Business Case findings

The Outline Business Case (OBC) provided a detailed assessment against the STAG criteria of Economy, Environment, Safety, Accessibility and Social Inclusion and Integration. The OBC assessed a variety of timetables, with a preferred end to end journey time of 55 minutes. The corresponding analysis calculated a BCR of 1.22 with the NPV[1] equalling £29.69m.

Following the detailed assessment, it was shown that the project made a positive contribution to all of the objectives. On this basis the project was progressed.

1.5 Development of the Final Business Case

Since the completion of the OBC there have been significant developments and changes to key variables within the project. As project development has progressed a more accurate picture of the timetable has emerged, featuring slightly longer journey times than previously anticipated, as well as changes in estimates of capital, maintenance and operating costs and to the project opening year. Taken together, capital and maintenance costs have fallen. Economic model parameters, such as values of time, have also changed as the transport appraisal technical guidance has been updated to reflect the latest GDP forecasts. These latest forecasts have been revised downwards to reflect the recent economic recession. As the growth in the value of time reflects the GDP per capita growth rate, the value of time growth rates have also been revised downwards. A change in the way future demand growth is treated has also seen a reduction in forecast patronage over the longer term.

Given these changes an update to the Investment Case has been produced, providing an up to date robust and detailed assessment of the Borders Railway. The approach adopted incorporates 10 parts to the assessment, as set out below.

1. Set objectives for the Programme

2. Economy

[1] The NPV in economic appraisal terms is the present value of benefits minus the present value of costs.

3. Environment
4. Safety
5. Accessibility and social inclusion
6. Integration
7. Calculate economic appraisal indicators
8. Sensitivity testing
9. Appraisal against transport planning objectives
10. Conclusions.

Each part of the assessment is set out in turn below.

1.6 Set objectives for the project

Despite the significant changes to key variables within the project the strategic objectives remain valid. These objectives are set out below:

Table 7: Strategic objectives

Investment Objective 1:	The promoting of accessibility to and from the Scottish Borders and Midlothian to Edinburgh (including the airport) and the central belt.
Investment Objective 2:	Foster social inclusion by improving access to key services for those without access to a car.
Investment Objective 3:	To prevent the decline in the Borders population by securing ready access to Edinburgh's labour market.
Investment Objective 4:	To create modal shift from the car to public transport.

The following sections provide detail on the latest performance of the Borders Railway Project against these objectives.

1.7 Economy

1.7.1 Benefits

The economic benefits associated with the Borders Railway have been calculated through the use of a bespoke model, which is based on standard rail industry modelling techniques and is in line with STAG. Two different types of economic benefits have been calculated: standard passenger and operator benefits, and wider economic benefits (WEBs). Wider economic benefits are an attempt to quantify the economic impacts from the transport intervention that are not quantified through the standard passenger and operator benefits. Three possible types of additional economic impacts of the Borders Railway have been identified as: agglomeration economies[2], increased competition as a result of better transport, and wider benefits arising from improved labour supply. However, the methodology for calculating these additional impacts is an emerging area of transport economics, and is generally accepted as being less certain than the calculation of standard benefits. They have therefore been presented separately.

Since the OBC, more detailed timetabling analysis of the project has been conducted. This indicates that a fastest journey time of 56 minutes can be achieved throughout the day from Tweedbank to Edinburgh. Whilst a fastest end to end journey time of 60 minutes can be achieved from Edinburgh to Tweedbank during the morning peak and off peak periods, the

[2] Economies of agglomeration describe the productivity benefits that some firms derive from being located close to other firms. This could be because proximity to other firms facilitates more sharing of knowledge or because locating close to other firms means access to more suppliers and larger labour markets. These benefits are relevant for rural areas too and therefore are applicable to the Borders Railway.

fastest journey time falls to 57 minutes in the evening peak. Network Rail has now indicated that a reduction of a further minute is achievable on the Edinburgh to Tweedbank evening peak journey.

The results of the bespoke model analysis are set out below. All figures are in standard discounted 2002 market prices.

Table 8: Appraisal of economic benefits from the Borders Railway (£m)

Benefit	Borders Railway
User benefits	
Travel time	88.8
Decongestion benefits	17.2
User charges	(84.4)
Vehicle operating costs	69.5
Total	**91.1**
Private sector impacts	
Revenue	124.1
Operating costs	(75.6)
Maintenance costs	(26.9)
Bus revenue	(39.7)
Bus operating costs	35.8
Subsidy/surplus[3]	(17.3)
Total	**0.4**
Indirect taxation	(21.8)
Present value of benefits	**69.7**
Wider economic benefits	25.8
Present value of benefits including wider economic benefits	**95.5**

The table illustrates that the Borders Railway has a positive benefit associated with it. The carbon and safety benefits are provided in sections 1.8 and 1.9 below. It should be noted from Table 8 that the railway is expected to generate an operating surplus, with revenues greater than operating costs over the lifetime of the project. Further details can be found in the financial case.

1.7.2 Costs

The total construction costs of the railway over the appraisal period are shown in the table below, in standard discounted 2002 market prices.

Table 9: Appraisal of costs of the Borders Railway (£m)

Cost to Government	Borders Railway
Construction costs	156.5
Subsidy/surplus[2]	(17.3)
Present value of costs	**139.2**

[3] Subsidy/surplus values are included as standard under both benefits and costs in accordance with HM Treasury Green Book guidance that they represent transfer payments which, though altering the distribution of income or wealth, do not give rise to direct economic costs.

Note that all costs used for the analysis above are consistent with those presented in the Financial Case, with any differences a result of a difference price base and discounting. The construction cost in undiscounted current prices is £299 million.

1.7.3 Patronage levels

The economic benefits of the railway are dependent on future patronage levels. The economic benefits outlined in Table 8 are based on a central patronage forecast, which itself is the average of two alternative forecasts[4], one which predicted relatively higher levels of demand and one which predicted relatively lower levels of demand. The table below provides the patronage forecasts for the opening year of the Borders Railway, totalling an estimated 647,136 return journeys annually.

Table 10: Annual return trips in the opening year, 2015

Station	Central Forecast
Tweedbank	21,621
Galashiels	23,431
Stow	5,843
Gorebridge	90,019
Newtongrange	52,918
Eskbank	130,525
Shawfair	61,860
Brunstane / Newcraighall	986
Waverley	220,533
Haymarket	35,329
Edinburgh Park	4,071
Total	**647,136**

1.8 Environment

A full Environment Impact Assessment of the Borders Railway has been carried out by Environmental Resources Management (ERM), and the conclusions of this are reported in detail within the OBC. Significant impacts have been identified in the following areas:

- Noise and vibration
- Landscape
- Visual amenity
- Global air quality.

[4] The two approaches to forecast demand are a stated preference survey and a trip generation approach. The trip generation approach uses generic trip rates (the number of trips per thousand head of population within a defined area) to forecast demand, while the stated preference survey involved interviewing residents along the Borders Railway line about their potential use of the railway. The trip generation methodology has a tendency to underestimate demand whilst there is some concern that the stated preference work may have overstated demand, thus a mid point between the two has been chosen as the central estimate.

1.8.1 Noise and vibration

The introduction of a new railway line will increase the noise level in the area. This is only a concern in areas where it impacts on people's lives, which will tend to be where the railway passes near residential areas, particularly so in urban areas.

There will be some short term impacts from the construction process, which will be mitigated as far as possible. Mitigation during construction will be achieved through best practice captured in the Code of Construction Practice (CoCP) which the contractor is required to comply with.

The predicted noise levels from the train have been calculated in accordance with the method in Calculation of Rail Noise (CRN). Noise levels have been calculated for 60 receptor locations along the length of the railway. Of these, there are 23 where the thresholds laid out in Planning Advice Note (PAN) 56 are predicted to be exceeded. The results are shown in Table 11 below:

Table 11: Noise levels with the introduction of the Borders Railway

Threshold	No. of locations where threshold is perceptibly exceeded	No. of locations where the threshold is not perceptibly exceeded	Total
LAeq (day and night)	17	6	23
LAeq (night)	9	14	23

The project has a noise and vibration policy for mitigating the operational effects of the railway that have been identified above. These measures include environmental noise barriers which will be provided. There are further mitigation measures which can be implemented if the individual situation merits; such as noise insulation for homes.

1.8.2 Landscape

There will be several significant changes to features of the landscape; however, since the route in general follows the existing railway solum, these will be more limited than would be expected from the introduction of a new railway. The main impacts result from building new railway viaducts over the A7 at Hardengreen, the construction of new stations and park and ride facilities.

There is an Environmental Management System which details protection measures for existing landscaping and contains details for the landscaping designs going forward.

1.8.3 Visual amenity

Negative visual amenity impacts will also be minimal as the railway follows the existing solum. However, there will be limited negative impacts along the length of the route caused by the need for communication masts, the removal of some houses in Gorebridge and Galashiels, and the introduction of trains to otherwise open countryside.

The project re-designed the planned footbridge at Heriot which would have included extensive ramps to meet inclusive mobility criteria. After consultation with the local community the project pursued an underpass solution which maintained the inclusive mobility criteria at the same time as reducing the visual impact in this rural area.

1.8.4 Global air quality

Overall, the Borders Railway is expected to reduce carbon emissions by transferring journeys from road to rail. The analysis has been conducted in line with guidance from the Department for Energy and Climate Change (DECC) and STAG. The results show that there will be a total net saving in carbon dioxide emissions of 33,865 tonnes over the 60 year appraisal period (2015-2074). This reduction in carbon dioxide emissions equates to £1.6m (2002 discounted market prices) in benefits.

1.9 Safety

The Borders Railway is expected to prevent approximately 360 accidents over the 60 year appraisal period. This is the result of reducing the number of car journeys made along the length of the route. In line with guidance, accidents on rail are seen as negligible and so are not considered. The reduction in accidents equates to £4.6m (2002 discounted market prices) in benefits.

1.10 Accessibility and social inclusion

Accessibility and social inclusion benefits are among the key objectives for the Borders Railway. Significant impacts have been identified in the following areas:

- Public transport network coverage
- Access to Edinburgh's labour market
- Social inclusion
- Severance
- Option and non-use values.

1.10.1 Public transport network coverage

It is expected that accessibility and social inclusion benefits will be felt along the entirety of the new Borders Railway line. The regions of the Scottish Borders and Midlothian comprise a population of nearly 200,000 yet currently have no direct access to a railway. This is in contrast to areas such as the Highlands, with a population of 220,000[5] and 58 passenger stations[6]. The access to a railway will be particularly significant for the 21%[7] of the population of the Borders who do not have access to a car.

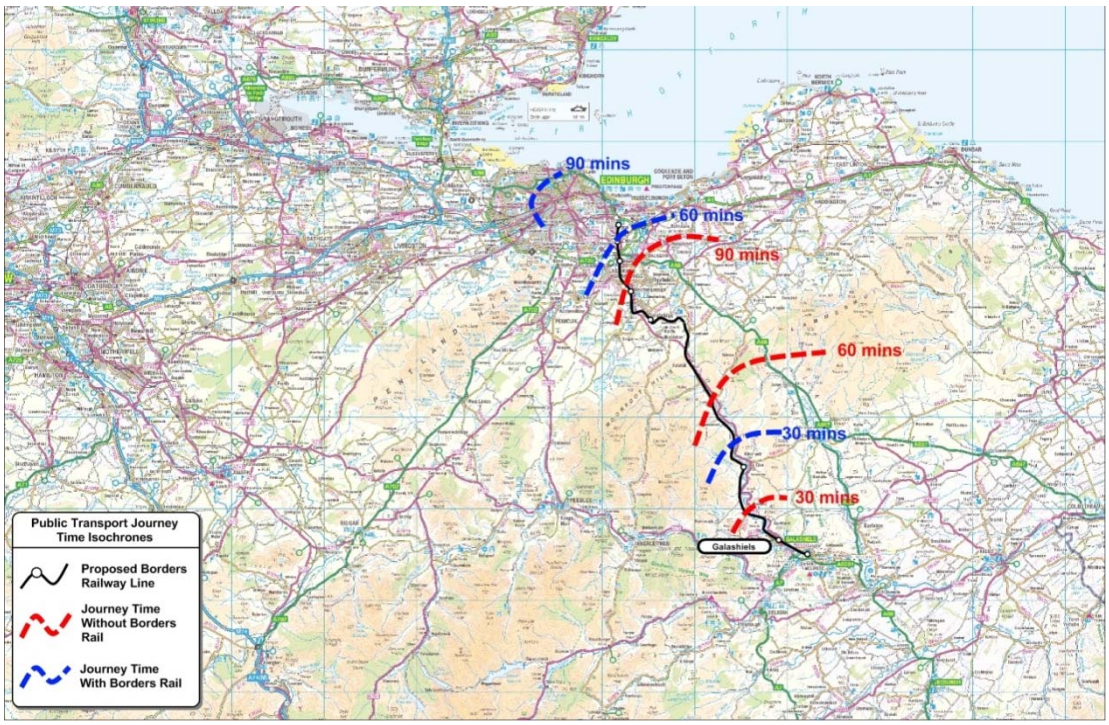
The introduction of a railway to Midlothian and the Scottish Borders will also provide a significantly more robust public transport service than is currently in place via commercial bus operators. Under existing arrangements, bus operators are under a statutory obligation to give only seventy days notice in the event of withdrawing local bus services. The higher degree of certainty that passengers place on the robustness of rail services to change, will assist in strengthening modal shift towards a more stable public transport service to Edinburgh and the surrounding area.

Journey time isochrones have been produced to provide a graphical representation of the improvements in the public transport network coverage. Figures 2, 3 and 4 show the journey time isochrones for Galashiels, Gorebridge and Eskbank with and without the new Borders Railway line. It can be clearly seen that the introduction of Borders Rail significantly increases the areas that can be reached by public transport within given time bands.

These journey time isochrones have been compiled with reference to data from the Transport Model for Scotland (TMfS:07) and public transport timetables. The analysis assumes that each public transport journey by rail or bus comprises travel between origin and the bus stop or railway station followed by a wait for the desired service. Taken together, it was estimated that it would take 10 minutes from commencing the journey and boarding the desired service and that there would be a 10 minute walk after alighting from the public transport service to the ultimate destination. Thus, for the purpose of the public transport journey time isochrones, it has been assumed that each public transport journey takes 20 minutes more than the in-transit time derived from published timetables.

[5] ONS, Mid year population estimates, 2010.
[6] Scottish Transport Statistics 2011.
[7] Scottish Neighbourhood Statistics, www.sns.gov.uk.

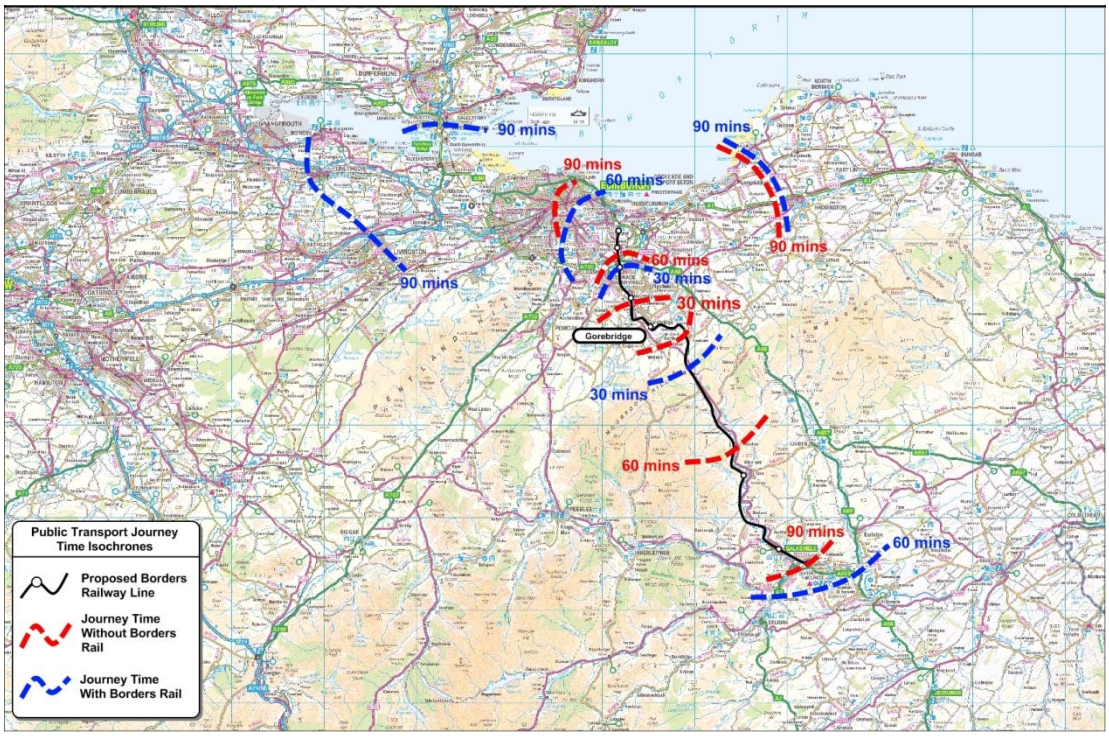
Figure 2: Galashiels Public Transport Journey Time Isochrone Comparison



Source: Transport Model for Scotland:07.

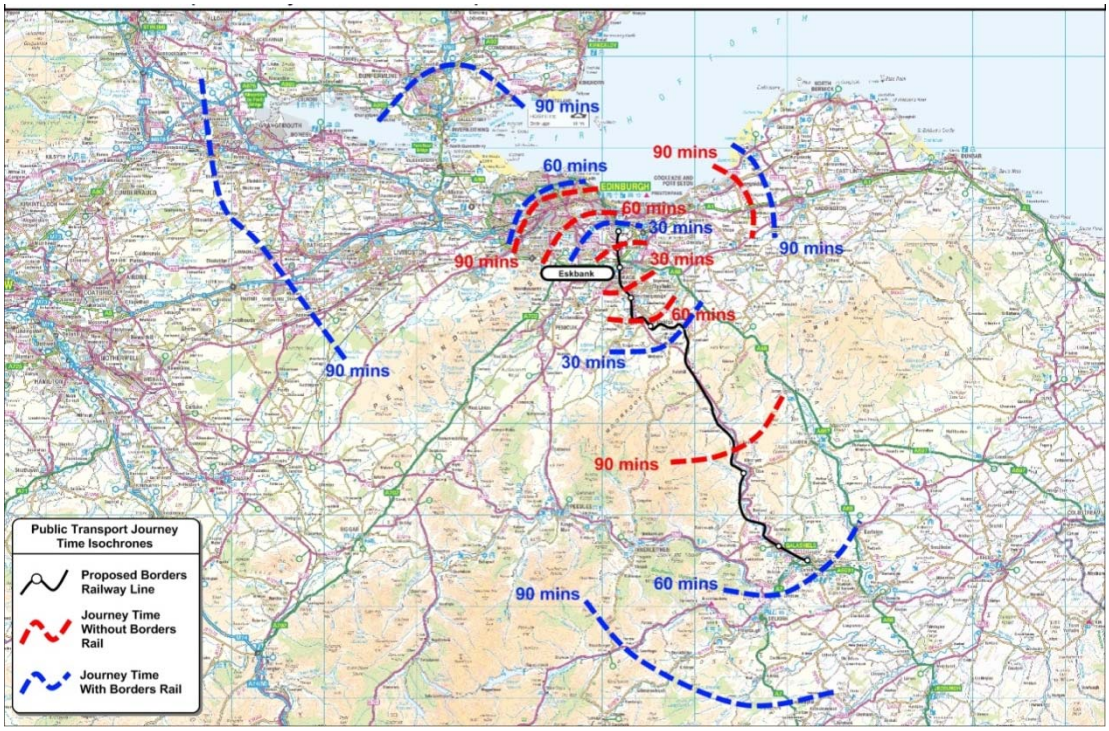
It can be seen from the figure above that without Borders Rail those living in Galashiels would not been able to access Edinburgh City Centre by public transport within a reasonable commuting time of 90 minutes, but with the introduction of the railway this is now possible, with those making the journey reaching the outskirts of Edinburgh within 60 minutes, including the assumed total of 20 minutes' walk time.

Figure 3: Gorebridge Public Transport Journey Time Isochrone Comparison



Source: Transport Model for Scotland:07.

Figure 4: Eskbank Public Transport Journey Time Isochrone Comparison



Source: Transport Model for Scotland:07.

As shown by figures 3 and 4, the Borders Railway has significant accessibility benefits in both directions along the line. The journey time isochrones in the figure above show that it would take longer than 90 minutes to travel from Eskbank to Galashiels without Borders Rail, but after the introduction of the new services the journey can be made in less than 60 minutes. In the opposite direction the introduction of rail services significantly reduces the journey time to Edinburgh City Centre and substantially increases the distance that could be travelled within 90 minutes.

1.10.2 Access to Edinburgh's labour market

The accessibility benefits are likely to be the greatest in the Scottish Borders, where the existing level of public transport provision is sparse compared to the levels in Midlothian and areas close to Edinburgh and where journey times will be greatly improved by the new railway. They are also likely to be significant as the railway substantially improves access to Edinburgh's labour market and key regional market. A large majority of Borders' residents (81.3%[8] of the resident working age population) also work in the region, where the median weekly earnings for full time workers in the Scottish Borders Council area is ranked among the lowest in Scotland, at around 90% of the national average[9].

Table 12 shows an employee classification for the Scottish Borders, Midlothian, City of Edinburgh and Scotland as a whole. It can be seen that Midlothian and the Scottish Borders are less well represented in the higher earning professions, particularly in comparison with the City of Edinburgh. Consequently, provision of a fast, reliable and efficient rail service will provide people in the Borders and Midlothian area access to employment in high value sectors with higher average wages, providing greater opportunities for social mobility. Conversely, it will ease pressure on the Edinburgh labour market by helping mitigate against the effects of planning constraints around Edinburgh, by making available more affordable housing within commuting distances.

[8] Annual Population Survey 2011.
[9] Annual Survey of Hours and Earnings, 2011, Office for National Statistics.

Table 12: Employee classification, 2011

	Scottish Borders	Midlothian	City of Edinburgh	Scotland
Managers, Directors and Senior Officials	7.7%	7.2%	7.6%	8.2%
Professional occupations	18.2%	17.2%	25.4%	18.5%
Associate professional and technical occupations	12.8%	13.1%	19.5%	13.4%
Administrative and secretarial occupations	9.9%	13.5%	10.6%	10.7%
Skilled trades occupations	13.3%	13.1%	7.5%	11.6%
Personal service occupations	8.9%	11.1%	8.3%	9.6%
Sales and customer service occupations	6.8%	9.8%	8.6%	9.2%
Process and plant machine operatives	8.4%	4.9%	3.4%	6.6%
Elementary occupations	13.2%	10.1%	8.8%	11.7%

Source: Annual population survey.

Tables 13,14 and 15, below, show the impact of Borders Rail on the number of jobs that will be accessible to those living in Galashiels, Gorebridge and Eskbank. These estimates have been calculated through the same methodology as that used to create the journey time isochrones provided in section 1.10.1. They show that the people of Galashiels will see an 89% increase in the number of jobs accessible to them within 90 minutes. The time bands below include 10 minutes of travel to the train station and 10 minutes to get off at the train station and walk to the final destination.

Table 13: Number of jobs accessible from Galashiels, with and without Borders Rail

	Galashiels			
	Without Borders Rail	**With Borders Rail**	**Change**	**% Change**
Jobs 0 - 30mins	6,543	12,144	5,601	86%
Jobs 30 - 60mins	7,870	24,927	17,058	217%
Jobs 60 - 90mins	46,733	78,646	31,913	68%
Total Jobs 0 - 90 Mins	61,146	115,718	54,572	89%

Source: Transport Model for Scotland:07.

Table 14: Number of jobs accessible from Gorebridge, with and without Borders Rail

	Gorebridge			
	Without Borders Rail	**With Borders Rail**	**Change**	**% Change**
Jobs 0 - 30mins	1,618	11,260	9,641	596%
Jobs 30 - 60mins	15,234	67,720	52,486	345%
Jobs 60 - 90mins	128,578	266,820	138,241	108%
Total Jobs 0 - 90 Mins	145,431	345,800	200,369	138%

Source: Transport Model for Scotland:07

Table 15: Number of jobs accessible from Eskbank, with and without Borders Rail

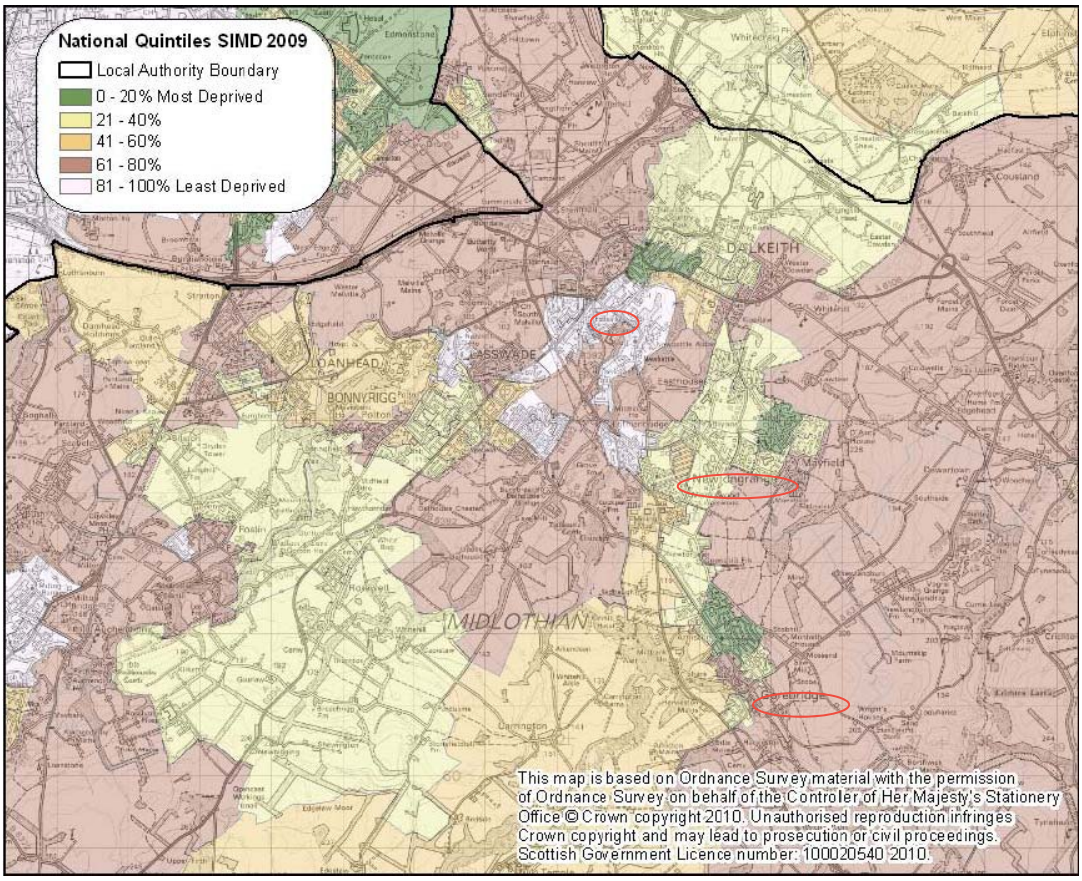
	Eskbank			
	Without Borders Rail	**With Borders Rail**	**Change**	**% Change**
Jobs 0 - 30mins	5,722	19,569	13,846	242%
Jobs 30 - 60mins	22,362	152,203	129,841	581%
Jobs 60 - 90mins	173,358	254,876	81,518	47%
Total Jobs 0 - 90 Mins	201,442	426,648	225,206	112%

Source: Transport Model for Scotland:07.

1.10.3 Social Inclusion

The accessibility benefits will not be as significant in Midlothian, due to the better existing levels of public transport, but there will still be improved access to important labour and regional markets. The Borders Railway will also facilitate opportunities for greater levels of social inclusion in the area. In particular, there will be better links for areas defined as deprived by the Scottish Index of Multiple Deprivation (SIMD). As shown by Figure 5 below, in the area between Dalkeith and Gorebridge there are 3 zones that are within the 20% most deprived in Scotland. These are in close proximity to the new Eskbank, Newtongrange and Gorebridge stations and it can be seen that the new Borders Railway will offer greater accessibility for those living in these areas.

Figure 5: Levels of deprivation in the overall Scottish Index of Multiple Deprivations (SIMD) 2009 by National quintiles (0-20% band of deprivation shows 20% most deprived datazones in Scotland)



1.10.4 Severance

The construction of the new railway may have knock on impacts on existing transport provision. After the closure of the original railway line sections of the railway were converted to pedestrian and cycle paths. Consequently, the new railway will result in the loss of these paths; however, there are plans for alternatives where possible. Furthermore, in both Galashiels and areas in Midlothian there have been works completed to construct paths in advance of the railway to ensure integration on day one of operation.

1.10.5 Option and Non-use values

Accessibility and social inclusion benefits are difficult to monetise and are therefore not included in the standard economic appraisal indicators. However, there is emerging research into option and non-use values in an attempt to quantify accessibility and social inclusion benefits. An option value is the willingness to pay to preserve the option of using a transport service for trips not yet anticipated or currently undertaken by other modes, over and above the expected value of any such future use. For example, a car-owner may value the ability to use the railway service when for whatever reason they cannot drive or their car is unavailable. A non-use value is a value that may be placed on the continued existence of a good regardless of any possibility of future use by the individual in question. For example, a resident in a village may derive a benefit from the knowledge that the elderly can use public transport to access the facilities they need. In the case of Borders Railway it is estimated that there are 30,000 households within 2 km of any one of the stations, deriving option and non-use values equalling £102m (2002 discounted prices) over the 60 year appraisal period. While these estimates are tentative and based on only a few studies, they highlight the significance of the potential accessibility and social inclusion benefits arising from the Borders Railway.

1.11 Integration

Overall, the Borders Railway is expected to provide positive integration benefits. These will take the form of improved ticketing, utilising the ‘One Ticket’ system developed by the South East of Scotland Transport Partnership. There will also be new park and ride facilities at Tweedbank, Eskbank, and Shawfair and plans for a public transport interchange at Galashiels.

The Galashiels transport interchange (delivered by Scottish Borders Council) will be the entrance to the Scottish Borders from the Borders Railway. This interchange will be a hub with bus connections to all other parts of the Scottish Borders ensuring wider regional access to the railway. The councils have also formally committed to integrating the bus services with the railway timetable.

The project fits with local, regional and national transport policy objectives, as well as with the wider policy context. It provides increased accessibility to disadvantaged sections of the community, improves access for rural areas, and helps meet the Scottish Government’s ambition of spreading the benefits of growth throughout the regions as expressed in the Government Economic Strategy.

1.12 Calculate economic appraisal indicators

The standard appraisal indicators are presented in the table below in standard discounted 2002 market prices.

Table 16: Appraisal indicators for the Borders Railway

	Standard results incl. environment and safety	Including wider economic benefits
Present Value of Benefits (PVB)	£75.9m[1]	£101.7m
Present Value of Costs (PVC)	£139.2m	£139.2m
Net Present Value (NPV)	(£63.3m)	(£37.5m)
Benefit to Cost Ratio (BCR)	0.5	0.7

[1] Please note this value differs from that in table 8 as it includes the environmental benefits (£1.6m) and safety benefits (£4.6m).

The BCR is the ratio of the Borders Railway's monetised economic and social benefits against its monetary costs; it is therefore a useful indicator of the rate of return on the investment in public funds.

In the standard results, Borders has an overall NPV of -£63.3m and BCR of 0.5. Should the wider economic benefits be realised the business case improves, with the BCR increasing to 0.7.

1.13 Sensitivity testing

As with all major capital investment projects, the forecast benefits for the Borders Railway are subject to a degree of risk and uncertainty. Consequently, the benefits of the Borders Railway have been subject to a wide ranging risk analysis, involving variations on patronage levels, fares, housing in the Shawfair region and the timetable. The inclusion of option values, as calculated in section 1.10, is also provided as a sensitivity. The sensitivity tests are outlined below, with the results summarised in Table 17.

Patronage Levels – As detailed in section 1.7.3 the core scenario is based on a central passenger forecast coming from two different approaches. This sensitivity assesses the impact of the Borders Railway if the higher level of demand, i.e., the stated preference demand forecast, is achieved. For this level to be reached there would need to be approximately 250,000 extra annual journeys, i.e. a 39% increase from the central forecast.

Fares – The core scenario assumes fares growth of RPI+1%. This sensitivity test assesses the impact on the results of assuming fares grow by RPI.

Housing – The area of Shawfair located to the south east of Edinburgh is the site of a proposed large development of approximately 4000 new houses, alongside economic sites. However, delivery of these new houses has stalled during the recent economic recession and current indications are that the building work will not commence until 2013 at the earliest. Consequently, for appraisal purposes, this sensitivity analysis delays the forecast demand arising from the Shawfair area by 5 years, removing approximately 60,000 return trips from each of the first 5 years demand levels.

Demand Growth Cap – In the core scenario demand is capped in 2027. The demand cap exists for two reasons; firstly to reflect our belief that demand has to saturate at some point as otherwise the forecast would become unrealistically large. Secondly, to reflect the uncertainty around whether the relationships that underpin the forecasting methodology will continue indefinitely, this sensitivity extends the demand cap to 2032, allowing an extra 5 years growth in demand.

Timetable – The latest timetabling analysis indicates a fastest journey time of 56 minutes from Tweedbank to Edinburgh, while a fastest end to end journey time of 60 minutes can be achieved in the opposite direction during the morning peak and off-peak period, with this

journey time falling to 57 minutes in the evening peak. There is still an aspiration to reach an end to end journey time of 55 minutes in each direction. This sensitivity analysis provides the results for a scenario where this aspiration is met.

Option Values – As highlighted in section 1.10.5, option and non-use values have been highlighted as a potential way of quantifying some of the accessibility and social inclusion benefits. However, as the evidence for the monetary values is relatively immature, the option and non-use values are treated as a sensitivity.

Table 17: Summary of sensitivity analysis

	BCR	NPV (£m)
Core Scenario	0.5	(£63.3m)
Patronage levels	0.9	(£16.7m)
Fares	0.7	(£49.9m)
Housing – Shawfair	0.5	(£70.3m)
Demand growth cap	0.6	(£44.8m)
Timetable	0.7	(£34.5m)
Option values	1.3	£38.6m

1.14 Appraisal against Investment Objectives

1.14.1 Performance against Investment Objective 1 – Promoting accessibility to and from the Scottish Borders and Midlothian to Edinburgh (including the airport) and the central belt

The project continues to perform well in improving accessibility, with two trains per hour in each direction providing regular and reliable access to Edinburgh city centre.

1.14.2 Performance against Investment Objective 2 – Foster social inclusion by improving access to key services for those without access to a car

Approximately 21%[10] of households in the Scottish Borders do not have access to a car. The Borders railway alongside projects such as the public transport interchange at Galashiels enables those without a car to access key services and markets. This project contributes positively to this objective.

1.14.3 Performance against Investment Objective 3 – Preventing decline in the Borders population by securing ready access to Edinburgh's labour market

By delivering a fastest end to end journey time of 56 minutes this project still performs well against this objective.

Between 2001 and 2011 the City of Edinburgh saw a 10.3% growth in population, in comparison to the 5.8% and 1.8% growth in the Borders and Midlothian respectively. The new train service will provide those living in the Borders and Midlothian the opportunity to commute into Edinburgh and readily access the Edinburgh labour market. This is likely to improve the attractiveness of living in the Borders and Midlothian and will help ease constraints on labour market growth facing the City of Edinburgh due to planning constraints.

1.14.4 Performance against Investment Objective 4 – Creating modal shift from the car to public transport

The Borders Railway meets this objective successfully as the opening of the railway is forecast to reduce the number of annual car trips along the route approximately by 530,000

[10] Scottish Neighbourhood Statistics, www.sns.gov.uk.

and the forecast number of annual return trips in the railway's opening year is approximately 650,000.

1.14.5 Updated appraisal results for Borders Railway

The table below presents the updated performance of the options against the Transport Planning Objectives, given the results of the updated detailed assessment set out above.

Table 18: Performance against Investment Objectives

	Borders Railway
Promoting accessibility to and from the Scottish Borders and Midlothian to Edinburgh (including the airport) and central belt	++
Foster social inclusion by improving access to key services for those without access to a car	+
Preventing decline in the Borders population by securing ready access to Edinburgh's labour market	++
Creating modal shift from the car to public transport	++
Net benefits (£m)	(£63m) to (£38m)
BCR	0.5 to 0.7

As Table 18 sets out, the performance of Borders Railway against the investment objectives has remained consistent. It is clear, however, that the assessment against the narrow value for money measure has significantly worsened. This is due in the main to a change in the application of the demand growth cap and the revised values of time, but also due to an increase in the end-to-end journey time.

1.15 Conclusions

In this Investment Case the rationale for intervention set out in the Strategic and Outline Business Cases is reviewed and considered to remain valid. The original objectives and vision remain consistent with what was set out in the previous Business Cases.

The analysis of the Borders Railway has been reviewed and updated. In general, the performance against the investment objectives remains unchanged; however, the more narrow economic appraisal has substantially worsened, with the BCR falling to 0.5. However, it is important to note that three out of the four investment objectives are focussed on accessibility and social inclusion, yet these related benefits are not taken into account in the core economic appraisal. As highlighted in section 1.10 the Borders Railway is expected to increase accessibility and social inclusion in the Scottish Borders and Midlothian significantly with the Borders Railway securing access to Edinburgh's labour market. The accessibility and social inclusion benefits are further highlighted by the estimated option and non-use values, at £102 million (2002 discounted prices), which when included as a sensitivity increase the BCR to 1.3.

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2. Commercial case

2.1 Introduction

This section of the FBC outlines the proposed deal in relation to the preferred option outlined in the Investment Case. This is for the provision of railway infrastructure services between Midlothian and the Scottish Borders under the standard NR procurement approach.

2.2 Procurement strategy

2.2.1 Introduction

This strategy summarises the best way of achieving the objectives of the project and value for money, taking account of the risks and constraints, leading to decisions on the most appropriate funding mechanism and asset ownership of the Borders Railway project. The aim of the procurement strategy is to achieve the optimum balance of risk, control and funding.

2.2.2 Key objectives

The key objectives that will be met by the project are defined in the Promoters Memorandum used to produce the Waverly Rail (Scotland) Act 2006 (the Act). TS is the Promoter of the project and the key objectives are summarised as follows:

Table 19: Strategic objectives

Investment Objective 1:	The promoting of accessibility to and from the Scottish Borders and Midlothian to Edinburgh (including the airport) and the central belt.
Investment Objective 2:	Foster social inclusion by improving access to key services for those without access to a car.
Investment Objective 3:	To prevent the decline in the Borders population by securing ready access to Edinburgh's labour market.
Investment Objective 4:	To create modal shift from the car to public transport.

2.2.3 Key objective met by the procurement strategy

The key objective that will be met by this procurement strategy is to deliver a railway infrastructure that can support the project objectives in accordance with European Commission and United Kingdom (UK) Legislation. This railway infrastructure will be connected to the UK network and must:

- Be in accordance with Act
- Provide net benefits to Scotland
- Be affordable and VfM to Scottish Government

2.2.4 Summary of the Outline Business Case findings

Four procurement routes were originally identified at the OBC stage as having the potential to achieve the objectives and VfM in accordance with the above guidance. These were:

- Traditional NR
- Design & Build
- PFI
- NPD

After quantifying the cost of delivery and identifying the risks / benefits associated with each procurement route, the OBC concluded that the preferred procurement route at that time was NPD. As a result, the competitive dialogue process was used to run a competition and evaluate bidders based upon this structure. However, this process was subsequently abandoned in 2011 due to market failure and prompted TS to re-appraise the delivery route.

2.2.5 Justification for Selected FBC procurement route

Two procurement routes noted above have been discounted from further assessment at the FBC stage. PFI does not fit with current Scottish Government policy (it does not cap private sector returns) and the structure has been replaced by the use of NPD. Design & Build was also considered to be inappropriate as it requires significant capital funding which has not been budgeted for and there is also a disconnect between whole life costs and VfM under this approach.

As a result of this initial de-selection, the following two procurement routes have been taken forward for further analysis:

- Traditional NR
- NPD

Each route has particular characteristics which can be summarised as follows:

Table 20: NR and NPD characteristics

Characteristic	Traditional NR	NPD
Promoter:	► TS	► TS
Procured by:	► NR	► TS
Designed by:	► NR supply chain	► SPV supply chain
Built by:	► NR supply chain	► SPV supply chain
Funding	► RAB	► Private finance
Maintained by	► NR	► SPV supply chain

NR *= Network Rail;* ***TS*** *= Transport Scotland;* ***NPD*** *= Non profit distributing;* ***SPV*** *= Single purpose vehicle*

The cost, risk and benefits associated with each route have been analysed and those of a material nature likely to influence decision making are summarised as follows:

Table 21: NR and NPD cost, risk and benefits

Aspect	Traditional NR	NPD
Cost (NPV) (£000) (base date 2012)	294,168	348,081
Difference expressed % of NPD	(15%)[11]	-
Risks	Ability to bench mark NR delivery (cost & schedule) & drive efficiency lost	Already attempted in 2010 and resulted in market failure Pathfinder in nature & potentially unachievable
	TS has less control over delivery, governance and reporting issues	Unable to obtain ORR approvals
	TS likely to retain delivery risk	Unable to agree connection agreement terms with NR

[11] As noted in the Risks and Benefits section of the table, TS's payments under the NPD route would attract VAT which would not be recoverable by TS, whilst grant payments to NR would not attract VAT. In line with HM Treasury Green Book guidance, which requires that options attracting differing VAT rates be compared as if the same VAT rates applied, the cost to TS of irrecoverable VAT has not been included in the VfM analysis. However, we note that TS would need to provide additional resources from its budget to cover this irrecoverable VAT.

Aspect	Traditional NR	NPD
	Fixed price unlikely (although considering target price mechanism)	Little market interest
		TS would be unable to recover VAT on availability payments. In the September 2009 OBC the quantum of irrecoverable VAT was estimated to total £93.8m.
Benefits	The safety & economic regulation is established & acceptable to ORR	It should be noted that many of these benefits are theoretical given the 2010 market failure highlighted above
	ORR has the rights to review every control period (5 yrs)	Able to bench mark NR delivery & drive efficiencies
	NR has established procedures (GRIP)	Potential opportunity for innovation
	Controlled by NR with minimum interface risk	TS controls delivery (schedule & cost)
	NR established supply chain	Ability to consider wide range of options
	No impact on TS balance sheet	
	Already included within NRs HLOS	
	Grant payments to NR do not attract VAT, so no issue with irrecoverable VAT	
	Fits with post McNulty recommendations and facilitates further Alliancing opportunities	
	Similar approach to EGIP delivery resulting in potential delivery and cost efficiencies.	

TS considered the above and concluded:

- The risks associated with NPD are too great given the previous market failure in 2011
- The Traditional NR approach provides the most benefits when compared to the others. It provides the optimum balance of risk, control and funding.
- TS and NR have undertaken a detailed risk assessment and are continuing to monitor and mitigate the risks on an ongoing basis. TS are proposing to transfer similar risks under both the NR Traditional Approach and the previous NPD structure.

2.3 Potential for risk transfer

The general principle is that risk should be passed to 'the best party able to manage', subject to value for money. The proposed risk allocation is as follows:

Table 22: Proposed risk allocation

Category	Risk	TS	NR
Operations	GSMR may not be available in time for introduction of services		✓
	Compliance with Interoperability Regulations (TS limited to rolling stock)	✓	✓
	Consents		✓
	Network operation issues		✓
	Requirement to join or split trains at Gorebridge may be introduced	✓	
	TOC identifies additional requirements outwith Funder's New Works Requirements which prevent acceptance into use	✓	
Funding	Nov 2014 franchise specification does not include sufficient provision for Borders services	✓	
	Inflation / deflation, based on ORR published data, outwith the parameters of the Target Price Agreement.	✓	✓

Category	Risk	TS	NR
	Actual costs exceed the target.	✓	✓
	Changes in tax regime (e.g. aggregate levy, landfill tax, carbon tax regime) impacts on prices of materials and services.	✓	
	Additional GI yields results which differ significantly from those indicated by existing GI.	✓	✓
	Accommodation works and commitments to third parties made under the Act not known to NR initially leading to increase in scope.	✓	
	New amendments to existing listing of structures which lead to cost and programme implications.	✓	
	Exchange rate fluctuations (if any suppliers sourcing from overseas).		✓
	Waverley Railway (Scotland) Act 2006 requirements are greater than Funder's New Works Requirements scope.	✓	
	Land and land purchase costs vary from estimates.	✓	
	Any information inherited by NRIL regarding environment / ground information not warranted by TS, leading to cost / programme implications.	✓	
Output	Sufficient drivers may not be in place for the introduction of the new Borders Service.	✓	
	Borders infrastructure does not deliver the specified output.		✓
	Sufficient DMUs may not be available for the introduction of the new Borders service.	✓	
	Unforeseen OLE Clearance (major tunnels and structures) requirements may result in additional works, resulting in programme delays and increased costs.	✓	
	Any scope of works required outwith Funder's New Works Requirements.	✓	
	Changes to proposed rolling stock or to performance characteristics leading to scope / cost / timetable alterations.	✓	
	TOC does not secure sufficient track access rights.	✓	
Schedule	The failure to implement an effective stakeholder management and communications strategy throughout the duration of the project, leading to delays.		✓
	The completed infrastructure works do not meet the Funder's New Works Requirements.		✓
	Failure of public utility companies to perform utility diversions in accordance with the agreed programme and permission to connect drainage to Scottish Water sewers declined or constrained.		✓
	Design solution relies on soil nails being installed under neighbouring properties, for which consent has not yet been granted. Risk of delay to consent.	✓	
	Failure to obtain safety approval from ORR in time to open the route due to required records from SBC, MLC and TS not being made available in time.	✓	
	Site investigations or works activities impact on sites of archaeological significance or ecological sensitivity, requiring additional surveys, licensing or monitoring activity.		✓
	Provision of appropriate resources to deliver the project.	✓	✓
	Unforeseen ground conditions		✓
	Contractor insolvency.		✓
	Programme delays arising from Contractor insolvency.	✓	✓
	Inclement weather and extreme adverse weather (more than a 1 in 20 event)	✓	✓
	Design errors, existing asset condition ,noise / compliance with CoCP / environmental requirements, safety management, industrial action, theft / vandalism		✓
	Existing asset condition		✓
	Noise, compliance with CoCP and environmental requirements.		✓
	Safety Management		✓

Category	Risk	TS	NR
	Direction of competent authority, specific changes in law or railway regulation.	✓	✓
	Industrial action		✓
	Previous invasive plant species treatment proves ineffective.	✓	
	Theft and vandalism		✓

Discussions and negotiations are still ongoing with NR and the final risk allocation is still to be agreed. NR will be responsible for risk management on the Borders Railway and will own the Risk & Opportunity Management Plan. Allocation of risks that TS will retain form part of the commercial discussions currently underway.

As highlighted in the Management Case, TS and NR have undertaken a detailed risk assessment and are continuing to monitor and mitigate the risks on an ongoing basis. Table 22 demonstrates that TS is proposing to transfer similar risks under both the NR Traditional Approach and the previous NPD structure. After reviewing the risks, the project team concluded that it was not necessary to further quantify these risks as they would not be a differentiating factor between the two options.

2.4 Summary of Target Price Mechanism

TS and NR are currently in negotiations to agree the target price mechanism. The strategy was the outcome of several workshops and a scoring matrix to determine the most appropriate mechanism for the construction of the project. While this is still to be finalised the mechanism will broadly cover:

- Anything under 10% of the Target Price, TS will solely take gain
- Up to and including 10% under the Target Price. NR and TS will share gain 50/50
- Up to and including 10% over the Target Price. NR and TS will share pain 50/50
- All costs above 10% over the Target Price, TS solely incur cost

2.5 Conclusion

The commercial case has demonstrated how the procurement route has developed from the OBC to the FBC. The analysis has shown that the traditional NR procurement route is the preferred option:

- The risks associated with NPD are too great given the previous market failure in 2011
- The Traditional NR approach provides the most benefits when compared to NPD. It provides the optimum balance of risk, control and funding.

3. Financial case

This section sets out the financial implications of the railway option and procurement method as outlined in the Investment and Commercial cases. It compares the affordability of the two remaining options and discusses the impact of the chosen option on TS's income and expenditure account and balance sheet.

The NPD model as set out in the September 2009 OBC was signed off by Scottish Ministers.

The cost, net of Council contributions, to Transport Scotland of procurement of the infrastructure works by the NPD route as described in the OBC was projected to be £946.4m in whole life terms over a 30 year period.

In comparison, the net cost to Transport Scotland of procurement of the infrastructure works via the traditional NR route using RAB finance is now projected to cost £856.0m over a 30 year period.

3.1 NPD and Network Rail comparison

For the OBC, Ernst & Young calculated the impact of the railway on TS's income and expenditure account using a bespoke Shadow Bid Model in line with Scottish Government guidance. This model has been used to update the NPD costs in line with current financing assumptions and the NR timings to enable comparison with the NR RAB model.

3.1.1 Cost assumptions

The table below summarises the high level assumptions used for each option.

Table 23: Comparison of NPD and NR assumptions (base date Dec 2010)

Assumption	NPD	NR
Initial capital expenditure	£220,804	£284,592[12]
Lifecycle costs / renewals (30 years £000)	£26,499	£14,630
Infrastructure O&M (annual £000)	£2,988	£1,490

Sources: Network Rail, Borders assumptions_2012_08_31.pdf*, Transport Scotland* Borders Railway - Procurement - Procurement route VfM comparison - 5 Mar 2010.xls

The table shows that while the initial capital expenditure with NR is approximately £60m higher, the ongoing lifecycle and infrastructure operational and maintenance costs are substantially lower.

3.1.2 Timing, financial and economic assumptions

The table below sets out the timing, financial and economic assumptions used to compare the NPD and NR options.

Table 24: Timing, financial and economic assumptions

Timings	
Construction start date	30 Sep 2012
Construction period (years)	3
Operations start date	6 Sep 2015
Operations period (years)	30
Financial and economic	
RPI	2.50%
Return of RAB (real)	4.75%
Real discount rate (HMT)	3.50%
Nominal discount rate (HMT)	6.09%
Discount factor for capex and opex costs	3.50%

[12] The NR construction costs in 2012 prices is £299 million

Sources: Network Rail, Borders assumptions_2012_08_31.pdf

These assumptions have been provided by NR but are subject to verification by NRIL following further modelling.

3.1.3 Cash flow comparison

Table 25 compares the nominal cash flows for the NR and NPD options and the resulting Net Present Value (NPV) using a discount rate of 6.09%.

Table 25: Comparison of NPD and NR cash flow (30 years)

	30 year cash flow (outturn prices £000)	NPV (£000)
NR	885,433	294,168
NPD	1,106,309	348,081

Sources: Network Rail, Borders assumptions_2012_08_31.pdf*, Transport Scotland* Borders Railway - Procurement - Procurement route VfM comparison - 5 Mar 2010.xls

The cash flow includes capital payments, lifecycle costs, operating costs and finance costs but does not include the franchise operating costs.

- The cash flow for the NPD covers the unitary charge to the SPV and administrative costs for TS to administer the contract
- The NR cash flow covers the RAB payment to NR.

The NPV[13] of the NR option is £53.9m less than the NPD option and clearly shows that NR is the value for money route.

The table and graph below compares the profile of the NPD option with that of NR.

The table shows the first 10 years and subsequent 5 year periods.

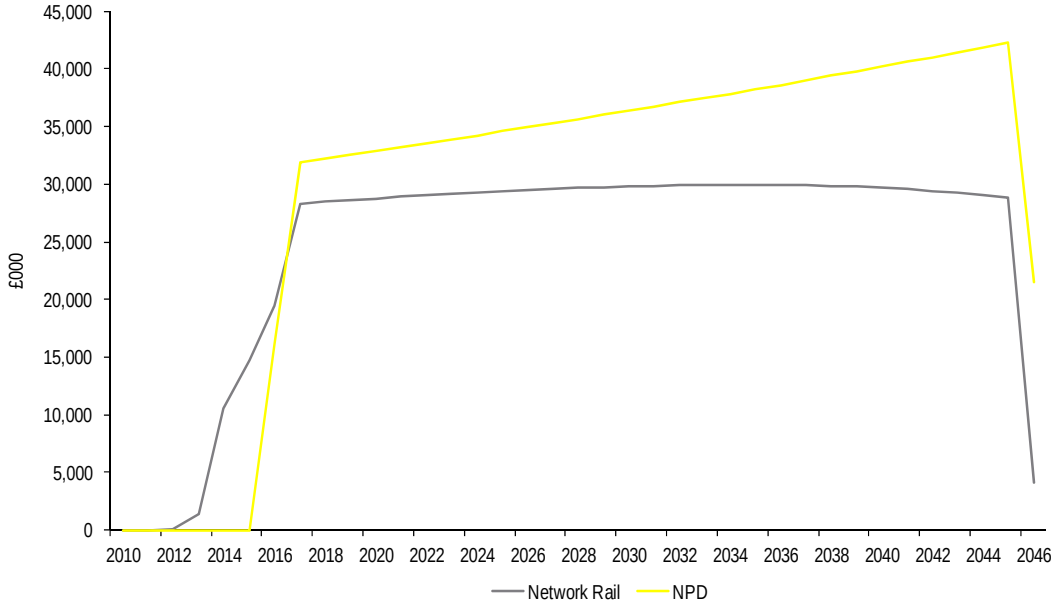
Table 26: Comparison of NPD and NR cash flow (30 years)

£000	Total	12/13	13/14	14/15	15/16	16/17	17/18
NR cash flow	**885,433**	25	659	5,147	7,194	13,729	27,884
NPD cash flow	**1,106,309**	-	-	-	-	16,017	31,924
Difference	**220,876**	(25)	(659)	(5,147)	(7,194)	2,288	4,040

£000	18/19	19/20	20/21	21/22	26/27	31/32	36/37	41/42	46/47
NR cash flow	28,045	28,197	28,339	28,486	29,097	29,493	29,605	29,325	15,513
NPD cash flow	32,245	32,569	32,896	33,227	34,932	36,726	38,612	40,597	21,461
Difference	4,200	4,372	4,557	4,741	5,835	7,233	9,008	11,272	5,948

[13] The NPV is calculated to a base date of Dec 2010. NPV uses the time value of money to discount each cash flow back to a base date. This discount factor removes differences in timing and quantum to enable comparison at the same date.

Figure 6: NR and NPD comparison



The graph clearly shows that the NR option has the lower funding requirement over the construction and operating period. There are a number of reasons for this:

- Cost of financing is lower for NR due to the way that the RAB is financed.
- The amount that is financed under the NR option is reduced more quickly due to the straight-line amortisation of the carrying amount on the RAB, rather than being paid off when cash flow allows as is the case under the NPD option.
- The cash requirement for the ongoing operational and maintenance costs is greater under the NPD model, which means there is comparatively less cash available for capital repayment.

There is a significant cost difference in the first year of operations and this continues due to the way that the ongoing renewals are amortised.

3.2 Franchise subsidy

3.2.1 Franchise Operating costs

The operating costs of the ScotRail franchise will increase as a result of the Borders Railway because of the extra train services that will be operated daily. The additional services will require more trains and train crew to operate them and result in an increase in train miles. Fuel, track access and train maintenance costs are all based on the number of miles operated and therefore will also increase.

Costs will also be incurred prior to the new services starting, as staff are recruited and trained and the new trains are commissioned and tested.

3.2.2 Revenue

The operating costs are offset by an increase in revenues. Once the new service has opened, passengers will take some time to change their travel behaviours and the full revenue forecast will take some years to achieve. However, in addition to this ramp up, external factors such as the performance of the economy and the housing developments along the route of the railway will influence how the revenue grows over time.

The revenue forecasts, provided in the section below, have been calculated using the bespoke modelling used in the investment case. Consequently, the revenue increase contains a degree of uncertainty as the forecast is highly dependent on whether the forecast patronage is achieved.

3.2.3 Net operating position

The overall impact of Borders Railway on the net franchise operating position will be the net effect of changes in the franchise operating costs incurred and the revenues received. The following table illustrates the increase/(decrease) in estimated subsidy payment for the period from 2014 – 2023.

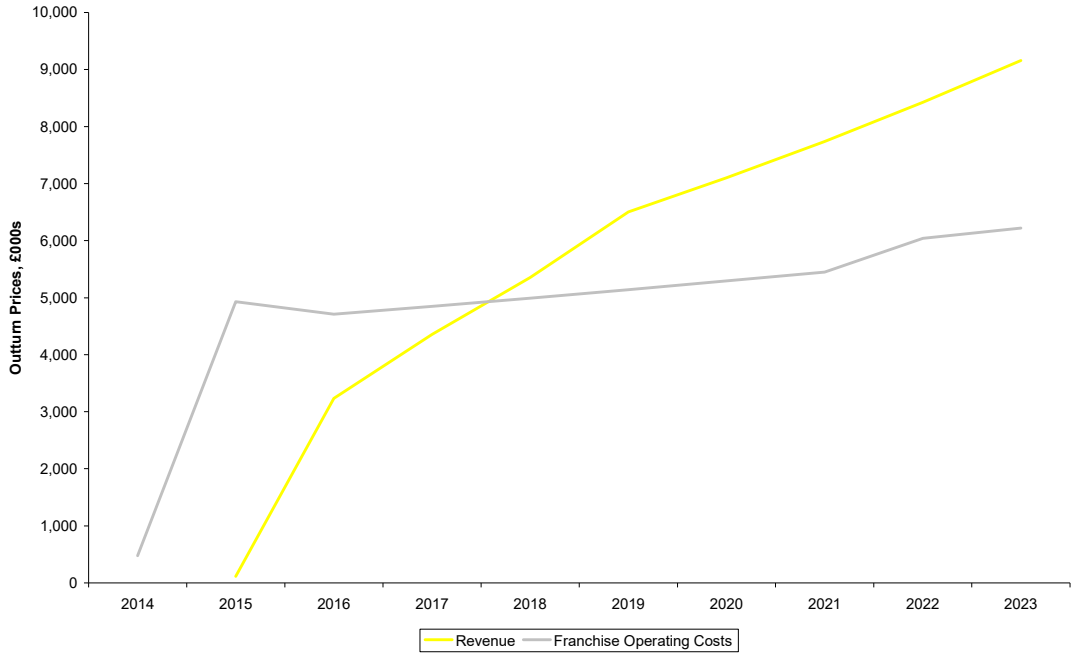
Table 27: Increase/(decrease) in estimated subsidy payments (outturn prices, £000s)

Year	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24
Franchise Operating Cost	476	4,929	4,711	4,850	4,993	5,141	5,293	5,449	6,043	6,220
Revenue		114	3,236	4,358	5,355	6,505	7,100	7,740	8,425	9,161
Subsidy	476	4,816	1,475	492	(362)	(1,364)	(1,808)	(2,290)	(2,383)	(2,941)

Source: Transport Scotland, Investment case bespoke model

The graph overleaf demonstrates that the line is expected to generate an operating surplus from year five.

Figure 7: Forecast revenue and operating costs



Overall, Borders Railway is forecast to run an operating surplus over the period of the economic appraisal. The realisation of the surplus contains a degree of uncertainty as it relates to potential future outcomes that will be influenced by a range of factors.

3.3 Impact on Transport Scotland

The proposed cost of the project to TS is £856m at outturn prices until the expiry of the 30 year concession period.

Table 28: Funding requirement from Transport Scotland (outturn prices, £000)

	Total
NR RAB payment	**885,433**
Council contribution	**(29,447)**
TS funding	**855,985**

Year	12/13	13/14	14/15	15/16							
NR RAB payment	25	659	5,147	7,194							
Council contribution	-	-	-	2,476							
TS funding	25	659	5,147	4,719							
Year	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	
NR RAB payment	13,729	27,884	28,045	28,197	28,339	28,486	28,628	28,760	28,879	28,986	
Council contribution	193	198	203	505	518	531	544	558	572	586	
TS funding	13,536	27,686	27,842	27,692	27,822	27,955	28,084	28,202	28,308	28,401	
Year	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36	
NR RAB payment	29,097	29,202	29,293	29,369	29,429	29,493	29,547	29,585	29,604	29,604	
Council contribution	601	616	631	647	663	679	696	714	732	750	
TS funding	28,497	28,587	28,662	28,722	28,766	28,813	28,851	28,871	28,872	28,854	
Year	36/37	37/38	38/39	39/40	40/41	41/42	42/43	43/44	44/45	45/46	46/47
NR RAB payment	29,605	29,594	29,562	29,508	29,429	29,325	29,195	29,037	28,850	28,632	15,513
Council contribution	769	788	808	828	849	870	891	914	937	8,185	-
TS funding	28,836	28,806	28,755	28,680	28,580	28,455	28,303	28,123	27,913	20,447	15,513

Sources: Network Rail, Borders assumptions_2012_07_13.pdf, *Transport Scotland* Borders Railway Joint Committee Report by Director of Technical Services 2 March 2009,

The NR RAB payment is the payments to NR. Interest payments will be made to NR during construction years prior to operations commencing to reduce the overall financing costs.

The Council Contribution is from Midlothian Council, Scottish Borders Council and the City of Edinburgh. These payments were agreed at 2008 and it has been confirmed that the Council's will commit to these payments.

3.4 Risks owned by Transport Scotland

Negotiations with NR are nearing completion and NR will agree certain construction risks which will be owned by the contractor. These will be included in the contractor costs and managed at project level and will be included in the risks owned by NR.

Risks which are owned by TS will be financed if they materialise. As demonstrated in the Management Case, TS has put plans in place to ensure that risks are identified and managed robustly. The project will be managed directly with TS having a proactive sponsorship role to monitor developments. Project costs will be monitored to ensure they are managed within the NR target price. This will enable the early identification of risk materialisation and enable swift and appropriate action to be undertaken to mitigate that risk. Under these circumstances TS has decided it will not be necessary to quantify the risks as the risks are expected to be managed appropriately and any financial impact should not materialise or will be minimal.

3.5 Sensitivity analysis

NR assumptions include a construction risk contingency of £23m of the £299m (2012 prices) which equates to 8% of the total capital cost. In order to understand the impact of potential changes to the assumptions, TS has run sensitivities based on the changes in the capital expenditure. The results are shown in table 28.

Table 29: Sensitivity analysis

Sensitivity	Total Construction costs (2012 figures £000)	NPV (£000)	First full year payment 2016 (Nominal) (£000)
base case	298,999	293,846	27,884
Decrease capex by 5%	284,049	280,766	26,576
Increase capex by 5%	313,949	307,570	29,191

This shows that an increase or decrease in the construction costs of 5% increases or decreases the annual payment by approximately £1.3m (2016/17 first year prices).

The ITPD volume 1 document issued to bidders confirmed Scottish Ministers had an affordability ceiling of £28.27m for the first year of operation (year ending March 2016). The timescales have changed since the issue of the ITPD and the first year of operations will now be 2017. With an additional year of indexation the affordability ceiling is £29m (year ending March 2017).

3.6 VAT treatment

Under the preferred procurement structure:

- TS commissions NR to undertake the works and service through the existing Regulatory Settlement.
- NR will contract with third party providers (for example construction and engineering contractors) to undertake the works.
- The third party contractors will charge the cost of the works to NR, and be paid by them.
- In turn NR will finance the cost of the works from their own borrowings. Once the works are completed the costs will be added to the RAB and recharged to TS over the operating period.

Providing the works are undertaken under NR's regulatory settlement there will be no supply for VAT purposes by NR to TS.

This treatment is based on two key assumptions, that:

1. NR does not operate under any special VAT regime and therefore must follow the “normal” rules for charging output tax on their taxable supplies and recovering input tax incurred on related costs.
2. NR is a fully taxable body as the charging for Track Access Charges to the rail industry for provision of rail infrastructure by NR is a taxable business activity.

In the circumstances outlined above VAT will be charged by the third party contractors to NR for the works and services provided and subject to the fully taxable status of NR this VAT will be fully recoverable. As there is no business supply from NR to TS there will be no VAT charged from NR to TS.

3.7 Impact on Transport Scotland’s balance sheet

3.7.1 Network Rail position for infrastructure assets

NR has a regulatory requirement to report in the manner of a listed company. It therefore prepares annual accounts in accordance with International Financial Reporting Standards (IFRS). Borders Railway is expected to be accounted for on the balance sheet of NR. They will be responsible for raising the finance for the infrastructure works and for managing their completion. The capital cost of the works will be added to the Regulated Asset Base and the cost recovered from TS by way of annual charges. NR will therefore recognise the infrastructure asset on their balance sheet.

3.7.2 Transport Scotland position for infrastructure assets

Historically, the Scottish Government rail enhancement projects that have been delivered by NR were accounted for as 'off balance sheet' to the public sector under generally accepted accounting practice applicable in the UK (UK GAAP) taking into account specific guidance for the UK public sector.

However, following the adopting of IFRS by the UK public sector including TS and the Scottish Government, PFI type arrangements would come on to the balance sheet for accounting purposes under IFRS, as adapted for the UK public sector, to the extent that the Scottish Government is considered to be in control of the residual interest in the assets at the end of the arrangement. This would be the case where the assets reverted to the Scottish Government or it was able to direct the use of the assets. In this case as the assets remain with NR it is expected that NR and not the Scottish Government would record the assets on its balance sheet.

In respect of National Accounts prepared under ESA 95, public sector bodies are required to assess the implications for transactions such as the Borders Railway in the context of the Manual on Government Deficit and Debt (Part IV) and the technical guidance issued by HM Treasury ("Technical Guidance on the Application of the Standards Used in the production of National Accounts to PFI and Similar Transactions). This guidance sets out an assessment process that focuses on the risks and rewards associated with the assets. In summary where the private sector holds the construction risk, and one of either demand risk or availability risk then the assets are not considered to be on the public sector balance sheet for the purposes of National Accounts. For these purposes NR has been classed by the Office of National Statistics as outside the departmental boundary and accordingly as a private sector entity.

For Borders Railway, the current working assumption is that NR will hold construction risk and availability risk. TS will retain demand risk. If this situation was to be the result of the final contractual arrangements then this would indicate that the Borders Railway would be off the public sector balance sheet for National Accounts purposes. It is though recognised that a substantial amount of work has yet to be completed on the risk transfer proposals and contractual arrangements. Accordingly the final view on accounting treatment will not be determined until these points have been addressed.

3.8 Overall affordability

The proposed net funding requirement that TS will be required to pay is £856 million at outturn prices until the expiry of the 30 year concession period. TS has signified its agreement to the required level of funding as shown in Table 28 above.

3.9 Conclusion

The financial case has demonstrated:

- The NPV analysis supports NR as a the value for money procurement route
- The cash flow analysis demonstrates the affordability requirement.

4. Management case

4.1 Borders Railway

This section of the FBC sets out the actions required to ensure the successful delivery of the Borders Railway in accordance with best practice and in line with the selected delivery strategy.

As outlined in the Investment Case, the objectives of the Borders Railway reflect the strategic vision of the Scottish Government. Borders Railway is subsequently included as a committed infrastructure project in TS's Corporate Plan over the next three years (2012 – 2015). The Management Case sets out the roles and responsibilities of the Project Sponsor (TS) the Project Delivery Partner (NR) and the project partners (Local Authorities).

4.2 Roles of the principal partners

The key organisations with responsibility for funding and the delivery of the Borders Railway are detailed in Table 30.

Table 30: Roles of the principal partners

Organisation	Summary roles
Transport Scotland (TS) Funder & Project Sponsor	As the national transport agency for Scotland TS is the client, project sponsor and funder for Borders Railway. TS will specify the desired outputs through the 'Client Requirements'. TS owns and manages the business case for Borders Railway and specifies outputs in terms of train service specification, passenger demand forecasts and dates for completion of infrastructure capability to deliver the requirements. TS will give direction and make decisions on matters of variations to the Client Requirements. TS will secure the appropriate rolling stock to meet the needs of the Client Requirements and will appraise NR of any changes to train service specification, assumptions and planned timescales for delivery. TS will procure funds and manage changes to franchise agreements to accommodate the Borders Railway outputs and to accommodate rolling stock deployment. TS also owns the output risk for the Borders Railway.
Network Rail (NR) Delivery Partner	As the owner and operator of Britain's rail infrastructure NR will act as delivery partner for the Borders Railway and own the Project Delivery Plan. Following transfer of the Authorised Undertaker functions of the Waverley Railway (Scotland) Act 2006 from TS and SBC, NR will consult with TS, the train operators and other key stakeholders on its plans for delivery of the NR Programme to achieve the Key Output dates. NR will provide finance for the project via the NR Regulatory Asset Base (RAB).
The Office of Rail Regulation (ORR) Safety & economic regulator	As the regulatory body for rail matters in Britain the ORR will determine NR's obligation for the Borders Railway including those required to deliver the NR Programme. ORR will also approve commercial submissions and the associated delivery plan. This approval will include confirmation of NR obligations which will be customer reasonable requirements which will be enforced. The approval will also include determination of efficient prices for the works and incentive arrangements for the amounts to be added to the RAB. ORR will, through the Reporters, carry out review of the commercial submissions and will subsequently provide a draft report which will be copied to NR and TS. ORR will carry out a monitoring role and hold NR to account for delivering its obligations which will include progress on delivering its obligations in respect of the Borders Railway; ensuring NR's approach is consistent with its Network Licence; intervening where necessary if it appears that NR is unlikely to meet any of its obligations; take necessary enforcement action against NR in line with the ORR enforcement policy; and determination of whether any changes to the delivery plan for the Works should be approved.
Scottish Borders Council (SBC) Part funder & key stakeholder	As lead partner of the Waverley Railway Partnership (WRP), SBC remain a key partner in the delivery of the Borders Railway. SBC along with the other two councils are a part funder of the project with a profile of annual contributions set out in the Restated Minute of Agreement with TS. SBC in its role as a planning authority will require to liaise regularly with NR in providing the necessary consents for elements of the Railway Works (i.e., roads, structures). SBC also employs an Environmental Clerk of Works to ensure the Environmental Requirements of the 2006 Act are met by NR throughout the projects design and build phases. SBC will continue to be funded in employment of a Council Liaison Manager (CLM) to maintain strong and positive links between the project and the local community, and between the councils, NR and TS. The CLM will also ensure planning authorities (both SBC &

Organisation	Summary roles
	MLC) approach the works in an efficient manner and expedite design approvals promptly. SBC have undertaken the management of the land assembly on behalf of TS since 2008, and are currently continuing to perform this role. It is the expectation of all parties that NR and SBC enter into an agreement to allow completion of the land assembly works phase. The terms of the agreement are currently under discussion between NR & SBC. SBC are formally committed to ensuring public transport systems (including local bus services and walking/cycling routes) are integrated with services that will be provided by the railway.
Midlothian Council (MLC) Part funder & key stakeholder	As part funder of the project MLC will remain a key partner in the delivery of the Borders Railway. Similar to SBC, MLC in its role as a planning authority will require to liaise regularly with NR in providing the necessary consents for elements of the Railway Works (i.e., roads, structures) MLC are formally committed to ensuring public transport systems (including local bus services and walking/cycling routes) are integrated with services that will be provided by the railway.
City of Edinburgh Council (CEC) Part funder & key stakeholder	CEC are also committed to provide a financial contribution to the project, and remain a key stakeholder in providing a rail connection between the city, Midlothian and the Scottish Borders. However, as no parts of the new infrastructure are located within the CEC area, there is no planning interface with the CEC Planning Authority.

4.3 Governance structure

As part of the Transfer Agreement between The Scottish Ministers and NR (in relation to the role of Authorised Undertaker for the Waverley Railway (Scotland) Act 2006) both parties have committed to comply with an agreed Governance Protocol for the Borders Railway.

This Protocol defines the five governance principles agreed between TS, NR and the ORR as follows:

Table 31: Governance principles

1. Four weekly reporting	The Project Delivery Group (which will consist of NR and TS officials) will meet on a four weekly basis to review progress made in that period. A period report will be produced by NR ahead of these meetings in a pre agreed format.
2. Change control	An agreed pro-forma is included in the Governance Protocol. The specific change control process remains under discussion between TS and NR.
3. Meetings schedule	An agreed schedule of meetings is outlined in the Protocol. In addition to the Project Delivery Group, the following main meetings will be scheduled (although it is recognised a number of subsidiary, issue focused meetings will also be required): ► ORR Project review meeting Quarterly frequency, with report produced in advance of meeting by NR. Representatives from TS, NR and ORR required ► Key stakeholder meeting Quarterly frequency. Representatives from NR, TS, SBC, MLC and CEC invited to attend
4. Escalation procedure	An agreed escalation procedure has been defined for instances where issues cannot be resolved by the Project Delivery Group. A flowchart illustrating the steps of escalation is appended to the governance protocol
5. Communications	A Communications Protocol agreed between TS & NR sets out the principals of communications responsibilities for the project.

	NR will be responsible for the communication with external stakeholders about delivery of the project, and will own the Communications Plan. TS are responsible for communicating the strategic importance of the investment within a national context.

4.4 Risk Management

NR will be responsible for risk management on the Borders Railway and will own the Risk & Opportunity Management Plan. Allocation of risks that TS will retain (for example rolling stock, extreme weather events) form part of the commercial discussions currently underway. The risks included at Table 22 are those currently under discussion with NR. Negotiations are nearing completion with the final risk transfer still to be agreed.

4.5 Transport Scotland Project Sponsor

The following responsibilities will be retained by TS's Project Sponsor:

- Ownership of the Final Business Case
- Manage and monitor commercial arrangements with NR
- Lead on the political interface with The Scottish Government
- Provide strategic guidance to the project
- Focuses on realisation of benefits
- Provides timely decisions
- Manages relationships with influential stakeholders (notably ORR and Councils)
- Provide assurance to TS Board that governance arrangements, policies and acceptable project management practices are being applied
- Promotes ethical working and culture of trust
- Ensure continuity of sponsorship.

4.6 Network Rail Project Director

The key areas of responsibility for the Project Director are outlined as follows:

- Lead project team to deliver the business and customer objectives agreed, whilst confirming compliance with appropriate company governance, standards and procedures.
- Achieve the project outturn and margins as agreed with the Project Director.
- Develop an appropriate strategy for the development and delivery of the project works scope.
- Identify priority opportunities within the project and lead promotion and sharing of best practice between projects.
- Monitor planning so that it covers cross project requirements and supports effective delivery of contracted obligations.
- Develop and improve relationships with key stakeholders, customers and suppliers.

- Develop and manage project team, monitoring adequate resources available to deliver a flexible, competent, skilled and effective workforce at all times.
- Contribute as a member of the project organisations senior management team.
- Lead compliance in corporate health, safety, quality and environment processes for the project.
- Implement relevant parts of the renewals plan.
- Act upon and discharge and discharge of, all CDM obligations for projects as directed.
- Sponsor audit of project and project documentation, activities, processes and systems.
- Lead the communication of key issues for the function.
- Lead the communication of key issues for the project supporting effective delivery, performance measurement and management of change. This should encompass where appropriate communications with outside bodies.

4.7 Decision Maker Roles and Limits of Delegated Authority

Table 32: Decision makers and delegated authority

Decision maker	Role	Limit of delegated authority
TS Chief Executive	The Chief Executive of TS, as Accountable Officer, is responsible for decisions on the Agency's capital investment programme. The CE is supported by the TS Investment Decision Making (IDM) board in key financial and programme decisions on TS major capital and resource investment programme.	
TS Board/IDM	The Board is responsible for ensuring that the Chief Executive is properly advised and supported in the fulfilment of his role as Accountable Officer.	
Project Delivery Group (PDG)	The Project Delivery Group is the body charged with monitoring the progress of the Borders Railway measured against the requirements set in the Delivery Plan. The overarching responsibility of the PDG is to monitor progress and budget on the Project and that the sponsor gives clear direction to the NR Project Director and the NR Borders team.	
TS Director of Rail	Director responsible for the ScotRail franchise, the funding relationship with NR and the delivery of all TS's Rail Projects. Director of Rail will also act as the Senior Responsible Owner (SRO) following the hand over of the delivery role to NR.	1. Changes or variations that will impact on the Project capital cost up to £1m in value 2. Changes or variations that will impact on key Project milestones by up to 3 months.
Borders Railway Sponsor	Person responsible for heading up TS's Rail Projects Team reporting to the Director of Rail.	1. May authorise design changes up to a cumulative total value of £1m 2. Changes or variations that will impact on key Project milestones by up to 1 month.
Borders Railway NR Project Director	The role of the Borders Railway Project Director is to lead and manage the Project with particular responsibility for ensuring that the governance, commercial and contractual arrangements of the sub projects are appropriate, and that delivery arrangements are effective in order to deliver the project on time, on budget and to the required specifications.	Please refer to Section 4.6
Borders Railway Sponsorship Manager (B3 Level)	The role of the Sponsorship Manager is to manage TS sponsor interests including: ► Project Management within TS of the Target Price ► Benefits Realisation ► Integration with Franchise (current and future TOC) ► Risk Management ► PDG ► Briefing and correspondence	**Project scope:** None. **For individual contractual claims:** The lower of 1% of tender value or £100,000

4.8 Project schedule

The proposed time line for the project is set out in the table below.

Table 33: Project timeline

Activity	Date
Construction start date	30 Sept 2012
Construction finish date	30 Sept 2015
Operation commence	1 Oct 2015

The following are the agreed milestones as detailed in the Project Delivery Plan.

Activity	Date
1. Commence mining remediation	15th November 2012
2. Commence main works site mobilisation	31st January 2013
3. GRIP 4 Stage Gate Review	30th April 2013
4. Commence track laying	29th June 2014
5. Route available for driver training	14th June 2015
6. Stations ready for handover to TOC	14th June 2015
7. Service Commencement by TOC	6th September 2015

4.9 Stakeholder & Communications

4.9.1 Communications

As described in Section 4.3, a Communications Protocol is in place between TS and NR. An agreed NR Communications Plan is also in place for the project, and is consistent with the principles set out in the protocol.

4.9.2 Stakeholders

NR's Communications Plan (CP) sets out the priority stakeholder groups as the primary target audience during the construction phase. The objective of the CP will be to ensure those most affected and central to the project are properly informed and that resources are concentrated in those areas.

Table 34: Priority stakeholder group

Borders Railway – Priority Stakeholder Groups (Construction Phase)
Landowners & Affected Parties
Community
Elected Representatives
Project partners – SG/TS/Councils
Media (national & local)
Influencers
Statutory Bodies
Environmental Groups
Campaign Groups
Transport and Industry

4.10 Outline arrangements for Post Project Evaluation

4.10.1 Post Implementation Review (PIR)

These reviews ascertain whether the anticipated benefits have been delivered compared with expectations and are timed to take place on completion of the project and commencement of passenger services. The PIR will be a key input into Gateway Review 5: Benefits Evaluation.

4.10.2 Project Evaluation Review (PER) – At Gateway 5

This review will appraise how well the project was managed and delivered compared with expectations and are timed to take place in the form of lessons learned outputs and shared within TS's appropriate directorates (i.e., Rail and MTRIPS). This exercise will take place following Stage 5 of the Gateway Review: Benefits Evaluation.

4.10.3 Benefits Realisation Plan

The Borders Railway project is a means to an end and not simply an end in itself. The success of the project will be judged in part on the successful delivery of the project outputs but ultimately on the successful realisation of the benefits set out in the Investment Case.

The scope of any benefits realisation plan covers the life of the benefit from its initial identification through the project and will continue to measure the benefits throughout the products life.

The Borders Railway Benefits Realisation Plan (BRP) sets out the project benefits and the processes and actions required to ensure they are successfully realised, i.e.:

- How they will be quantified and measured
- What systems and processes will be used to track progress
- How benefits realisation will be achieved.

As owner of the Borders Railway Business Case, TS is responsible for benefits realisation. The Project Sponsor owns and oversees the Borders Railway BRP on behalf of TS, while day to day monitoring and management of the plan is the responsibility of the Borders Railway Sponsorship Manager.

The Borders Railway BRP is periodically reviewed using a risk based approach. TS maintains and monitors a register of identified risks to successful benefits realisation, this risk analysis informs the Sponsor interface with the Project Delivery Group.

4.11 Conclusion of Management Case

The key roles for the Borders Railway project will be as follows:

- TS will be the client, project sponsor and principal funder. TS will also be responsible for provision of the appropriate rolling stock.
- NR will deliver the infrastructure of the Project in accordance with the Delivery Plan and the New Funders Works Requirements.
- The Office of Rail Regulation will determine the efficient cost of the NR programme for addition to the Regulatory Asset Base (RAB) and scrutinise the deliverability of NR's programme. The ORR approval criteria is set out in the ORR's "Investment Framework consolidated policy and guidelines", dated October 2010.
- The Council's will continue to support the delivery of the Project, provide a funding contribution, and assist NR in ensuring the planning consents required are delivered within pre-agreed timescales to assist project milestones.

The management case has demonstrated that a robust governance and management structure is in place to ensure the delivery of the Borders Railway project. This will be further refined as part of TS's review process.

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