Seeing Issues Clearly

Feasibility Study: Enhanced Rail Services between Edinburgh and Newcastle

Report for ScotRail and Transport Scotland

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Summary

MVA Consultancy was appointed by ScotRail on behalf of Transport Scotland in 2010 to undertake an analysis of a range of potential enhancements to train services on the East Coast Main Line (ECML) between Edinburgh and Newcastle.

The recent context for this study was provided by two key elements:

- the East Coast Route Utilisation Study (RUS) undertaken by Network Rail in 2008; and
- the introduction of radical changes to ECML train services via the new 'EUREKA' timetable introduced in May 2011.

The RUS assessed a number of potential enhancements to services on this stretch of line based on three key themes of relevance here:

- improved local service frequency to Dunbar;
- new local services between Edinburgh and Berwick-upon-Tweed; and
- new semi-fast services between Edinburgh and Newcastle (Edinburgh – Dunbar – Berwick-upon-Tweed – Alnmouth – Morpeth – Newcastle).

Local services to Dunbar and Berwick-upon-Tweed would also create the opportunity for new stations at East Linton and Reston (Berwick services only), and this has been a long standing aspiration for many years locally. The RUS reported a range of business case outcomes for these alternatives but concluded that the potential for these services should be tested operationally before recommendations could be made.

At present, train services in the area comprise:

- **ScotRail** services between Edinburgh and North Berwick (with intermediate stations at Musselburgh, Wallyford, Prestonpans, Longniddry and Drem) providing a commuter service between East Lothian and Edinburgh;
- less frequent **ScotRail** services between Dunbar and Edinburgh (direct, with the exception of some trains stopping at Musselburgh), supplementing the ECML-based Dunbar services;
- **Cross Country** services between Scotland and the south west / south coast of England (calling at some, or none of Dunbar, Berwick-upon-Tweed, Alnmouth and Morpeth);
- **East Coast** services between Scotland and London (calling at some, or none of Dunbar, Berwick-upon-Tweed, Alnmouth and Morpeth); and
- **Northern Rail** services between Newcastle and Morpeth / Chathill (calling at Manors, Cramlington, Pegswood, Widdrington, Acklington and Alnmouth).

The services along the line therefore comprise a mix of local / regional, and long distance high speed (LDHS) services in addition to scheduled freight services. The requirement for LDHS services to serve the intermediate stations at Dunbar, Berwick-upon-Tweed, Alnmouth and Morpeth has an impact on the running times achieved by LDHS trains between Edinburgh and Newcastle. Of further interest to this study was therefore the balance of costs and benefits associated with introducing an Edinburgh to Newcastle semi-fast service in conjunction with reduced stopping (and hence potentially faster journey times) on LDHS services between Edinburgh and Newcastle.

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Further context comes from the fact that the study area has seen strong growth in rail travel in recent years, and East Lothian in particular is projected to see significant growth in population in the next 20 years. The Scottish Borders and Northumberland are also forecast to see rising population levels, although to a lesser extent than East Lothian. These factors increase pressure on rail services and associated infrastructure, such as the provision of car parking at stations. Most stations car parks along the line are operating at, or beyond capacity.

As such, this study comprised three primary elements:

- consultation with local stakeholders to determine the scope and scale of aspirations for rail services locally;
- detailed timetable modelling using industry standard software to identify potential train paths for new services to operate in; and
- demand forecasting and economic appraisal of the resulting potential service enhancements.

The consultation exercise provided all the key stakeholder groups with an opportunity to express their views and provide inputs in terms of the potential development of rail services in the area, covering both the Scottish and English stretches of the route. It is clear from this exercise that there is strong support for enhanced services in the area across the range of stakeholder groups, including rail user groups, local authorities and elected representatives. At the same time, the existence of LDHS service calls in the area is also highly valued.

The 2011 EUREKA timetable formed the basis of the train path analysis. The May 2011 EUREKA timetable was loaded into the 'RailSys' program and available train paths were identified, ie in addition to those services running from May 2011, which were taken as fixed for the purposes of this exercise. Paths were identified which would allow new services to run on all three variants – ie Edinburgh to Dunbar, Berwick-upon-Tweed and Newcastle. These paths were then used as the basis of a Scottish Transport Appraisal Guidance (STAG) compliant economic analysis to determine whether the introduction of these services would provide value for money and meet the wider Scottish Government Objectives. The main elements of this appraisal are:

- the cost of running additional train services (provided by ScotRail) and constructing new railway stations;
- the train revenues generated by these additional services;
- the benefits to the travelling public delivered in terms of faster journeys; and
- other wider quantifiable impacts on eg reducing traffic congestion.

These factors are taken together and assessed over a discounted 60-year period to provide a benefits cost ratio (BCR) as the key measure of value for money for the scheme.

The industry standard 'MOIRA' software was used to forecast changes in patronage and revenue resulting from the introduction of enhanced rail services.

The methodology used in the earlier RUS study was adopted here to maintain broad consistency with this key study. Potential new stations were considered separately. The main findings are discussed below.

Local Services to Dunbar / Berwick

A significant number of new train paths were identified between Edinburgh and Dunbar / Berwick-upon-Tweed, and those which could be operated within existing infrastructure were identified in the analysis.

The introduction of new train services between Edinburgh and Dunbar and Edinburgh and Berwick—upon-Tweed both resulted in a BCR of less than one, ie the benefits and revenues derived from the services were not sufficient to outweigh the operating costs of the new trains, even including the benefits derived from the increase in frequency at other stations in East Lothian (between Musselburgh and Drem).

The BCRs for Dunbar services are significantly higher than for Berwick however. This is because the journey time on the stopping service from Berwick to Edinburgh is unattractive compared to existing LDHS services from Berwick, meaning the benefits of running stopping trains to Berwick are small and operating costs in this case are far higher.

Seen over a 60 year period, the cost of constructing rural railway stations and their associated infrastructure is small. New stations also generate a 60-year benefit stream from new and displaced rail users. As such, the analysis here shows that constructing and operating East Linton and / or Reston stations in association with new train services improves the relevant business case. Both stations are supported within the relevant Local Plans with appropriate provisions made.

East Linton would have a catchment area limited largely to the settlement itself, as it would not form the nearest station for any other significant East Lothian settlement. At present, rail users from East Linton generally drive to Drem and a high proportion of local residents work in the Edinburgh area.

Reston on the other hand would have a very small 'walk in' catchment but a wider local catchment including the settlements of Ayton, Chirnside, Coldingham, Duns and Eyemouth. The distances from Edinburgh mean that a very low proportion of local residents currently work in the Edinburgh area, although this could clearly change with the introduction of regular train services.

The addition of East Linton station to the new Dunbar services does result in a small positive BCR overall. In the case of Berwick services, both East Linton and Reston stations are required in conjunction with the new services to produce a small positive BCR – either of the stations on their own are not sufficient. However, these findings are very sensitive to some of the assumptions used in the appraisal. Sensitivity tests have shown that small changes in these assumptions are enough to reduce both these BCRs to values of less than one. This illustrates that the case for these services and stations is slightly positive but vulnerable to small changes.

Edinburgh Newcastle Semi-Fast

The introduction of an Edinburgh to Newcastle semi-fast service on top of the current services also returns a poor BCR and does not represent good value for money. Operating costs are high given the length of the route and benefits are not significant, given the existence of 'competing' LDHS services. Nevertheless the service does improve connectivity significantly between the Northumberland towns and this would be of benefit to these communities.

The introduction of a semi-fast service could be a means to displace some Northern Rail services to Morpeth as there would be an element of duplication. This would however have a negative impact at Cramlington in particular, which would lose some services. Analysis has suggested that the lower net train operating costs associated with displacing a proportion of these train services does improve the BCR, but not significantly.

Benefits can however be generated by reducing LDHS service calls at Dunbar, Berwick-upon-Tweed, Alnmouth and Morpeth, if this was to result in faster journey times between Edinburgh and Newcastle, and hence Scotland and London in particular – improving competitiveness with air travel in particular. In this case, it is the balance between benefits to through travellers and disbenefits to those using these regional stations (ie those who may now have to transfer to access LDHS services) which determines the overall picture. Tests were undertaken to investigate this balance and it was found that a strong BCR could result from a combination of reduced calling at intermediate stations, together with a journey time saving to LDHS services, and the introduction of an Edinburgh to Newcastle semi-fast service. The downstream practicality of sustaining these journey time savings within the timetable would require confirmation however.

1 Introduction

1.1 Background

1.1.1 MVA Consultancy was appointed by ScotRail on behalf of Transport Scotland in 2010 to analyse the business case for enhancements to rail services on the line between Edinburgh and Newcastle. The appraisal was to utilise an approach compliant with the Scottish Transport Appraisal Guidance (STAG), and was intended to build on the findings of previous studies undertaken in the corridor.

1.1.2 The stated objective of the study was to 'provide a complete, operationally robust, demand driven and economically sustainable train service proposal for the Edinburgh-Newcastle route, having considered and appraised all of the stakeholder desires'. The analysis was to include the potential for new stations at East Linton and / or Reston.

1.2 East Coast Rail Utilisation Study

1.2.1 This study follows on from analysis undertaken during the East Coast Route Utilisation Study (RUS) produced by Network Rail in 2008. The RUS identified a number of 'gaps' of relevance to this section of the route as follows:

- irregular service intervals;
- stopping patterns at smaller stations;
- increase in local services in Scotland; and
- the speeding up of Long Distance High Speed (LDHS) services.

1.2.2 In turn, the RUS developed and appraised a range of potential service enhancements to address these gaps. The relevant options for this study were:

- Newcastle to Edinburgh semi-fast service;
- Berwick-upon-Tweed to Edinburgh local service, with new stations at Reston and East Linton; and
- new Dunbar to Edinburgh hourly service.

1.2.3 The RUS also noted that the then upcoming major changes to the East Coast Main Line (ECML) timetable would have a significant impact on the operational viability and potential business case for any new services.

1.3 EUREKA Timetable

1.3.1 The 22nd May 2011 marked the introduction of the 'EUREKA' timetable on the East Coast Main Line (ECML). This was hailed as the biggest change on the East Coast route for more than 20 years. The new timetable brought more than three million additional seats per year to the route, 19 new services per weekday, an improved frequency and pattern of services, faster typical journeys for millions of passengers and improved First Class facilities.

1.3.2 The main benefits and changes resulting from the new timetable were reported as[1]:

- a new early morning four-hour 'Flying Scotsman' service between Edinburgh (0540) and London, calling only at Newcastle;
- a train every 30 minutes between Leeds and London King's Cross, with 65 services per weekday between West Yorkshire and the capital;
- 11 new non-stop services per day between York and London;
- an improved First Class including complimentary food and drink served at-seat and quiet coach;
- a northbound direct service from London to Harrogate for the first time in 20 years;
- a new daily Lincoln to London return service;
- one hour later weekday departures to Edinburgh, Berwick-upon-Tweed and Newcastle from London King's Cross (the 1900);
- improvements to services for Northumberland stations, including a new early-morning service from Berwick-upon-Tweed (0600), Alnmouth and Morpeth which connects into the 'Flying Scotsman' service at Newcastle. This enables customers from Northumberland to arrive into London at 0940; and
- improvements to Newark morning peak services to London King's Cross, with two additional new services.

1.3.3 This significant recast of the ECML timetable forms the context for this feasibility study. The key element of the RUS which is taken forward here is the **operational viability** of the potential new services, which was not tested in detail in the RUS.

1.3.4 It is important to note that the scope of this study was limited to the consideration of additional services **on top of** the new EUREKA timetable. Measures which would make changes to the EUREKA timetable were therefore not considered, given the very substantial recast of the timetable which had been undertaken for EUREKA.

1.4 The Area

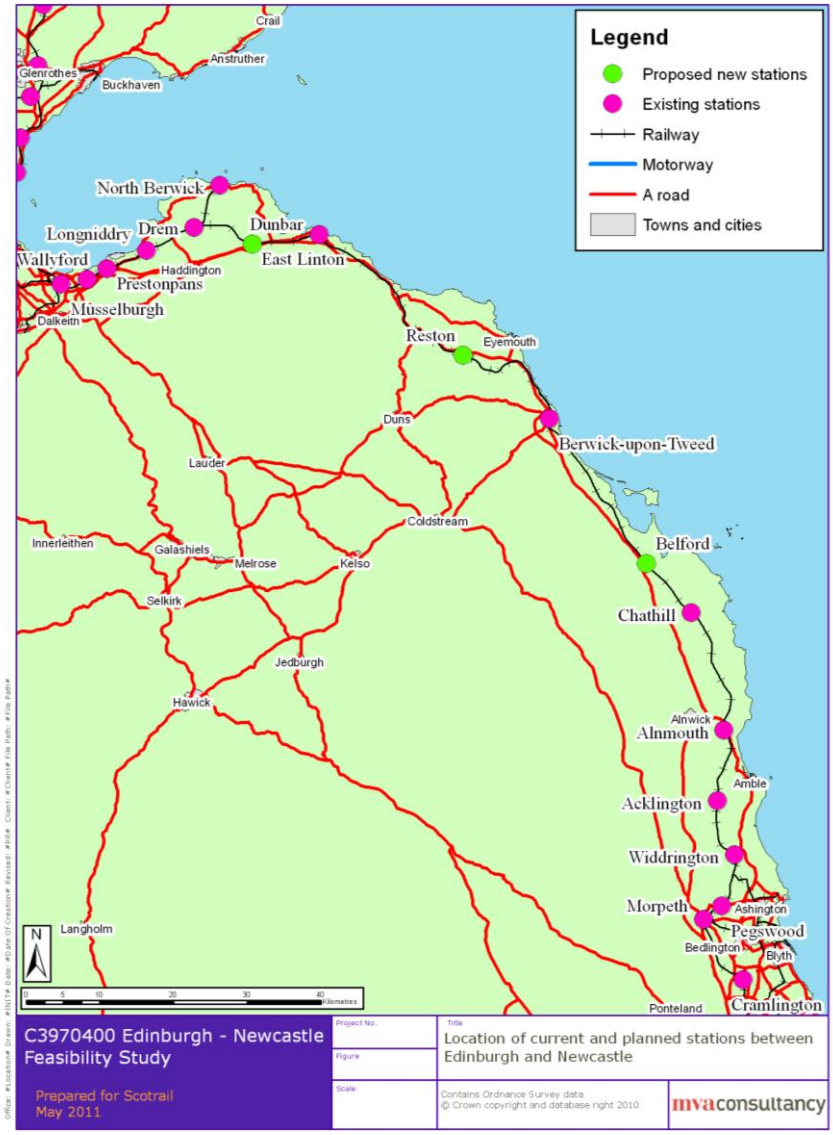
1.4.1 The proposals here primarily affect East Lothian, the Scottish Borders and Northumberland. It is important to note that, unlike some other areas of Scotland, the projections produced by General Register Office for Scotland (GROS) show that East Lothian and the Scottish Borders are growing areas. Indeed East Lothian's population is projected to grow considerably by 33% between 2008 and 2032, with the equivalent figure for the Scottish Borders being 16%. In England, the population of Northumberland is projected to grow by 8% over the same period (Office for National Statistics).

1.4.2 East Lothian in particular is also highly reliant on the Edinburgh area for employment. The 2001 Census results showed that around 40% of all East Lothian employed residents travelled to the City of Edinburgh area for employment, and the existing rail services play a key role in meeting and indeed leading this demand, ie many people move to East Lothian in part due to the availability of these rail services.

[1] http://www.eastcoast.co.uk/22May

1.4.3 The Scottish Borders is generally more self-contained in terms of employment with only 7% working in Edinburgh and 85% living and working within the Scottish Borders council area. The overall study area is shown in outline in Figure 1.1 below.

Figure 1.1 Study Area



1.4.4 The following chapters cover:

- a brief review of previous studies undertaken in the corridor;
- the current rail services and market trends in the Edinburgh to Newcastle corridor;
- consultation – what enhancements would local stakeholders like to see?
- timetable analysis – what services could be run in light of the May 2011 timetable? and
- what are the benefits and costs associated with these services?

2 Previous Studies

2.1.1 Improvements to local services along the ECML and the re-opening of Reston and East Linton railway stations have been the source of much discussion over the years. This section introduces the main studies undertaken in recent years to assess these potential improvements. The following four studies are briefly discussed:

- East Lothian Rail Study (September 1999);
- Edinburgh to Berwick Local Rail Study (Draft April 2004);
- Edinburgh to Berwick Local Transport Study STAG 1 Report (Draft June 2005); and
- SEStran Integrated Transport Corridors Study (SITCoS) (2004).

East Lothian rail study (September 1999)

2.1.2 Scott Wilson was commissioned by East Lothian Council in 1999 to review local services operating out of Edinburgh as far as Dunbar and the key findings were as follows:

- any line speed improvements on the main line were unlikely to be utilised by local services due to the restricted top speed of the rolling stock although increased speeds on the North Berwick branch could bring benefits;
- whilst freight traffic on the route had been found to be relatively static in terms of volume, it was suggested that future freight needs should be considered and adequately addressed in any future capacity studies;
- a series of enhancements at stations were proposed, these considered a range of measures from 'quick-win' items to longer term upgrades; and
- consideration was given, and recommendations made, with regard to the available capacity on the ECML for new or enhanced services.

Edinburgh to Berwick Local Rail Study (Draft April 2004)

2.1.3 This study was a collaboration between Scott Wilson and MVA Consultancy in 2004 and considered the following range of options:

- an Edinburgh to Dunbar local service;
- an additional station at East Linton;
- an Edinburgh to Berwick local service; and
- an additional station at Reston.

2.1.4 Using existing passenger figures for East Lothian stations, 2001 census data and projected journey times and frequencies from the two new stations the expected demand for new stations was derived and is shown in Table 2.1.

Table 2.1 Expected Demand for New Stations

Station	Peak Period Travel	Off Peak Period Travel	Total Daily (weekday) demand	*Annual Figures (used in RUS)*
East Linton	112	82	194	*62,000*
Reston	16	10	26	
Reston (park and ride)	107	70	177	
Reston Total	*123*	*80*	*203*	*46,000*

2.1.5 Note that the 2004 report is not explicit whether the 'Reston (park and ride)' figures are inclusive or exclusive of the 'Reston' figures. It has been assumed here that they are additive and the sum is shown as 'Reston Total'. The RUS used these figures as inputs to their calculations, and the annual figures used in the RUS are also shown here.

2.1.6 Table 2.2 shows the potential revenue for the new stations as reported in 2004. Note that annualised revenues by station were not reported.

Table 2.2 Potential Revenue for the new Stations

Station	Per day – Peak Travel	Per day – Off Peak Travel	Daily
East Linton	£709	£435	£1144
Reston (total)	£1428	£784	£2212
Annual Revenue			£1.097(m)

Operational and Engineering Assessment

2.1.7 The Edinburgh to Berwick Local Rail Study also developed (at a high level) the proposed new timetables and options for locating stations at Reston and East Linton and the associated operating and construction costs for each of the options.

2.1.8 The reported operating costs incorporate allowances for resources (both train crew and rolling stock leasing), station lease charges, track access charges, fuel and vehicle maintenance costs are summarised in Table 2.3 below.

Table 2.3 Operating Cost Summary

	Full Rolling Stock	Half Rolling Stock
Edinburgh to Dunbar	£1.9m	£1.2m
Edinburgh to Dunbar incl. East Linton	£1.9m	£1.2m
Edinburgh to Berwick incl. East Linton	£3.2m	£2.1m
Edinburgh to Berwick incl. East Linton and Reston	£3.2m	£2.1m

2.1.9 Table 2.4 below shows the construction costs reported in 2004.

Table 2.4 Summary of Station Option Costs (base on 2004 figures)

Option	Total Cost
East Linton option 1 - former station site accessed from Station Road	£3.2m
East Linton option 2 - to the northwest of the former station site	£2.9m
Reston option 1 – to the northwest of underbridge 142	£2.7m
Reston option 2 - between underbridge 142 and overbridge 141	£2.2m
Reston option 3 – to the northwest of overbridge 141	£2.7m

Business case evaluation

2.1.10 The study concluded that the operating costs for the new services outweighed the benefits derived from the predicted passenger demand. This is true even for the 'half resource' options. The most viable scheme over a thirty year design life proved to be the introduction of the Edinburgh to Dunbar 'infill' service with the new station at East Linton (option 2). The extension of the service to Berwick produced little additional patronage and the introduction of the new station at Reston produced a significant demand, however this was outweighed by the additional cost of operating the extended service to Berwick.

SEStran Integrated Transport Corridor Study (SITCoS) (2004)

2.1.11 The SEStran Integrated Transport Corridors Study (SITCoS) was produced by MVA and provided recommendations for transport improvement on five corridors in the SEStran area:

- Linlithgow rail corridor;
- Queensferry Cross-Forth corridor;
- East Lothian Rail corridor;
- Pentlands (A702) Midlothian Road Corridor; and
- Kincardine Corridor.

2.1.12 The study identified that for the East Lothian Rail Corridor:

- all East Lothian station car parks operated near, at, or above their capacities resulting in local on-street parking problems, impacting on the attractiveness of public transport;
- 'quick win' increases in station car park capacity throughout East Lothian had generally been exhausted;
- significant growth was forecast in terms of population and households in East Lothian (and allocated in the Edinburgh and Lothians Structure Plan), coupled with increased levels of car ownership;
- this will result in an increased demand for travel between East Lothian and Edinburgh; and
- improving access to the rail network is seen as an essential tool in minimising the number of car trips between East Lothian and Edinburgh associated with this growth.

2.1.13 Following park and ride modelling of the East Lothian stations, the main recommendation from the STAG Part 1 appraisal was that two options be taken forward and considered further. These were:

- development of the existing Park and Ride site at Wallyford into a formal public transport interchange with expanded Park and Ride provision (some 360 new spaces – approximately a 70% increase in total Park and Ride provision in East Lothian) and a fuller range of facilities; and
- implementation of parking charges at all East Lothian station car parks, together with the provision of dedicated station shuttle bus services.

2.1.14 Subsequent to this, the expanded park and choose site at Wallyford was developed further and opened in 2008.

Edinburgh to Berwick Local Transport Study STAG 1 Report (Draft June 2005)

2.1.15 Scott Wilson's STAG Part 1 review of the Edinburgh to Berwick rail line followed on from the above three studies.

2.1.16 The STAG 1 identified a number of new developments planned for East Lothian and existing traffic problems including the following as follows:

- car traffic on the A1 Corridor is growing at a rate that cannot be sustained indefinitely;
- most commuting takes place by car;
- public transport (and particularly bus) is unattractive compared to car travel;
- both local authorities aspire to reducing car dependency; and
- Scottish Borders Council has identified key development hubs that will require better sustainable transport links.

2.1.17 In response to the traffic problems identified above the following seven packages of options were identified for the STAG Part 1 appraisal. These are summarised in Table 2.5 below.

Table 2.5 Packages of Options Considered

A	*Best use of existing rail resources*	No increase in rail services beyond current resources, and no building of new infrastructure, but can incorporate revised stopping patterns for existing services. Review opportunities for Park & Ride at existing stations.
B	*Additional rail services*	Introduction of additional, local rail services on Edinburgh – Berwick – Newcastle corridor, but without the building of new infrastructure. Review opportunities for Park & Ride at existing stations.
C	*New rail stations*	Consideration of new stations at East Linton and Reston. Assumed to require provision of additional rail services (Package B) as a prerequisite. Review opportunities for Park & Ride at new stations.
D	*High quality coach services*	Identification of a network of high quality coach services penetrating at least as far as Edinburgh city centre, and associated Park & Ride sites.
E	*Local feeder buses*	Identification of a local feeder bus network, either to railheads or in conjunction with additional coach services (Package D).
F	*Dual A1*	Reconstruction of A1 road north of Berwick to dual carriageway throughout.
G	*HOV Lanes on A1*	Targeting of road capacity in favour of High Occupancy Vehicles (HOVs), including multiple-occupancy cars, taxis, buses and coaches. Assumes provision of dual carriageway (Package F) as a prerequisite to providing sufficient roadspace for allocation to HOVs.

2.1.18 It was concluded that the following proposals should be taken forward to a STAG Part 2 appraisal:

- a new rail station at East Linton with as a second priority a new rail station at Reston as a supplementary option in support of East Linton. Both these options are dependent upon the provision of a new dedicated local train service either Edinburgh – Dunbar or Edinburgh – Berwick;
- purpose-designed express coach package linking Eastern borders/East Lothian to Edinburgh. The emphasis should be on services into the central part of the City of Edinburgh; and
- a new network of local feeder bus services linked to either new or existing railheads and/or new-dedicated coach service interchange points.

2.1.19 The study also noted issues that would particularly merit more detailed consideration and these included:

- fuller analysis of market potential for enhanced rail and / or bus / coach services; in particular a comprehensive analysis of road-based public transport options;
- detailed analysis of infrastructure requirements, especially in respect of coach services and feeder-bus integration; and
- further detailed assessment of funding bases for rail and coach/bus options, including subsidy levels and cost to Government.

2.1.20 This current study can be seen as taking forward this work to look in more detail at the costs and benefits associated with enhanced rail services between Edinburgh and Newcastle.

2.1.21 The key additional factor is that this study considers the operational viability of services through a detailed timetabling exercise. In this way, timetables will be produced which could be implemented if the decision is taken to do so.

3 Current Rail Market in Corridor

3.1 Introduction

3.1.1 There are three distinct components which form the market for rail travel in the corridor between Edinburgh and Newcastle and these are:

- local services between East Lothian and Edinburgh;
- local services between Northumberland and Newcastle; and
- Long Distance High Speed services between Edinburgh (and areas north) and Newcastle and beyond.

3.1.2 These three key market segments have to be accommodated within the constraints of the infrastructure and the paths available on the line, together with freight demand.

3.2 Current Services

3.2.1 In more detail, the May 2011 services operating in the area are as follows:

- ScotRail services between Edinburgh and North Berwick (with intermediate stations at Musselburgh, Wallyford, Prestonpans, Longniddry and Drem);
- less frequent ScotRail services between Edinburgh and Dunbar (direct, with the exception of some trains stopping at Musselburgh);
- ScotRail services between Edinburgh and Newcraighall (no stations on ECML though);
- Cross Country services between Scotland and the south west / south coast of England (calling at some, or none of Dunbar, Berwick-upon-Tweed, Alnmouth and Morpeth);
- East Coast services between Scotland and London (calling at some, or none of Dunbar, Berwick-upon-Tweed, Alnmouth and Morpeth); and
- Northern Rail services between Newcastle and Morpeth / Chathill (calling at Manors, Cramlington, Pegswood, Widdrington, Acklington and Alnmouth).

3.2.2 There are also a range of freight services which are scheduled on the line.

3.2.3 A summary of May 2011 northbound and southbound services is shown in Figures 3.1 and 3.2 below respectively.

Figure 3.1 Summary of May 2011 Northbound ECML Services

Operator	Newcastle Depart	Morpeth	Alnmouth	Berwick	Dunbar	Edinburgh Arrive	Origin	Destination
NR	05:55	*06:15*	*06:32*			NA	Newcastle	Chathill
XC	NA				*07:00*	07:22	Dunbar	Glasgow C
EC	06:25	*06:38*	*06:52*	*07:16*	*07:40*	08:10	Newcastle	Edinburgh
XC	07:35	*07:47*		*08:18*		09:04	Newcastle	Glasgow C
EC	07:41		*08:07*	*08:31*	*08:54*	09:24	Doncaster	Edinburgh
NR	07:58	*08:19*				NA	Newcastle	Morpeth
EC	08:41	*08:56*		*09:31*	*09:55*	10:20	Leeds	Aberdeen
NR	09:15	*09:36*				NA	Newcastle	Morpeth
XC	09:35		*09:58*	*10:19*		11:05	Birmingham	Glasgow C
Scotrail	NA				*10:49*	11:15	Dunbar	Edinburgh
EC	09:52			*10:37*		11:25	London	Edinburgh
NR	10:15	*10:36*				NA	Newcastle	Morpeth
XC	10:31				*11:36*	12:03	Birmingham	Edinburgh
EC	10:41		*11:07*			12:15	London	Edinburgh
EC	10:52			*11:37*		12:25	London	Edinburgh
NR	11:15	*11:36*				NA	Metrocentre	Morpeth
XC	11:38			*12:21*		13:06	Bristol TM	Glasgow C
Scotrail	NA				*12:50*	13:16	Dunbar	Edinburgh
EC	11:52			*12:37*		13:25	London	Edinburgh
NR	12:15	*12:36*				NA	Metrocentre	Morpeth
XC	12:38				*13:39*	14:10	Plymouth	Edinburgh
EC	12:44		*13:10*			14:18	London	Edinburgh
EC	12:53			*13:39*		14:22	London	Aberdeen
NR	13:15	*13:36*				NA	Metrocentre	Morpeth
XC	13:38		*14:01*	*14:22*		15:06	Plymouth	Edinburgh
EC	13:51			*14:36*		15:25	London	Edinburgh
Scotrail	NA				*15:05*	15:36	Dunbar	Edinburgh
NR	14:15	*14:36*				NA	Metrocentre	Morpeth
XC	14:36	*14:49*			*15:40*	16:05	Plymouth	Edinburgh
EC	14:43		*15:09*			16:17	London	Edinburgh
EC	14:53			*15:39*		16:22	London	Inverness
NR	15:15	*15:36*				NA	Metrocentre	Morpeth
XC	15:37		*16:00*	*16:21*		17:06	Penzance	Glasgow C
EC	15:51			*16:36*		17:25	London	Edinburgh
Scotrail	NA				*17:02*	17:28	Dunbar	Edinburgh
NR	16:15	*16:36*				NA	Metrocentre	Morpeth
XC	16:37		*17:00*		*17:42*	18:07	Plymouth	Aberdeen
EC	16:53			*17:39*		18:23	London	Aberdeen
NR	17:15	*17:36*				NA	Metrocentre	Chathill
XC	17:37		*18:01*	*18:22*		19:06	Penzance	Glasgow C
EC	17:51			*18:34*		19:19	London	Glasgow C
NR	17:38	*18:00*				NA	Metrocentre	Morpeth
NR	18:25	*18:48*				NA	Newcastle	Morpeth
XC	18:39			*19:20*	*19:43*	20:09	Plymouth	Dundee
EC	18:43		*19:11*			20:19	London	Edinburgh
EC	18:53			*19:39*		20:22	London	Aberdeen
XC	19:38		*20:04*	*20:26*		21:11	Plymouth	Glasgow C
EC	19:44	*20:00*				21:20	London	Edinburgh
EC	19:52			*20:39*		21:27	London	Edinburgh
XC	20:12					21:35	Southampton	Edinburgh
XC	20:39	*20:54*		*21:25*	*21:50*	22:16	Plymouth	Edinburgh
EC	20:52			*21:39*	*22:04*	22:35	London	Edinburgh
XC	21:36		*21:59*			23:04	Plymouth	Edinburgh
EC	21:39	*21:55*	*22:11*			23:22	London	Edinburgh
EC	21:55			*22:38*		23:33	London	Edinburgh
Total trains	**50**	**20**	**15**	**25**	**15**			

3.2.4 Figure 3.1 shows the departure times of trains throughout the day for northbound weekday trains between Edinburgh and Newcastle, by operator and ultimate origin / destination. It can be seen in particular how ScotRail services have been used to fill in most of the major weekday gaps in provision for trains between Dunbar and Edinburgh.

3.2.5 Dunbar is unusual in being served by a mixture of LDHS and local trains and the presence of LDHS services means that rail travel times to Edinburgh are very much shorter than for similar towns a comparable distance from Edinburgh or indeed Glasgow. Indeed the typical

travel time of around 25 minutes is closer to travel times typically associated with Drem or Longniddry, which are far closer to Edinburgh.

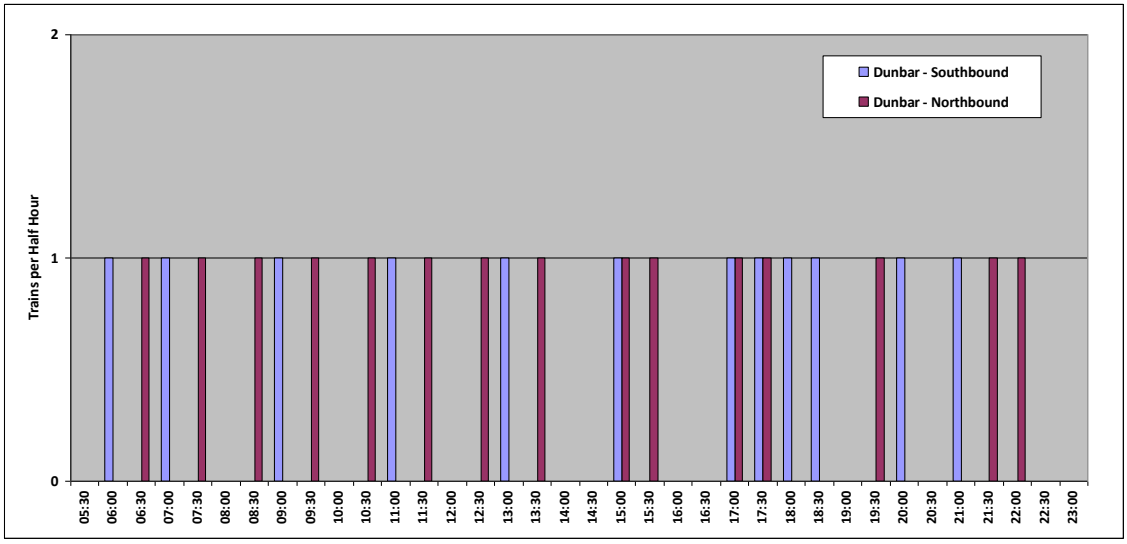
3.2.6 Alnmouth in particular sees some significant 'gaps' in northbound provision throughout the day, of anything up to two hours. Figure 3.2 shows the same information for southbound services.

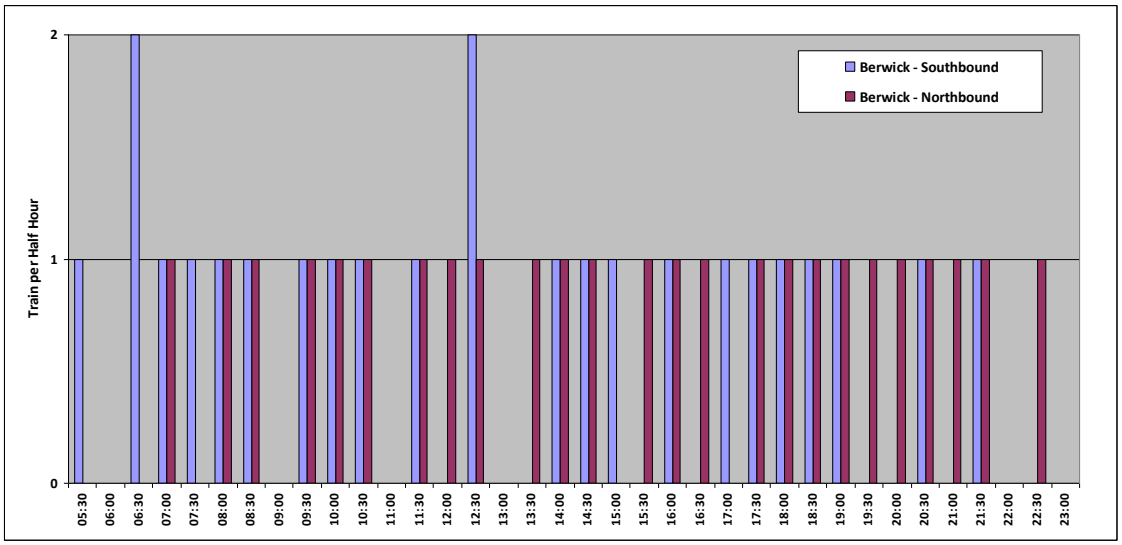
Figure 3.2 Summary of May 2011 Southbound ECML Services

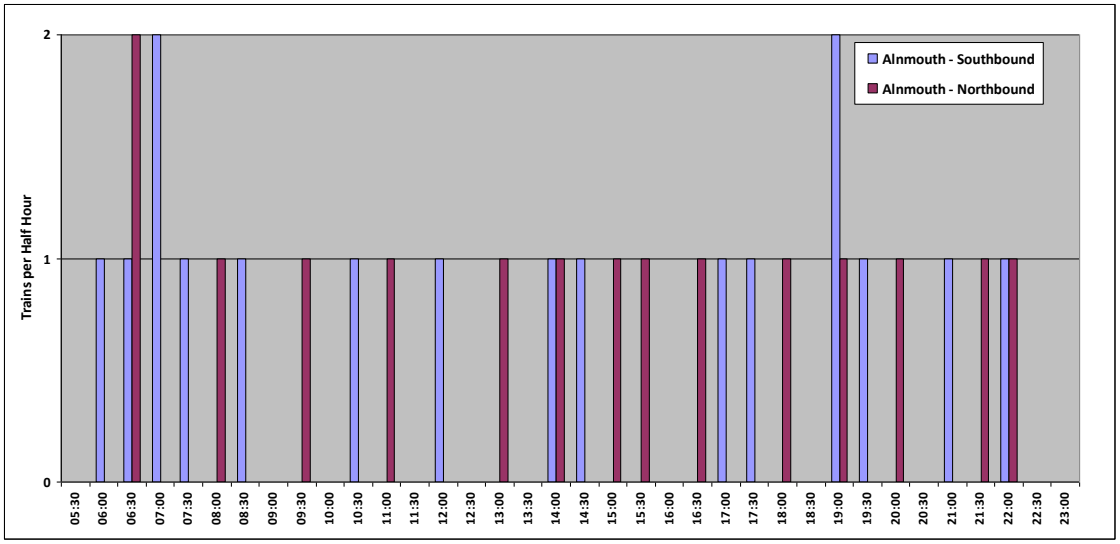
Operator	Edinburgh Depart	Dunbar	Berwick	Alnmouth	Morpeth	Newcastle Arrive	Origin	Destination
EC	NA		*06:00*	*06:19*	*06:35*	06:52	Berwick	London
EC	05:40					07:02	Edinburgh	London
EC	05:45	*06:06*	*06:31*	*06:52*	*07:07*	07:26	Edinburgh	London
XC	06:06		*06:46*	*07:08*		07:41	Edinburgh	Plymouth
EC	06:25		*07:06*			07:53	Edinburgh	London
NR	NA			*07:19*	*07:54*	08:19	Chathill	Newcastle
EC	06:55					08:22	Edinburgh	London
XC	07:00		*07:39*	*07:59*	*08:13*	08:34	Edinburgh	Reading
XC	07:07	*07:27*				08:43	Glasgow C	Plymouth
EC	07:30		*08:11*			08:56	Edinburgh	London
NR	NA				*08:49*	09:14	Morpeth	Newcastle
EC	08:00			*08:58*		09:27	Glasgow C	London
XC	08:10		*08:50*			09:41	Dundee	Plymouth
EC	08:30					09:55	Edinburgh	London
NR	NA				*09:49*	10:13	Morpeth	Metrocentre
XC	09:08	*09:28*	*09:51*			10:43	Glasgow C	Plymouth
EC	09:30		*10:11*			10:56	Edinburgh	London
NR	NA				*10:49*	11:14	Morpeth	Metrocentre
EC	10:00			*10:58*		11:27	Edinburgh	London
XC	10:10		*10:49*		*11:21*	11:44	Glasgow C	Penzance
Scotrail	10:13	*10:38*				NA	Edinburgh	Dunbar
EC	10:30					11:55	Aberdeen	London
NR	NA				*11:49*	12:13	Morpeth	Metrocentre
XC	11:05	*11:25*	*11:48*	*12:08*		12:41	Aberdeen	Penzance
EC	11:30					12:55	Inverness	London
NR	NA				*12:49*	13:13	Morpeth	Metrocentre
EC	12:00		*12:41*			13:27	Edinburgh	London
XC	12:08		*12:47*			13:41	Glasgow C	Penzance
Scotrail	12:11	*12:36*				NA	Edinburgh	Dunbar
EC	12:30					13:56	Aberdeen	London
NR	NA				*13:49*	14:13	Morpeth	Metrocentre
XC	13:06	*13:28*		*14:08*		14:42	Edinburgh	Plymouth
EC	13:30		*14:11*			14:56	Edinburgh	London
NR	NA				*14:49*	15:13	Morpeth	Metrocentre
EC	14:00			*14:58*		15:27	Edinburgh	London
XC	14:08		*14:49*			15:41	Glasgow C	Plymouth
Scotrail	14:11	*14:36*				NA	Edinburgh	Dunbar
EC	14:30		*15:11*			15:56	Edinburgh	London
NR	NA				*15:49*	16:13	Morpeth	Metrocentre
XC	15:08	*15:28*				16:42	Edinburgh	Plymouth
NR	NA				*16:49*	17:14	Morpeth	Newcastle
EC	15:30		*16:11*			16:56	Edinburgh	London
XC	16:05			*17:03*	*17:18*	17:41	Glasgow C	Bristol TM
EC	16:30		*17:11*			17:57	Edinburgh	London
Scotrail	16:33	*16:58*				NA	Edinburgh	Dunbar
EC	17:00			*17:58*		18:27	Edinburgh	London
XC	17:08	*17:28*	*17:51*			18:41	Edinburgh	Bristol TM
NR	NA				*18:26*	18:49	Morpeth	Newcastle
EC	17:30	*17:51*	*18:16*			19:03	Aberdeen	London
NR	NA				*19:01*	19:25	Morpeth	Newcastle
XC	18:04	*18:25*	*18:48*	*19:08*		19:40	Glasgow C	Birmingham
NR	NA			*19:20*	*19:45*	20:08	Chathill	Metrocentre
EC	18:30	*18:51*	*19:14*	*19:36*	*19:53*	20:12	Edinburgh	London
XC	20:05	*20:25*	*20:48*	*21:08*		21:38	Glasgow C	Newcastle
EC	21:00	*21:21*	*21:47*	*22:10*	*22:26*	22:43	Aberdeen	Leeds
Scotrail	22:03	*22:41*				NA	Edinburgh	Dunbar
NR	NA				*22:45*	23:09	Morpeth	Newcastle
Total trains	**42**	**17**	**24**	**17**	**21**	**52**		

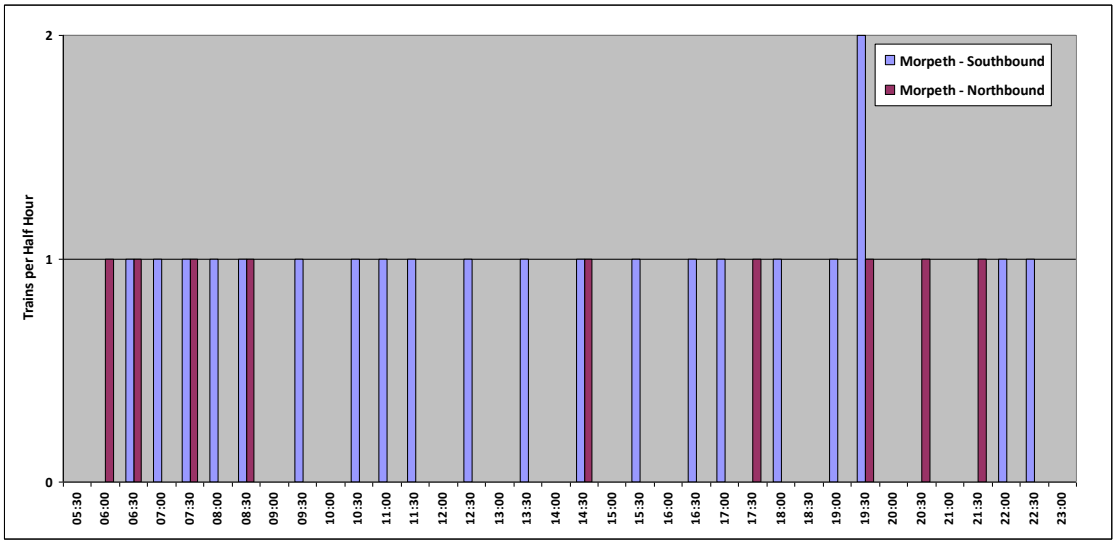
3.2.7 The distribution of southbound and northbound train **departures** across the day is shown in more detail in Figure 3.3 below for each of the four stations, by half hourly intervals. This allows 'gaps' in the current timetable to be identified at each station – for example Dunbar sees no southbound services between the periods 1300-1330 and 1500-1530.

Figure 3.3 Distribution of Train Departures Across the Day



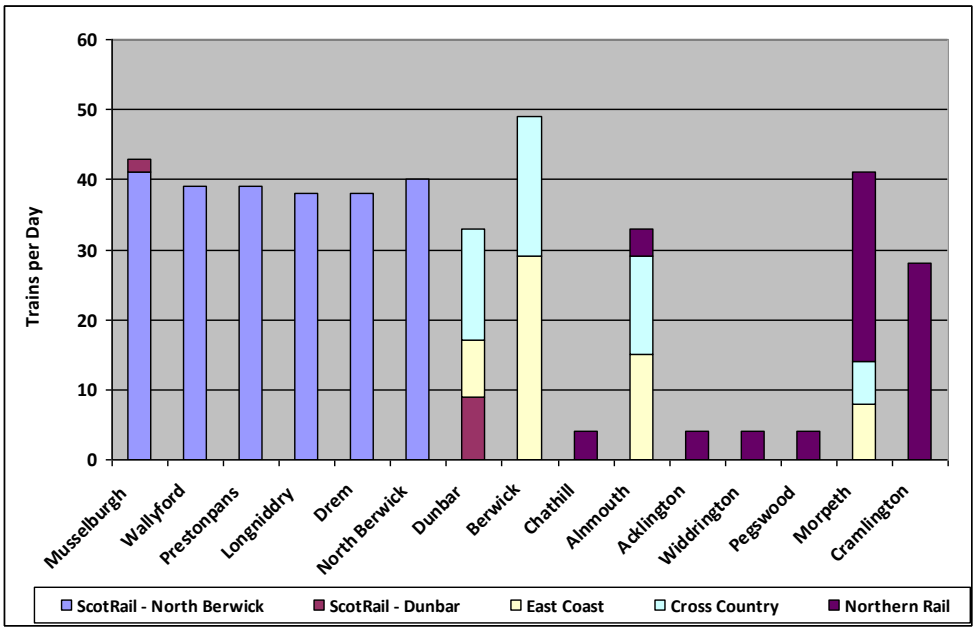






3.2.8 The number of train calls per day at each station by operator is then summarised in Figure 3.4, this time including the local North Berwick to Edinburgh ScotRail services.

Figure 3.4 2011 Train Services at Stations between Edinburgh and Newcastle (2011)



3.2.9 From May 2011, Dunbar therefore received 24 Cross Country / East Coast train calls per day with Berwick, Alnmouth and Morpeth receiving 49, 29 and 14 train calls respectively. The 14 LDHS trains at Morpeth are supplemented by the near-hourly Northern Rail service which also calls at Cramlington, some of which go on to Metrocentre. There is a relatively even split of these 'intermediate' stops between Cross Country and East Coast services, and the split between northbound and southbound services is fairly even.

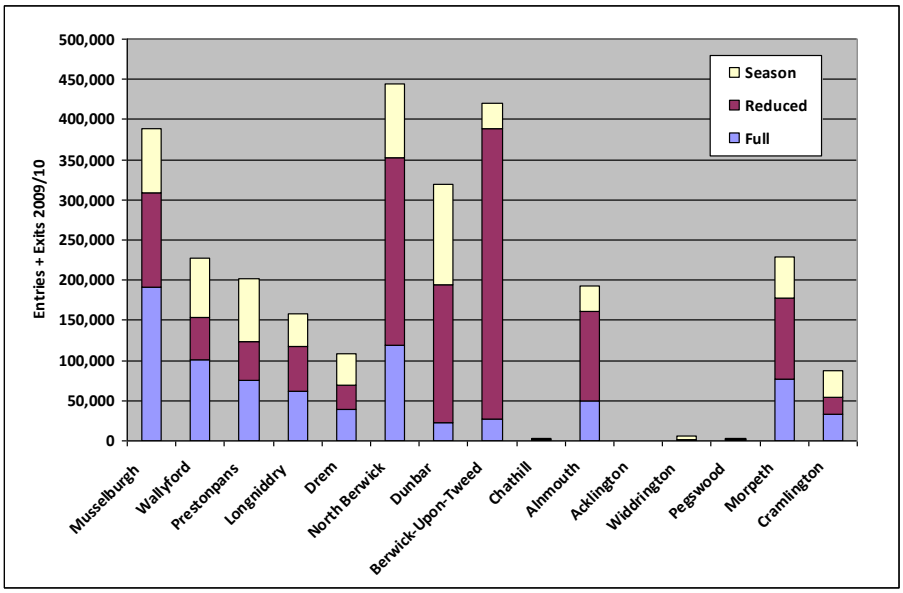
3.2.10 Stations served by the North Berwick ScotRail service see around 18 trains to and from Edinburgh each day, providing an approximate hourly service with additional peak hour trains. The recently introduced ScotRail Dunbar services have brought Dunbar much closer to the other East Lothian stations in terms of overall number of trains per day.

3.2.11 In Northumberland, Chathill, Acklington, Widdrington and Pegswood have a very limited commuter service of two trains per day to and from Newcastle, ie two outward (one AM and one PM) and two return (one AM and one PM). These trains also call at Alnmouth and are the only Northern Rail services to do so.

3.3 Travel Patterns and Volumes

3.3.1 Travel volumes for each station (entries and exists) are shown below in Figure 3.5 for 2009 / 10 using figures published by the Office of Rail Regulation (ORR)[2] These are split into season tickets, full fare and reduced fare.

Figure 3.5 Station Usage at Stations between Edinburgh and Newcastle (2009/10)



3.3.2 It can be seen that the busiest stations in the area are North Berwick, Berwick-upon-Tweed and Musselburgh. Of the stations used by LDHS services (Cross Country and East Coast), the busiest is Berwick-upon-Tweed followed by Dunbar, Morpeth and Alnmouth. Volumes at the stations served by ScotRail generally reflect population and catchments, and reduce systematically with distance from Edinburgh, until the larger settlements of North Berwick and Dunbar are reached.

3.3.3 North Berwick in particular is an attractive seaside resort which also attracts significant numbers of tourist and leisure trips, ie it is not simply a 'commuter' station in the way that the others are and should be regarded as atypical in this context.

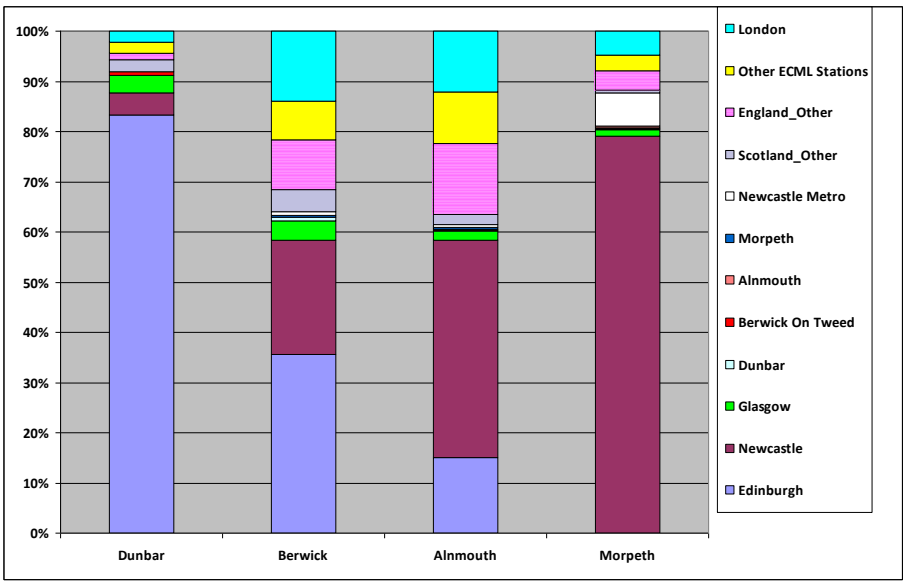
3.3.4 Taking 'season' as an indicator of commuting travel, high proportions are seen at Dunbar, Prestonpans, Cramlington, Drem and Wallyford. Berwick-upon-Tweed has by far the highest proportion of 'reduced' ticket sales (84%) and only 7% season tickets, indicating a very low proportion of commuting from Berwick, reflecting its distance from both Edinburgh and Newcastle. This data therefore gives a strong indication of the nature of market for travel from these stations.

[2] http://www.rail-reg.gov.uk/server/show/nav.1529

3.3.5 As noted above, Chathill, Acklington, Widdrington and Pegswood have a very limited service of two trains per day to and from Newcastle. The travel volumes, which are very low indeed, reflect this as these services in essence provide a single train commuter service to and from Newcastle. These trains also call at Alnmouth.

3.3.6 Figure 3.6 below shows the destinations of those buying tickets at each of the four stations used by LDHS services.

Figure 3.6 Percentage Destinations for Travel from ECML Stations (2009 data)



3.3.7 It can therefore be seen that around 83% of travel from Dunbar is to Edinburgh and 11% is to destinations in England, with only around 2% going to London. By contrast, at Morpeth 98% of travel is intra-England with 80% being to Newcastle, and only 0.4% is destined for Edinburgh. At Berwick, the Scotland / England split is much more even, at 45% / 55% whilst Alnmouth is skewed towards Newcastle (43%). There is some travel between Alnmouth and Scotland (19% share).

3.3.8 Travel volumes between these four stations are small, a reflection of the relatively limited opportunities to travel directly between stations given the stopping patterns of the existing LDHS services.

3.3.9 The vast majority of travel from the East Lothian stations served by North Berwick services (over 90%) is to Edinburgh. Travel to destinations beyond Scotland accounts for less than 0.5% of total travel from these stations showing very low levels of interchange in Edinburgh and / or travel via Dunbar.

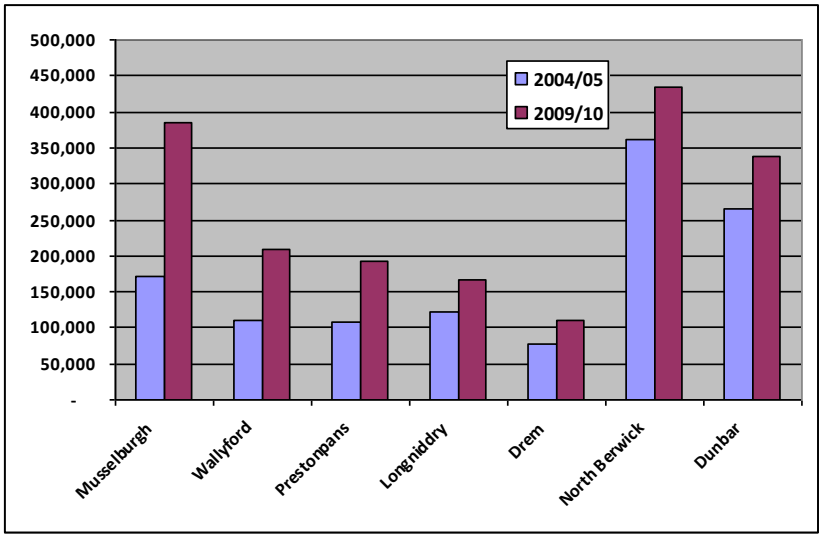
3.4 Trends

3.4.1 Growth in rail travel in the corridor has been strong in recent years. ORR figures suggest that recent growth in rail travel from East Lothian stations has been particularly strong, up overall by a factor of 49% in the last five years (2004/05 to 2009/10), an average of 8% per

annum. This rate of growth is higher than the overall figure for growth in rail travel in Scotland which was 6% per annum[3].

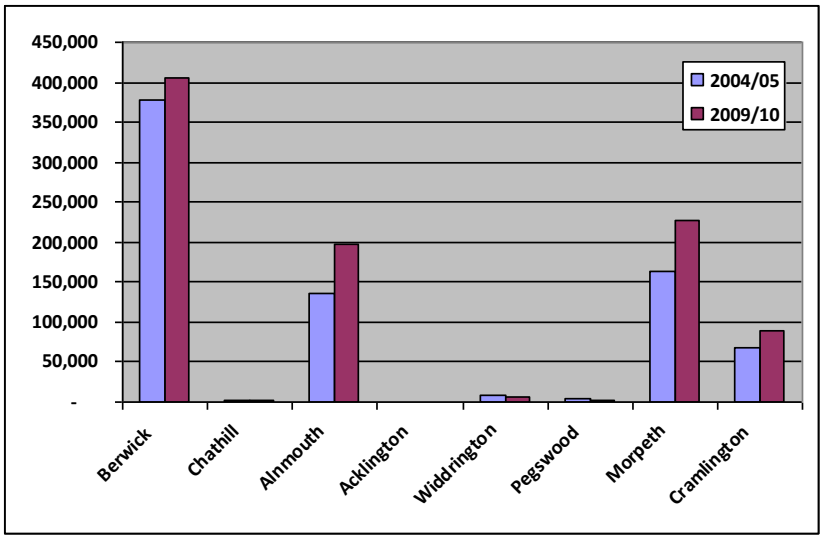
3.4.2 Figure 3.7 shows that growth has been especially strong at the stations closer to Edinburgh, where Musselburgh, Wallyford and Prestonpans has seen double digit per annum growth in the last five years.

Figure 3.7 2004/05 and 2009/10 Total Station Entries & Exits – East Lothian



3.4.3 The growth in rail travel in Northumberland was slightly lower than that in East Lothian as can be seen in Figure 3.8, with an increase of 23% between 2004/05 and 2009/10, or 4% per annum. Again this has outstripped the national figure, where at the Great Britain level, rail journeys have grown by 2% per annum[4] and have declined since peaking in 2007/08.

Figure 3.8 2004/05 and 2009/10 Total Station Entries & Exits – Northumberland



[3] http://www.scotland.gov.uk/Publications/2010/12/17120002/92

[4] http://www.dft.gov.uk/pgr/statistics/datatablespublications/public/tsgb0699.xls

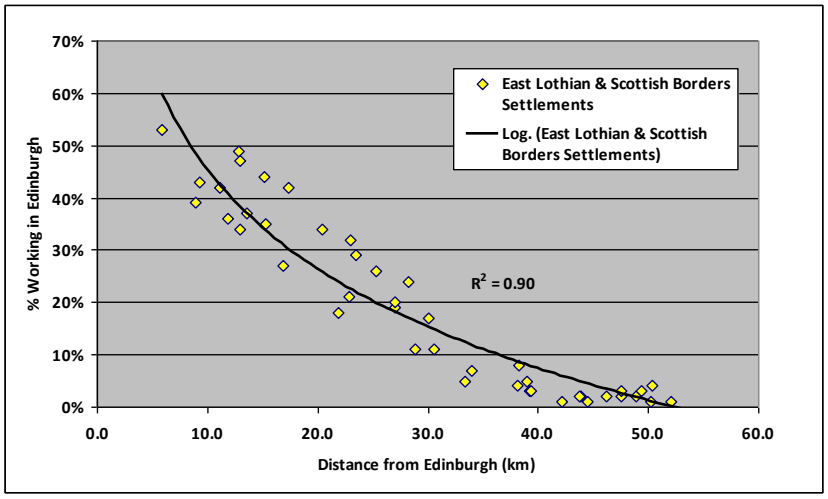
3.4.4 Alnmouth and Morpeth have seen high growth but there has been comparatively little growth at Berwick-upon-Tweed. Volumes at Acklington, Widdrington and Pegswood have actually declined from a low base in the last five years making the long term viability of these services open to question.

3.5 The East Lothian Rail Market

3.5.1 A number of previous studies have revealed different aspects of the market for rail travel in the east of Scotland.

3.5.2 Survey data has shown that commuting accounts for around 70% of all rail travel from East Lothian stations on average. Analysis of the 2001 Census travel to work data (at the 'settlement' level) has also shown a very strong relationship between (i) the percentage of the working residents in a settlement who work in Edinburgh; and (ii) the distance of that settlement from Edinburgh. A relationship would of course be expected but a very strong statistical relationship was found as shown in Figure 3.9 below.

Figure 3.9 Relationship between level of commuting and working in Edinburgh



3.5.3 During 2003, passenger surveys were undertaken at all railway stations in East Lothian as part of the SEStran Integrated Transport Corridor Study (SITCoS). These surveys provided important insights into the rail market in the area.

3.5.4 Table 3.1 shows the split by broad purpose of travel from each station derived from these surveys.

Table 3.1 Purpose of Travel from East Lothian stations (2003 surveys)

Station	% Commute	% non Commute
Newcraighall	68	32
Musselburgh	68	32
Wallyford	82	18
Prestonpans	74	26
Longniddry	64	36
Drem	78	22
North Berwick	53	47
Dunbar	60	40
East Lothian Total	*68*	*32*
*Scotland**	*59*	*41*

* National Rail Travel Survey data

3.5.5 In more detail, National Rail Travel Survey data (Scotland) found that 59% of rail trips were commuting, 11% were business and 30% were leisure.

3.6 Summary

3.6.1 There have been high levels of growth in rail travel in the study area in the last decade. In Scotland, the market is dominated by Edinburgh commuters. Berwick-upon-Tweed sees relatively low levels of commuting and business travel, although there is a substantial leisure market.

3.6.2 If these levels of growth were to resume with the economic recovery, there will be pressure on existing services in terms of capacity in the coming years. Previous studies have also shown that there are parking capacity issues at most of the stations along the line and these will be exacerbated with continuing growth. Should additional parking capacity be provided, it is likely that this would quickly be taken up by latent demand leading to further pressure on train services, ie the lack of parking may be constraining the demand for rail travel on the line.

3.6.3 This section has set the broad context for rail travel within the study area. The next chapter reports on the headline findings of the consultation exercise which was undertaken as part of this study.

4 Consultation

4.1 Introduction

4.1.1 Consultation is a key component of any study of this nature. The views and aspirations of stakeholders and members of the public are clearly an integral part of the process to shape proposals for the future. There are also a number of local rail passenger groups which have formed to promote the case for rail services in particular geographical areas, and as such these are also key stakeholders.

4.1.2 This chapter outlines in broad terms the written responses received in reply to the consultation. A fuller list of individual consultation results can be found in Appendix A.

4.2 Consultation Strategy

4.2.1 A public meeting was held in Haddington on 28 June 2010. Meetings were also held with East Lothian Council, Scottish Borders Council, and Northumberland Councils. The study was also presented at a meeting of the South East Scotland Transport Partnership (SEStran) Rail Forum on 27 July 2010. This meeting was attended by amongst others, SEStran, East Lothian Council, the City of Edinburgh Council, East Coast, and Network Rail. The intention was to raise awareness of the study and allow these stakeholders to highlight issues of importance from their perspective.

4.2.2 A letter was also circulated to a wide range of stakeholders, laying out the main objectives of the study and inviting comments.

4.3 Consultation Responses

4.3.1 As noted above, the main stakeholders were advised of the study and given the opportunity to provide input to the stage of generating options for enhanced train services in the corridor. Representatives from the organisations listed in Table 4.1 were invited to comment.

Table 4.1 Stakeholders invited to comment

Department for Transport	Nexus	One NorthEast Regional Tourism Team
Office of Rail Regulation	Government Office for the North East	Lothian NHS Board
Scottish Borders Council	Visit Scotland	North East Strategic Health Authority
Scottish Enterprise	One North East	Community Action Northumberland
North East Chambers of Commerce	Northern Rail	Adapt North East
Edinburgh Chamber of Commerce	Newcastle City Council	Scotland National Rural Network website
CBI Scotland	Track Access Manager	SUSTRANS Scotland
CBI North East	Rail Freight Group	SUSTRANS
SEStran	Network Rail	Visit Scotland
City of Edinburgh Council	ATOC Ltd	One NorthEast Regional Tourism Team
East Lothian Council	Railfuture North East	Gateshead Council
Public Transport Policy Officer	Railfuture Scotland	Confederation of Passenger Transport – Northern
Newcastle City Council	Passenger Focus	Sunderland Council
North Tyneside Council	Confederation of Passenger Transport – Scotland	South Tyneside Council
Alnmouth Rail User Group	RAGES	Relevant Community Groups

4.3.2 In addition to those stakeholders listed above, a number of other organisations and individuals fed into the consultation process and their comments have been incorporated into this chapter. Responses were received from 21 organisations, MSP and councillors and 14 individuals also provided written responses to the consultation.

Key themes

4.3.3 Table 4.2 presents the key themes emerging from the consultation responses ordered by frequency of response. As can be seen in the table, Reston, East Linton and Dunbar concerns and suggestions feature prominently in the responses due to the strong support in the area and active rail user groups including Rail Action Group, East of Scotland (RAGES) leading to a high number of individual and community council responses. The responses show particular support for opening stations at Reston, East Linton and improved services for Dunbar.

4.3.4 Maintaining a balance of semi-fast Edinburgh to Newcastle services with regular services to intermediate stations also features highly in the responses. Local groups and rail stakeholders appreciate the benefits of the proposed semi-fast Edinburgh to Newcastle and LDHS services but want reassurances that intermediate stations will not be overlooked. Conversely, Cross Country believe that the study should identify the economic value of removing smaller station calls from some LDHS services as a standalone option.

4.3.5 Nexus, Northumberland County Council and railfuture's responses raise the issue that Cramlington station should be included as part of the study, but recognise that the station's current infrastructure may prove problematic.

Table 4.2 Key themes in Consultation

Theme	Themes cited by....
Local support for opening Reston station	Councillor Michael Cook, John Lamont MSP, Scottish Borders Council, Abbey St Bathans, Bonkyl and Preston Community Council, RAGES, Auchencrow Community Council Individual members of the public
Availability of land for park and ride facility at Reston	Councillor Michael Cook and John Lamont MSP Individual members of the public
Later evening service to/from Dunbar	Dunbar Community Council Individual members of the public
Semi-fast services between Edinburgh and Newcastle should not be detrimental to services for the stations north of Newcastle, both local and long distance	One North East, Nexus, Railfuture, DfT
Supportive of reopening East Linton station	RAGES Individual members of the public
Would bring more work and investment to the Reston area	RAGES Individual members of the public
Additional early morning Dunbar service arriving in Edinburgh by 9am and at the weekends	Individual members of the public
Concern that the 2005 STAG 1 under predicted patronage figures at Reston due to recent development	Councillor Michael Cook, Scottish Borders and John Lamont MSP
Improve connectivity between Northumberland stations but not at expense of long distance services	Northumberland CC, Railfuture and SENRUG
Concerned about stock availability for new services	RAGES, One North East
Concerned that no agreement has been reached between DfT and Cross Country over the changes from East Coast to Cross Country for the North East to Edinburgh and Glasgow	One North East and Railfuture
Early and late services from Northumberland stations to Edinburgh and Newcastle	Railfuture and Northumberland County Council
Fast Edinburgh to Newcastle service every two hours	ARUG and SENRUG
Improved service to QMU	Individual members of the public
Morning peak from Chathill to Newcastle and evening peak return	ARUG and railfuture
New station at Reston would reduce CO_2 and traffic on the A1	RAGES Individual members of the public
Reston is ideal location for station	Individual members of the public
Propose a bus service to areas surrounding Reston to new station	RAGES Individual members of the public
Take into account any existing or planned station facilities when	Railfuture and One North East

Theme	Themes cited by....
developing the enhanced timetable	
Concerned Cramlington will be overlooked because platforms aren't long enough	Nexus
Cramlington is a growing market – maintain service	Northumberland County Council
Hourly service between Dunbar and Edinburgh stopping at intermediate stations from early morning to late evening	East Lothian Council
Include Cramlington station as part of study because of population and potential patronage but recognises platform length is a constraint	Railfuture
Increasing demand for rail in Northumberland demonstrated by facility improvements in area	Northumberland County Council
Rolling stock may determine services	Railfuture
Semi-fast service every two hours serving Morpeth, Alnmouth, Berwick and Dunbar	ARUG

Abbreviations: ARUG – Alnmouth Rail User Group; SENRUG – South East Northumberland Rail User Group; and RAGES – Rail Action Group, East of Scotland.

4.4 Summary

4.4.1 There are clearly very strong local networks in support of improved rail services and new stations in the area. These groups have been active and effective in campaigning for many years in this regard, and they have strong support from elected representatives.

4.4.2 There is therefore no doubt that there is a local desire for improved services and this has been fully expressed throughout the study.

4.4.3 In addition to support for the strategic options of new services and stations, there are a number of recurring local issues, focussed in particular on filling gaps in timetables. One of the most frequent of these is the timing of the last train from Edinburgh to Dunbar on a Saturday evening which leaves Edinburgh at 1900. This sort of detail is beyond the immediate scope of this study but should be considered separately.

4.4.4 One theme which recurs is the aspiration for improved local services along the corridor to be implemented without any associated reduction in LDHS station stops. In many ways this is the key issue here. Reducing travel times on LDHS services would create benefits for users of these services and assist in encouraging modal shift from air to rail for anglo-Scottish travel.

4.4.5 These reduced travel times could be achieved by removing intermediate stops at some or all of Morpeth, Alnmouth, Berwick-upon-Tweed and Dunbar, if suitable alternative local services were provided, but this would in most cases lead to longer journey times and reduced connectivity to the national networks from these locations. The benefits generated for LDHS

services from reduced travel times may or may not be enough to outweigh the disbenefits to local passengers. This issue is explored further in Chapter 6.

5 Timetable Analysis

5.1 Introduction

5.1.1 This chapter outlines the method and assumptions used to generate timetable options for new Edinburgh - Newcastle services.

5.1.2 The objective is to show the maximum potential for additional paths in the timetable to steer discussion around which paths would be most beneficial to develop into a full operational timetable.

5.1.3 Three main options have been evaluated:

- Option 1: Edinburgh – Dunbar stopping all stations;
- Option 2: Edinburgh – Berwick-upon-Tweed stopping all stations; and
- Option 3: Edinburgh – Newcastle semi-fast key stations only.

5.2 Method

Data Used

5.2.1 A 'RailSys' model was used to develop the timetable options. RailSys is used for detailed timetabling, operational, and infrastructure capacity / performance modelling studies. It is regarded as the industry standard tool for this type of analysis.

5.2.2 A RailSys model requires defined 'infrastructure' which was received from Network Rail and 'timetabled services' which in this case is the May 2011 EUREKA timetable, also received from Network Rail. Freight services have been included to represent a typical weekday. These were compared to the specific freight services run on 15 October 2009 and deemed to be sufficiently representative.

May 2011 Timetable

5.2.3 The May 2011 timetable was imported onto the RailSys infrastructure and the timetable was 'cleaned' of importing errors caused by translation between formats such as incorrect train routeing or duplicate trains for different periods. The 'static conflicts' within the model were then reduced to an acceptable level. Static conflicts are those reported by RailSys as signal system infringements. These can be thought of as inherent 'primary' delays in the timetable that may go on to give 'secondary' delays. However because of the reporting inconsistency within RailSys these should be treated as being of second order importance.

5.2.4 'Dynamic conflicts' within the timetable have been reduced to an acceptable level (below 120 seconds) and are measured on a perfect day of operation without any external perturbation. This will include secondary delay caused by the static conflicts (primary delay).

5.2.5 In short, the process of cleaning static and dynamic conflicts gives a good representation of the base timetable within RailSys to use for assessing the option timetables.

Option Timetables

5.2.6 For the option timetables a standard stopping pattern service was created using a representative Class 333 rolling stock type (data for a Class 380, the most likely trains to be used to form any services, was not available). This gives the template train from which individual services were created throughout the day.

5.2.7 The timings for services presented below show the *maximum* number of trains which could be accommodated within the current May 2011 timetable, without making modifications to existing passenger services.

5.2.8 As noted above, three option timetables have been assessed:

- Edinburgh – Dunbar stopping all stations;
- Edinburgh – Berwick-upon-Tweed stopping all stations; and
- Edinburgh – Newcastle semi-fast key stations only.

5.2.9 It should be noted that the paths have not been fully worked up to an operational level - for example the terminal station platform allocation and connecting return services. This is most important at Dunbar and Berwick-upon-Tweed where only one platform is available for turning back services. Some other minor alterations to either Empty Coaching Stock (ECS) or freight movements may also be required. Each service has been individually modified to fit around existing services.

5.2.10 RailSys does not report Rules of the Plan (ROTP) violations, as the software is set up to show signal system infringements. The time it takes for the signalling system to clear a route is usually less than the values written in the ROTP to give a planning margin. Therefore RailSys can under report potential ROTP conflicts. We have completed a manual check for the new trains through the known pinch point of Portobello Junction to ensure that the ROTP at this critical junction are complied with.

Assumptions

5.2.11 The key operational assumptions are as follows:

- actual - Class 380 – Length: 23m, cars: three or four car, speed: 161kph (100mph);
- modelled - Class 333 - Length: 23m, cars: four car, speed: 161kph (100mph);
- platforming at Edinburgh: assumed some re-working would be required;
- platforming at Newcastle: assumed some re-working would be required;
- turnaround at Berwick-upon-Tweed assumes use of a single platform;
- flexibility of freight service timings so long as depot times are met;
- flexibility of ECS service timings so long as times are met;
- running times for the new services are rounded up the half minute between key stations and junction timing points; and
- as the timetable has been sourced from Network Rail, it is assumed that the ROTP for 2011 has been complied with.

5.3 Results

5.3.1 For each of the options, the maximum number of services that can be added to the timetable is shown. Additionally a list of the issues with the new services is given.

5.3.2 Some general points are listed below:

- adding new station stops (ie Reston and East Linton) can generally be accommodated without significant changes to the timetable;
- removing stops on East Coast and Cross Country services, specifically at Dunbar would improve availability of platform capacity;
- some ECS and freight movements may need to be modified to fit around the new services; and
- addressing platform working at the terminal stations would give an opportunity to inter-work between other routes and potentially give a benefit to rolling stock requirement, and platform capacity. There would however be a potential performance risk.

5.3.3 Table 5.1 below shows the 'standard' train paths which have been identified for each of the three service permutations: ie Edinburgh - Dunbar, Edinburgh – Berwick-upon-Tweed, and Edinburgh – Newcastle.

5.3.4 These show stopping patterns and timings throughout, and represent a nominal path giving the stopping pattern and running time between each station pair.

Table 5.1 Standard Train Paths – Newcastle, Berwick and Dunbar

Southbound

Headcode		2N00	2B00	2D00
From		Edinburgh Waverley	Edinburgh Waverley	Edinburgh Waverley
To		Newcastle	Berwick-Upon-Tweed	Dunbar
Stock Type		C333_4CAR	C333_4CAR	C333_4CAR
Days Run		SX	SX	SX
Edinburgh Waverley	Arr 1	**11:55:00**	**12:55:00**	**13:55:00**
	Plt 2	U-4	U-4	U-4
	Dep 3	**12:00:00**	**13:00:00**	**14:00:00**
Portobello Junction (Lothian)	Arr 8			
	Dep 9	*12:04:00*	*13:04:00*	*14:04:00*
Musselburgh	Arr		13:05:30	14:05:30
	Dep		**13:06:00**	**14:06:00**
Wallyford	Arr		13:09:30	14:09:30
	Dep		**13:10:00**	**14:10:00**
Prestonpans	Arr		13:12:30	14:12:30
	Dep	*12:07:30*	**13:13:00**	**14:13:00**
Longniddry	Arr 10		13:17:00	14:17:00
	Dep 11		**13:17:30**	**14:17:30**
Drem	Arr 12		13:22:00	14:22:00
	Dep 13	*12:12:30*	**13:22:30**	**14:22:30**
East Linton	Arr 14			
	Dep 15			
North Berwick	Arr 16			
	Dep 17			
Dunbar	Arr 18	12:20:30	13:32:00	14:32:00
	Dep 19	**12:21:30**	**13:33:00**	
Oxwellmains Crossover	Arr 20			
	Dep 21	*12:24:00*	*13:35:30*	
Grantshouse	Arr			
	Dep	*12:32:00*	*13:43:30*	
Reston	Arr		13:47:30	
	Dep	*12:35:30*	**13:48:00**	
Berwick-Upon-Tweed	Arr	12:43:30	13:58:30	
	Dep	**12:44:30**		
Belford Level Crossing	Arr			
	Dep	*12:55:00*		
Chathill	Arr 26			
	Dep 27			
Alnmouth	Arr	13:06:00		
	Dep	**13:07:00**		
Acklington	Arr 28			
	Dep 29			
Widdrington	Arr 30			
	Dep 31			
Pegswood	Arr 32			
	Dep 33			
Morpeth	Arr 34	13:20:30		
	Dep 35	**13:21:30**		
Cramlington	Arr 36			
	Dep 37			
Heaton South Junction	Arr 38			
	Dep 39	*13:31:30*		
Manors	Arr 40			
	Dep 41			
Newcastle	Plt 42	U-4		
	Arr 43	**13:34:30**		

Northbound

Headcode		2N01	2B01	2D01
From		Newcastle	Berwick-Upon-Tweed	Dunbar
To		Edinburgh Waverley	Edinburgh Waverley	Edinburgh Waverley
Stock Type		C333_4CAR	C333_4CAR	C333_4CAR
Days Run		SX	SX	SX
Newcastle	Arr 1	**09:55:00**		
	Plt 2	D-4		
	Dep 3	**10:00:00**		
Manors	Arr 8			
	Dep 9			
Heaton South Junction	Arr			
	Dep	*10:03:00*		
Cramlington	Arr			
	Dep			
Morpeth	Arr	10:13:00		
	Dep	**10:14:00**		
Pegswood	Arr 10			
	Dep 11			
Widdrington	Arr 12			
	Dep 13			
Acklington	Arr 14			
	Dep 15			
Alnmouth	Arr 16	10:26:30		
	Dep 17	**10:27:30**		
Chathill	Arr 18			
	Dep 19			
Belford Level Crossing	Arr 20			
	Dep 21	*10:39:00*		
Berwick-Upon-Tweed	Arr	10:49:30	11:55:00	
	Dep	**10:50:30**	**12:00:00**	
Reston	Arr		12:11:00	
	Dep	*11:00:00*	**12:11:30**	
Grantshouse	Arr			
	Dep	*11:03:00*	*12:16:00*	
Oxwellmains Crossover	Arr			
	Dep	*11:10:00*	*12:23:00*	
Dunbar	Arr 26	11:12:30	12:25:30	12:58:30
	Dep 27	**11:14:00**	**12:27:00**	**13:00:00**
North Berwick	Arr			
	Dep			
East Linton	Arr 28			
	Dep 29			
Drem	Arr 30		12:36:30	13:09:30
	Dep 31	*11:22:30*	**12:37:00**	**13:10:00**
Longniddry	Arr 32		12:41:30	13:14:30
	Dep 33		**12:42:00**	**13:15:00**
Prestonpans	Arr 34		12:46:30	13:19:30
	Dep 35	*11:27:30*	**12:47:00**	**13:20:00**
Wallyford	Arr 36		12:51:00	13:24:00
	Dep 37		**12:51:30**	**13:24:30**
Musselburgh	Arr 38		12:56:30	13:29:30
	Dep 39		**12:57:00**	**13:30:00**
Portobello Junction (Lothian)	Arr 40			
	Dep 41	*11:31:30*	*12:58:30*	*13:31:30*
Edinburgh Waverley	Plt 42	D-4	D-4	D-4
	Arr 43	**11:35:30**	**13:02:30**	**13:35:30**

5.3.5 Tables 5.2, 5.3 and 5.4 then show details of the individual paths identified for Dunbar, Berwick and Newcastle respectively, throughout the day.

5.3.6 Some issues to note are:

Option 1: Edinburgh – Dunbar

- potential for up to 17 northbound services;
- potential for up to 23 southbound services;
- capacity on the single platform at Dunbar limits the number of services that can turn back at the platform; and
- the four existing ScotRail Dunbar service paths could be combined with or replaced by the new paths to form the service.

Option 2: Edinburgh – Berwick-upon-Tweed

- potential for up to 15 northbound services;
- potential for up to 18 southbound services;
- turning back at Berwick assumed only a single platform available; and
- replacing ScotRail Dunbar services would release additional paths and platform capacity.

Option 3: Edinburgh – Newcastle

- potential for up to 15 northbound services;
- potential for up to 17 southbound services;
- platform availability at Newcastle and conflicts in the station throat limit capacity; and
- replacing Northern Rail services would release additional paths and platform capacity.

5.3.7 At this stage of the planning process we have worked on the assumption that existing services are effectively fixed in their paths. During the Network Rail operational planning process, opportunities will exist to alter these services subject to the agreement of the operators concerned.

5.3.8 Other points to note are:

- the paths identified in Tables 5.2 – 5.4 are those which have been identified as being available – this does not imply that all could or would be used;
- Dunbar platform availability limits the services that can turn back at Dunbar while East Coast and Cross Country services share the single platform in both directions;
- replacement or extension of ScotRail Dunbar and Northern Rail Morpeth and Chathill services could make further paths available or bring clock-face times to the option - available as part of the Network Rail timetable planning process;
- limitations of the infrastructure at Dunbar and Berwick-upon-Tweed are a potential restriction on meeting desired service level; and
- turnback platform capacity requirements at Edinburgh and Newcastle will need to be included in the operators timetable planning and rolling stock diagramming processes.

5.3.9 Additionally ScotRail as the possible operator of the new services will be able to alter its own operations to improve the paths that can be found for the new services. This may include:

- inter-working rolling stock fleets to optimise turnaround times and platform occupation times at Edinburgh; and
- replacing or retiming existing services to give an even hourly or two-hourly service pattern. This may in practice not be possible because of constraints elsewhere on the network or because of the timings of other operator's services. Where services are replaced it will need to be proven that the new services do not degrade the passenger service at any intermediate stops.

5.3.10 Table 5.5 then shows a range of the existing Northern and ScotRail services which are most likely to be modified or replaced by the new services.

5.3.11 Table 5.2 therefore lists all the possible individual paths for Dunbar given the working assumptions. In practice not all of these will run. The trains in bold signify trains that can turn back at Dunbar within the existing timetable and infrastructure, those highlighted and in bold signify trains that would be practical to operate thus giving an even service interval with existing Dunbar services.

Table 5.2 Potential Edinburgh – Dunbar Service Paths

- Up to 17 northbound services (excluding existing direct services which are shown in *italics*)

Origin	Start time (hh:mm:ss)	Destination	Arrival Time (hh:mm:ss)	Journey Time (hh:mm:ss)
Dunbar	**07:23:30**	**Edinburgh**	**07:58:59**	**00:35:29**
Dunbar	**08:17:00**	**Edinburgh**	**08:52:29**	**00:35:29**
Dunbar	**09:38:30**	**Edinburgh**	**10:13:59**	**00:35:29**
Dunbar	10:03:00	Edinburgh	10:38:29	00:35:29
Dunbar	*10:49:00*	*Edinburgh*	*11:15:29*	*00:26:00*
Dunbar	11:14:00	Edinburgh	11:49:29	00:35:29
Dunbar	**12:13:30**	**Edinburgh**	**12:48:59**	**00:35:29**
Dunbar	*12:50:00*	*Edinburgh*	*13:16:00*	*00:26:00*
Dunbar	**13:16:30**	**Edinburgh**	**13:54:59**	**00:38:29**
Dunbar	**14:13:30**	**Edinburgh**	**14:48:59**	**00:35:29**
Dunbar	*15:05:00*	*Edinburgh*	*15:36:00*	*00:31:00*
Dunbar	**15:16:30**	**Edinburgh**	**15:51:59**	**00:35:29**
Dunbar	16:33:00	Edinburgh	17:08:29	00:35:29
Dunbar	*17:02:00*	*Edinburgh*	*17:28:00*	*00:26:00*
Dunbar	17:34:00	Edinburgh	18:09:29	00:35:29
Dunbar	18:17:00	Edinburgh	18:54:29	00:37:29
Dunbar	**19:16:30**	**Edinburgh**	**19:51:59**	**00:35:29**
Dunbar	19:31:30	Edinburgh	20:06:59	00:35:29
Dunbar	**20:17:30**	**Edinburgh**	**20:52:59**	**00:35:29**
Dunbar	21:34:00	Edinburgh	22:09:29	00:35:29
Dunbar	**23:16:30**	**Edinburgh**	**23:51:59**	**00:35:29**

- Up to 23 southbound services (excluding existing direct services which are shown in *italics*)

Origin	Start time (hh:mm:ss)	Destination	Arrival Time (hh:mm:ss)	Journey Time (hh:mm:ss)
Edinburgh	05:49:00	Dunbar	06:21:11	00:32:11
Edinburgh	**06:38:00**	**Dunbar**	**07:10:11**	**00:32:11**
Edinburgh	**07:38:00**	**Dunbar**	**08:10:11**	**00:32:11**
Edinburgh	**08:38:00**	**Dunbar**	**09:10:11**	**00:32:11**
Edinburgh	08:58:00	Dunbar	09:30:11	00:32:11
Edinburgh	09:36:00	Dunbar	10:08:11	00:32:11
Edinburgh	*10:13:00*	*Dunbar*	*10:38:00*	*00:25:00*
Edinburgh	11:00:00	Dunbar	11:32:11	00:32:11
Edinburgh	**11:36:00**	**Dunbar**	**12:08:11**	**00:32:11**
Edinburgh	*12:11:00*	*Dunbar*	*12:36:00*	*00:25:00*
Edinburgh	**12:39:00**	**Dunbar**	**13:11:11**	**00:32:11**
Edinburgh	13:11:00	Dunbar	13:43:11	00:32:11
Edinburgh	**13:36:00**	**Dunbar**	**14:08:11**	**00:32:11**
Edinburgh	*14:11:00*	*Dunbar*	*14:36:00*	*00:25:00*
Edinburgh	**14:39:00**	**Dunbar**	**15:11:11**	**00:32:11**
Edinburgh	16:14:00	Dunbar	16:46:11	00:32:11
Edinburgh	*16:33:00*	*Dunbar*	*16:58:00*	*00:25:00*
Edinburgh	**18:36:00**	**Dunbar**	**19:08:11**	**00:32:11**
Edinburgh	18:08:30	Dunbar	18:40:41	00:32:11
Edinburgh	19:05:00	Dunbar	19:37:11	00:32:11
Edinburgh	19:18:00	Dunbar	19:50:11	00:32:11
Edinburgh	**19:35:00**	**Dunbar**	**20:07:11**	**00:32:11**
Edinburgh	20:30:00	Dunbar	21:02:11	00:32:11
Edinburgh	21:07:00	Dunbar	21:39:11	00:32:11
Edinburgh	21:38:00	Dunbar	22:10:11	00:32:11
Edinburgh	21:58:00	Dunbar	22:30:11	00:32:11
Edinburgh	**22:38:00**	**Dunbar**	**23:10:11**	**00:32:11**

5.3.12 Table 5.3 lists all possible individual paths for Berwick given the working assumptions. In practice not all of these will run. The trains in bold signify trains that can turn back at Berwick within the existing timetable and infrastructure, those highlighted and in bold signify trains that would be practical to operate and give an even service interval.

Table 5.3 Potential Edinburgh – Berwick-upon-Tweed Service Paths

- Up to 15 northbound services

Origin	Start time (hh:mm:ss)	Destination	Arrival Time (hh:mm:ss)	Journey Time (hh:mm:ss)
Berwick-upon-Tweed	**06:57:00**	**Edinburgh**	**07:59:00**	**01:02:00**
Berwick-upon-Tweed	07:50:00	Edinburgh	08:52:00	01:02:00
Berwick-upon-Tweed	**09:12:00**	**Edinburgh**	**10:14:00**	**01:02:00**
Berwick-upon-Tweed	**10:47:30**	**Edinburgh**	**11:49:30**	**01:02:00**
Berwick-upon-Tweed	11:47:00	Edinburgh	12:49:00	01:02:00
Berwick-upon-Tweed	**12:50:00**	**Edinburgh**	**13:55:00**	**01:05:00**
Berwick-upon-Tweed	**13:47:00**	**Edinburgh**	**14:49:00**	**01:02:00**
Berwick-upon-Tweed	**14:50:00**	**Edinburgh**	**15:52:00**	**01:02:00**
Berwick-upon-Tweed	**16:07:00**	**Edinburgh**	**17:09:00**	**01:02:00**
Berwick-upon-Tweed	17:07:00	Edinburgh	18:09:00	01:02:00
Berwick-upon-Tweed	**18:50:00**	**Edinburgh**	**19:52:00**	**01:02:00**
Berwick-upon-Tweed	19:05:00	Edinburgh	20:07:00	01:02:00
Berwick-upon-Tweed	**19:51:00**	**Edinburgh**	**20:53:00**	**01:02:00**
Berwick-upon-Tweed	**21:08:00**	**Edinburgh**	**22:10:00**	**01:02:00**
Berwick-upon-Tweed	22:50:00	Edinburgh	23:52:00	01:02:00

- Up to 18 southbound services

Origin	Start time (hh:mm:ss)	Destination	Arrival Time (hh:mm:ss)	Journey Time (hh:mm:ss)
Edinburgh	**05:48:00**	**Berwick-upon-Tweed**	**06:45:52**	**00:57:52**
Edinburgh	**07:38:00**	**Berwick-upon-Tweed**	**08:35:52**	**00:57:52**
Edinburgh	08:38:00	Berwick-upon-Tweed	09:35:52	00:57:52
Edinburgh	**08:58:00**	**Berwick-upon-Tweed**	**09:55:52**	**00:57:52**
Edinburgh	09:36:00	Berwick-upon-Tweed	10:34:13	00:58:13
Edinburgh	**11:00:00**	**Berwick-upon-Tweed**	**11:57:22**	**00:57:22**
Edinburgh	**12:39:00**	**Berwick-upon-Tweed**	**13:36:22**	**00:57:22**
Edinburgh	13:11:30	Berwick-upon-Tweed	14:08:52	00:57:22
Edinburgh	**13:35:00**	**Berwick-upon-Tweed**	**14:32:22**	**00:57:22**
Edinburgh	**14:39:00**	**Berwick-upon-Tweed**	**15:36:22**	**00:57:22**
Edinburgh	**16:08:30**	**Berwick-upon-Tweed**	**17:05:52**	**00:57:22**
Edinburgh	**18:35:00**	**Berwick-upon-Tweed**	**19:32:22**	**00:57:22**
Edinburgh	19:05:00	Berwick-upon-Tweed	20:02:22	00:57:22
Edinburgh	19:18:00	Berwick-upon-Tweed	20:15:22	00:57:22
Edinburgh	**19:35:00**	**Berwick-upon-Tweed**	**20:32:22**	**00:57:22**
Edinburgh	**21:11:00**	**Berwick-upon-Tweed**	**22:08:22**	**00:57:22**
Edinburgh	21:58:00	Berwick-upon-Tweed	22:55:22	00:57:22
Edinburgh	22:38:00	Berwick-upon-Tweed	23:35:22	00:57:22

Table 5.4 Potential Edinburgh – Newcastle Semi-Fast Service Paths

- Up to 15 northbound services

Origin	Start time (hh:mm:ss)	Destination	Arrival Time (hh:mm:ss)	Journey Time (hh:mm:ss)
Newcastle	06:25:00	Edinburgh	08:00:29	01:35:29
Newcastle	07:00:00	Edinburgh	08:52:33	01:52:33
Newcastle	08:27:00	Edinburgh	10:03:30	01:36:30
Newcastle	10:04:00	Edinburgh	11:39:29	01:35:29
Newcastle	11:02:00	Edinburgh	12:37:29	01:35:29
Newcastle	11:58:00	Edinburgh	13:33:29	01:35:29
Newcastle	13:04:00	Edinburgh	14:39:29	01:35:29
Newcastle	14:00:00	Edinburgh	15:36:29	01:36:29
Newcastle	15:32:00	Edinburgh	17:07:29	01:35:29
Newcastle	16:30:00	Edinburgh	18:05:29	01:35:29
Newcastle	18:01:30	Edinburgh	19:36:59	01:35:29
Newcastle	18:58:30	Edinburgh	20:33:59	01:35:29
Newcastle	19:34:00	Edinburgh	21:09:29	01:35:29
Newcastle	20:33:00	Edinburgh	22:09:29	01:36:29
Newcastle	21:26:00	Edinburgh	23:01:29	01:35:29

- Up to 17 southbound services

Origin	Start time (hh:mm:ss)	Destination	Arrival Time (hh:mm:ss)	Journey Time (hh:mm:ss)
Edinburgh	05:51:30	Newcastle	07:29:30	01:38:00
Edinburgh	07:39:00	Newcastle	09:23:30	01:44:30
Edinburgh	08:38:00	Newcastle	10:21:01	01:43:01
Edinburgh	08:58:00	Newcastle	10:36:00	01:38:00
Edinburgh	09:38:00	Newcastle	11:16:00	01:38:00
Edinburgh	11:03:00	Newcastle	12:41:00	01:38:00
Edinburgh	12:40:00	Newcastle	14:26:00	01:46:00
Edinburgh	13:11:30	Newcastle	14:50:00	01:38:30
Edinburgh	13:36:00	Newcastle	15:23:00	01:47:00
Edinburgh	14:40:00	Newcastle	16:21:59	01:41:59
Edinburgh	18:40:00	Newcastle	20:18:00	01:38:00
Edinburgh	19:00:00	Newcastle	20:39:39	01:39:39
Edinburgh	19:18:00	Newcastle	20:56:00	01:38:00
Edinburgh	19:38:00	Newcastle	21:16:00	01:38:00
Edinburgh	21:08:00	Newcastle	22:48:00	01:40:00
Edinburgh	21:38:00	Newcastle	23:16:00	01:38:00
Edinburgh	22:38:00	Newcastle	24:16:00	01:38:00

5.3.13 Table 5.5 below lists most of the current ScotRail and Northern Rail services on the line. It should be noted that the paths reported in Tables 5.2 to 5.4 can be accommodated within the existing structure of services. As such, there **would be no immediate need to modify or replace any of these services**. However, in developing any full timetable proposition for new services on the line, these services could be reviewed in conjunction with the new paths in terms of the service proposition.

5.3.14 Unique services such as the Chathill service would be retained and have been excluded here.

Table 5.5 Other services – Potentially Modified or Replaced

- 14 northbound

Origin	Start time (hh:mm:ss)	Destination	Arrival Time (hh:mm:ss)	Journey Time (hh:mm:ss)	Operator
Newcastle	07:58:00	Morpeth	08:18:07	00:20:07	Northern
Newcastle	09:15:00	Morpeth	09:36:51	00:21:51	Northern
King Edward Bridge (Metrocentre)	10:06:00	Morpeth	10:37:20	00:31:20	Northern
Dunbar	10:51:00	Edinburgh	11:15:05	00:24:05	ScotRail
King Edward Bridge (Metrocentre)	11:06:00	Morpeth	11:37:06	00:31:06	Northern
King Edward Bridge (Metrocentre)	12:06:00	Morpeth	12:37:20	00:31:20	Northern
Dunbar	12:51:00	Edinburgh	13:16:00	00:25:00	ScotRail
King Edward Bridge (Metrocentre)	13:06:00	Morpeth	13:36:57	00:30:57	Northern
King Edward Bridge (Metrocentre)	14:06:00	Morpeth	14:37:02	00:31:02	Northern
Dunbar	15:02:00	Edinburgh	15:31:00	00:29:00	ScotRail
King Edward Bridge (Metrocentre)	15:06:00	Morpeth	15:36:57	00:30:57	Northern
King Edward Bridge (Metrocentre)	16:06:00	Morpeth	16:37:00	00:31:00	Northern
King Edward Bridge (Metrocentre)	17:34:00	Morpeth	18:00:46	00:26:46	Northern
King Edward Bridge (Metrocentre)	18:11:30	Morpeth	18:47:06	00:35:36	Northern

- 16 southbound

Origin	Start time (hh:mm:ss)	Destination	Arrival Time (hh:mm:ss)	Journey Time (hh:mm:ss)	Operator
Morpeth	08:49:00	Newcastle	09:13:00	00:24:00	Northern
Morpeth	09:49:00	King Edward Bridge (Metrocentre)	10:17:00	00:28:00	Northern
Edinburgh	10:13:00	Dunbar	10:38:00	00:25:00	ScotRail
Morpeth	10:49:00	King Edward Bridge (Metrocentre)	11:17:26	00:28:26	Northern
Morpeth	11:49:00	King Edward Bridge (Metrocentre)	12:17:00	00:28:00	Northern

Origin	Start time (hh:mm:ss)	Destination	Arrival Time (hh:mm:ss)	Journey Time (hh:mm:ss)	Operator
Edinburgh	12:11:00	Dunbar	12:35:59	00:24:59	ScotRail
Morpeth	12:49:00	King Edward Bridge (Metrocentre)	13:17:00	00:28:00	Northern
Morpeth	13:49:00	King Edward Bridge (Metrocentre)	14:17:00	00:28:00	Northern
Edinburgh	14:11:00	Dunbar	14:36:43	00:25:43	ScotRail
Morpeth	14:49:00	King Edward Bridge (Metrocentre)	15:17:00	00:28:00	Northern
Morpeth	15:49:00	King Edward Bridge (Metrocentre)	16:17:00	00:28:00	Northern
Morpeth	16:49:00	Newcastle	17:13:00	00:24:00	Northern
Morpeth	18:26:00	Newcastle	18:48:02	00:22:02	Northern
Morpeth	19:01:00	Newcastle	19:23:30	00:22:30	Northern
Edinburgh	22:08:00	Dunbar	22:41:00	00:33:00	ScotRail
Morpeth	22:45:00	Newcastle	23:05:00	00:20:00	Northern

5.4 Summary

5.4.1 The detailed RailSys modelling has demonstrated that at **range of paths do exist** within the post May 2011 timetable to accommodate additional train services, to either Dunbar, Berwick or Newcastle, in addition to existing services.

5.4.2 The next stage is to look at the costs and the benefits associated with introducing these services and the next chapter goes on to consider this.

6 Potential New Services

6.1 Introduction

6.1.1 This chapter considers the appraisal of additional rail services to Dunbar, Berwick and Newcastle, primarily from the perspective of the costs and benefits associated with each potential service. These services are considered as being additional to the May 2011 timetabled services.

6.1.2 It also considers the case for the re-opening of East Linton and Reston stations in conjunction with the new train services.

6.2 Approach

6.2.1 There are two main aspects to the appraisal, both of which are considered here:

- the **financial appraisal** considers in the main any construction costs and the costs of running additional train services against the increases in revenue taken by the train operator; and
- the **social cost benefit analysis** adds to the financial appraisal via a monetary valuation of the benefits accruing to train users, principally through shorter journey times which are turned into monetary benefits using established values of time.

6.2.2 The forecasting of changes to patronage and revenue at existing stations has been undertaken using the industry-standard 'MOIRA' software. MOIRA also provides a valuation of the 'user benefits'; this is the savings in travel time associated with any timetable change translated into a monetary value. ScotRail provided a May 2009 version of MOIRA which contained timetable, patronage and revenue data for all relevant station origin – destination combinations on the network and this has formed the basis of the study.

6.2.3 A two-stage process was then undertaken to produce the forecasts:

- MOIRA 2009 was run on the basis of the May 2011 timetable – this provided us with in essence a 2011 'Reference Case' forecast set of patronage, revenues, and benefits; and
- each additional train service configuration was then coded on top of the May 2011 timetable and tested – the results from this were compared with the 'Reference Case' to determine the incremental impact of the new services, and it is these values which are reported here.

6.2.4 Network Rail provided the study with the underlying processes and methodology used during the RUS study, where a similar analysis was undertaken. This process was used to translate the single year impacts produced by MOIRA into the 60-year discounted appraisal required in STAG. This methodology was adopted and updated here in order to retain broad consistency with the previous RUS findings.

6.2.5 The impacts of the potential new stations were assessed separately. The approach taken here was based on benchmarking against other stations in the area, together with an

analysis of the potential catchment and market for rail travel from each station. This included an analysis of the likely 'abstraction' of demand to the new stations, ie rail travellers transferring from an existing station to the new station. The methodology used in the previous 2004 study was also reviewed and built upon as part of this process.

60 Year Appraisal

6.2.6 A key requirement of STAG is the production of Transport Economic Efficiency (TEE) figures which reflect a discounted 60-year appraisal of the costs and benefits of any transport proposal, in line with the Treasury *Green Book* methodology. As noted above, we have sought to maintain broad consistency with the previous RUS methodology in this respect and have made use of the spreadsheet-based processes which were made available by Network Rail. All monetary figures are discounted to 2002 values in line with guidance.

6.2.7 One key assumption in this respect concerns passenger growth forecasts across the network. The RUS figures, which we have adopted here to retain consistency with the previous work, are:

- 2011 -2017: 3.7% per annum;
- 2017 – 2022: 1.9% per annum;
- 2022 – 2030: 0.9% per annum; and
- no further growth assumed.

6.2.8 The key components of the TEE which are reported here are:

- **Investment Costs**: the capital costs for new stations etc;
- **Operating Costs**: variable and fixed operating costs were provided by ScotRail in 2011, and all tests have assumed the use of three-car Class 380 EMU trains;
- **Revenue**: additional rail revenue in this case - note that this may overestimate total additional public transport revenue as there is likely to be transfer from bus to rail in many cases which has not been estimated in the core analysis here;
- **Other Government Impacts**: mainly tax losses due to transfer from car to rail and hence loss of fuel tax revenues;
  - **Total Costs**: the sum of the above (additional rail revenue being a negative value here);
- **Rail User Benefits**: monetised travel time savings accruing to existing and new rail passengers (ie those who have switched from other modes / destinations);
- **Non-user Benefits**: includes monetised values for the impacts of proposals on congestion, infrastructure, accidents and climate change (ie arising from modal shift from car) – based on standard STAG approaches (local air quality and noise which was used in the RUS analysis are excluded here in line with STAG);
  - **Total Benefits**: the sum of the above;
- **Net Present Value** (NPV): 'total 60 year benefits' minus 'total 60 year costs'; and
- **Benefit Cost Ratio** (BCR): 'total 60 year benefits' divided by 'total 60 year costs'.

6.2.9 Optimism Bias is a key part of the analysis. As ScotRail provided operating costs for the study, a STAG 'Level 2' Project Development Level has been assumed in this respect. As such, an optimism bias of 1.6% per annum is applied to operating costs and a 50% optimism bias has been applied to capital costs.[5]

6.2.10 The resulting values are all reported in the sections which follow.

6.3 New Dunbar Services

6.3.1 As noted in Chapter 5, the RailSys modelling has identified the potential for new Edinburgh – Dunbar services as follows:

- 17 northbound paths; and
- 23 southbound paths.

6.3.2 In May 2011, there were 15 northbound services from Dunbar (including four Dunbar to Edinburgh ScotRail services) and there were also 18 Edinburgh to Dunbar trains (including four ScotRail Edinburgh to Dunbar services).

6.3.3 The timetable developed for the new services here allows for the new trains to call at all stations between Dunbar and Edinburgh, unlike the current ScotRail services which run direct to Dunbar (although some stop at Musselburgh). It has been assumed that these trains will call at all stations and this gives a journey time of around 35 minutes from Dunbar to Waverley. This service would therefore provide a step change in frequency offering a near half-hourly service from Drem, Longniddry, Prestonpans, Wallyford and Musselburgh throughout the day.

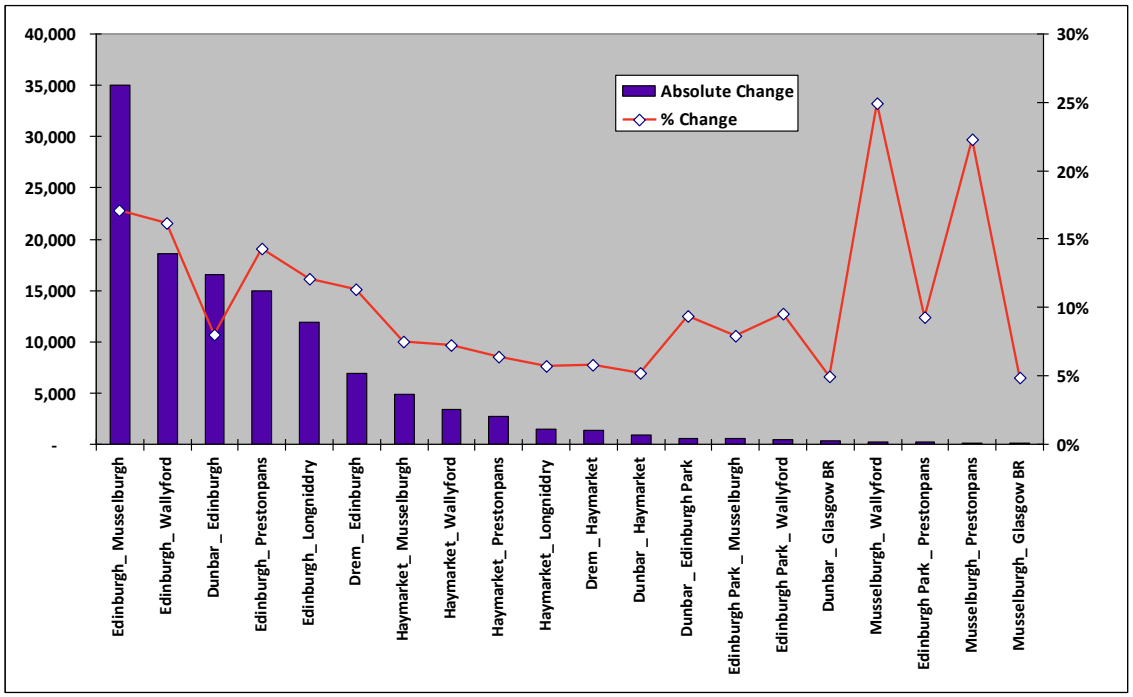
6.3.4 Two tests have been specified:

- **T1** – Edinburgh – Dunbar using all possible paths, ie an additional 40 services across the day: this would require three additional train sets to operate. T1 is not necessarily a *realistic* option but has been included as a 'best case' in terms of the benefits which could conceivably be generated by a Dunbar service; and
- **T1b** – Edinburgh Dunbar, 26 additional services: requiring two additional train sets (and hence reduced train operating costs).

6.3.5 Figure 6.1 below shows the scale and location of the additional annual patronage resulting from T1 by origin-destination station pair. Absolute and percentage change are both shown in the Figure.

[5] See http://www.transportscotland.gov.uk/stag/td/Part2/Risk_and_Uncertainty/13.3.4 for details.

Figure 6.1 Forecast Change in Annual Passengers, Edinburgh – Dunbar Service (T1)



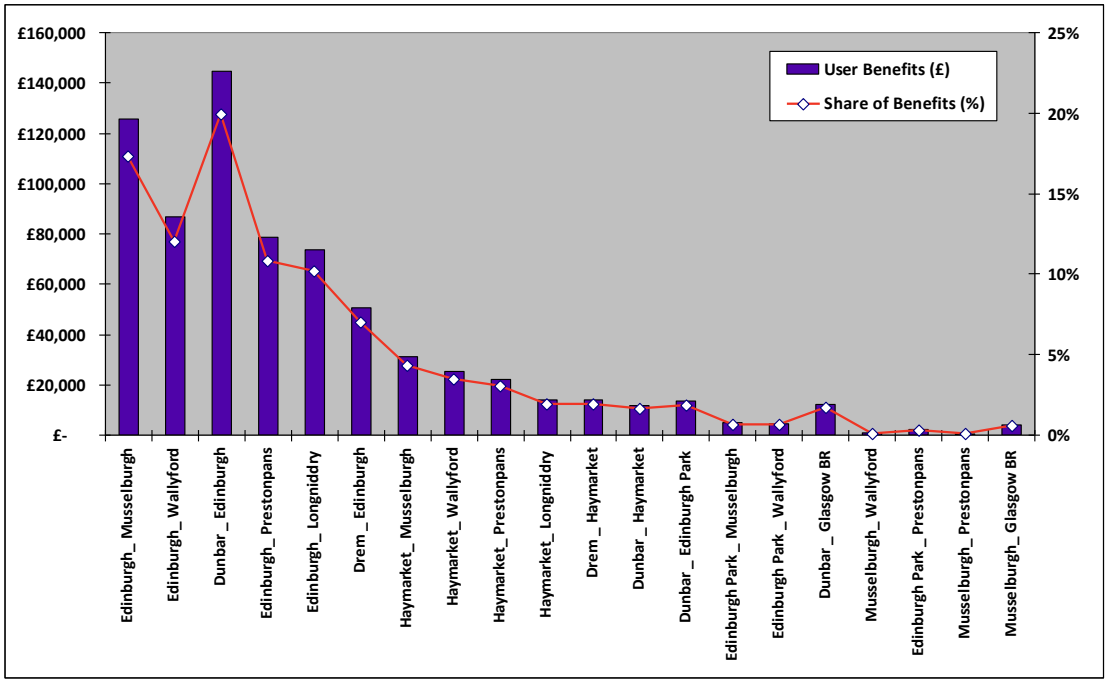
6.3.6 It can be seen that there are substantial uplifts in passenger numbers along the line overall at around 12%, not just at Dunbar. The increase at Dunbar is actually rather less at around 8%, reflecting the continuing presence of faster, LDHS services there. Musselburgh to Edinburgh shows large absolute and percentage changes in passenger numbers.

6.3.7 However, it should be noted that MOIRA does not account for parking availability at railway stations. As many of the stations here have constrained parking on site, these figures may over-estimate the ability of these stations to cope with this level of additional demand. On the other hand, it could be possible to incrementally increase parking supply at some of these locations over time to cope with this additional demand. Note also that base level travel between Dunbar and Musselburgh (including Queen Margaret University) will be very low given the lack of direct services. These new services will improve this connectivity considerably, and as such the MOIRA (elasticity based) forecasting approach will underestimate this potential new demand.

6.3.8 If the services did not stop at all the intermediate stations between Dunbar and Edinburgh there would be a loss of benefits to these stations which would impact on the viability of the services.

6.3.9 Figure 6.2 below shows the distribution of user benefits in terms of the station origin-destination pairs noted in Figure 6.1.

Figure 6.2 Distribution of Annual User Benefits, Edinburgh – Dunbar Service (T1)



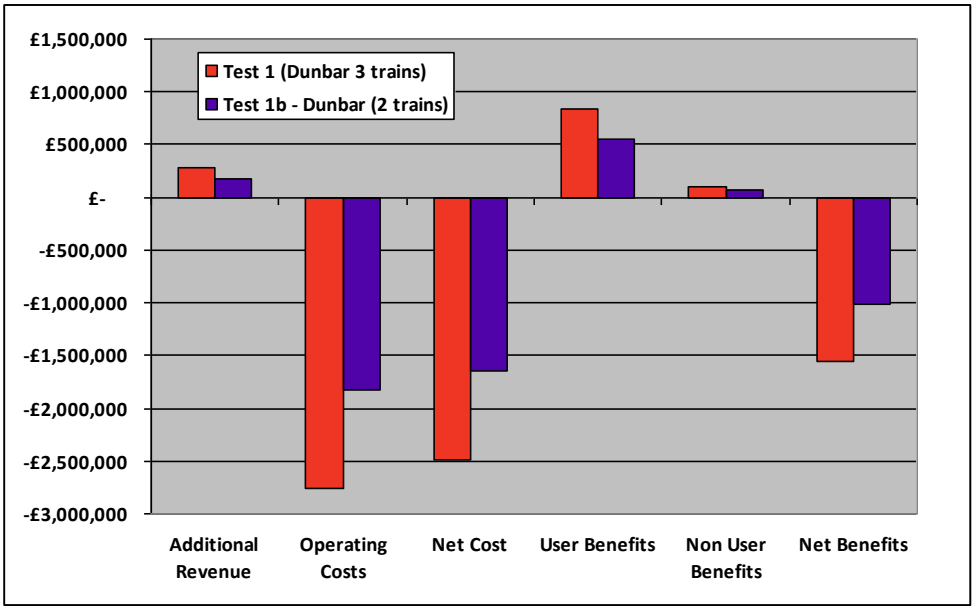
6.3.10 It can be seen that although Musselburgh – Edinburgh sees the biggest increase in passenger numbers, Dunbar – Edinburgh sees the greatest share of benefits, ie the benefits per passenger are greater there. If say Prestonpans, Longniddry and Drem were excluded from this service, the level of benefits associated with this service would drop by 28%. Benefits to Dunbar passengers would increase slightly if journey times were cut as a result, but this would not outweigh the loss of benefits at the other stations, underlining the value of these intermediate stops.

6.3.11 Figure 6.3 below shows the initial single year costs and benefits associated with T1 and T1b as follows:

- additional revenue: additional train revenue as a result of the new service;
- operating costs: the total costs of operating the new service;
- net cost: revenue minus operating cost;
- user benefits: travel time savings turned into monetary values using 'values of time' (welfare benefits);
- non-user benefits: monetised values primarily associated with reduced congestion; and
- net benefits: the sum of the above, ie revenue – operating costs + user benefits + non-user benefits.

6.3.12 This initial figure provides an outline of the scale of the various components of the analysis.

Figure 6.3 Edinburgh - Dunbar: Single year benefits and costs



6.3.13 It can be seen that operating costs are reduced substantially in T1b compared to T1, as there are two additional train sets rather than three. However, the level of benefits and additional revenue is also proportionately lower, as there are fewer new services and hence a lower service frequency. Overall, costs and benefits are both reduced by around 33% in T1b compared to T1.

6.3.14 Both tests show that operating costs outweigh the combined user benefits and additional revenue generated. So in both cases, the net financial cost and net benefits are both negative suggesting that the costs associated with the services outweigh the benefits realised. This service would therefore require an initial annual subsidy of £1.5m to £2.5m to run.

60 Year Appraisal

6.3.15 The 60 year appraisal for T1 and T1b is shown below in Table 6.1. This adds an estimate of 'other government impacts' to the single year figures discussed above and **includes optimism bias**.

6.3.16 Note that, over the 60 year period, the assumed growth in patronage is higher than the assumed increases in operating costs. This means that the balance between costs and benefits changes from that shown in Figure 6.3 (which considered an opening year position) when analysed over the 60 year period.

Table 6.1 Edinburgh - Dunbar: TEE Analysis

TEE Analysis (£m)	T1 (3 new trains)	T1b (2 new trains)
Costs (Present Value)		
Investment Cost	0.0	0.0
Operating Cost	54.5	35.9
Revenue	-10.5	-6.9
Other Gov Impacts	2.7	1.8
Total costs	**46.7**	**30.8**
Benefits (Present Value)		
Rail users benefits	36.5	24.3
Non-users benefits	4.6	3.0
Total Quantified Benefits	**41.1**	**27.3**
NPV	**-5.6**	**-3.5**
Quantified BCR	**0.88**	**0.89**

6.3.17 Table 6.1 shows that both tests T1 and T1b return a BCR of around 0.9, ie for every £1 spent only around 90p is returned by way of benefits. In test T1b, operating costs are lower, but revenues and benefits also reduce so the BCR is virtually unaffected. Note that increased revenue is shown here as a negative cost. The NPV for the two-train service in T1b is rather better than that of T1 reflecting the lower level of cost associated with this service.

6.3.18 It would seem reasonable to consider that LDHS services at Dunbar could be reduced at Dunbar in conjunction with a fuller ScotRail service, bringing benefits to LDHS passengers if time savings can be made within the overall timetable. This would however lead to a reduction in level of service at Dunbar due to the longer ScotRail journey times, albeit with increased frequency. However, it could be argued that this would bring Dunbar into line with the level of service which exists at most other similar stations, and certainly into line with the level of service at other East Lothian stations. The current situation at Dunbar means that there is a near hourly service with a mix of journey times to Edinburgh and direct connections to the south, which means that in many ways the existing level of service is high at Dunbar.

6.4 Berwick-upon-Tweed Services

6.4.1 The RailSys modelling has identified the potential for new Edinburgh – Berwick services as follows:

- 15 northbound paths; and
- 18 southbound paths.

6.4.2 In May 2011, there were 25 northbound services from Berwick and 24 southbound services, so the addition of these services would see a step change in train frequency between Edinburgh and Berwick. The timetable developed here allows for these trains to call at all stations between Berwick and Edinburgh. As a core assumption, it has therefore been assumed that these trains will call at all stations and this gives an end to end journey time of

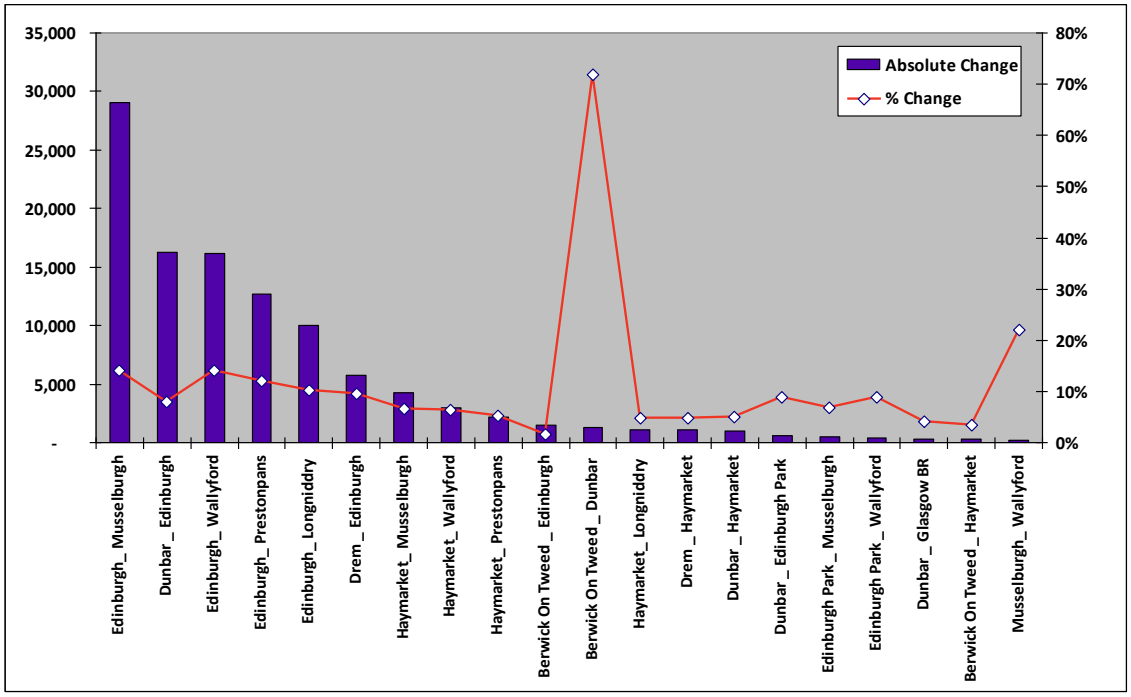
just over one hour. This would therefore provide a step change in frequency offering a near half-hourly service from Dunbar, Drem, Longniddry, Prestonpans, Wallyford and Musselburgh.

6.4.3 The following tests have been specified:

- **T2** – Edinburgh–Berwick using all possible paths, an additional 33 services; this would require three additional train sets. As before, T2 is not necessarily a *realistic* option but has been included as a 'best case' in terms of the benefits which could conceivably be generated by a Berwick service;
- **T2d** – as T2 but no stops at Prestonpans, Longniddry and Drem – to isolate the benefits arising here as a result of the increased service frequency;
- **T2e** – as T2d with a journey time reduced by five minutes between Wallyford and Dunbar to account for the removal of stops at Prestonpans, Longniddry and Drem; and
- **T2f** – Edinburgh-Berwick, 20 additional trains: requiring only two additional train sets.

6.4.4 Figure 6.4 below shows the scale and location of the additional annual patronage resulting from T2.

Figure 6.4 Forecast Change in Annual Passengers, Edinburgh – Berwick Service (T2)

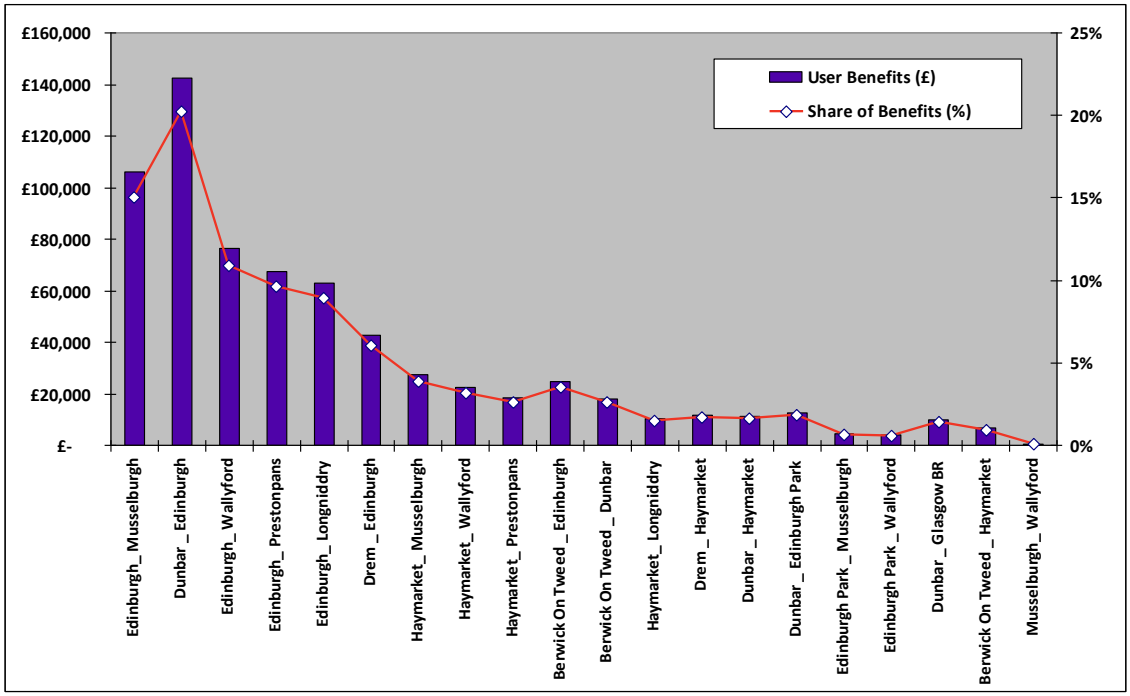


6.4.5 Again, it can be seen that there are substantial uplifts in passenger numbers along the line, not just at Dunbar. Edinburgh to Musselburgh, Dunbar and Wallyford see the largest rises in passenger numbers. It is notable that Edinburgh - Berwick passenger numbers do not increase significantly. This reflects the uncompetitive journey times offered by the new service compared to the existing East Coast and Cross Country services. Travel volumes between Berwick and stations in East Lothian would anticipated to be very low, although Dunbar - Berwick sees a high percentage increase (although low in absolute terms) reflecting the step change in connectivity between the two locations.

6.4.6 As before, it should be noted that MOIRA does not account for parking availability at railway stations and as many of the stations here have constrained parking on site, these figures may over-estimate the ability of these stations to cope with this level of demand.

6.4.7 Figure 6.5 below shows the distribution of user benefits in terms of the station origin destination pairs noted in Figure 6.4.

Figure 6.5 Distribution of Annual User Benefits, Edinburgh – Berwick Service (T2)

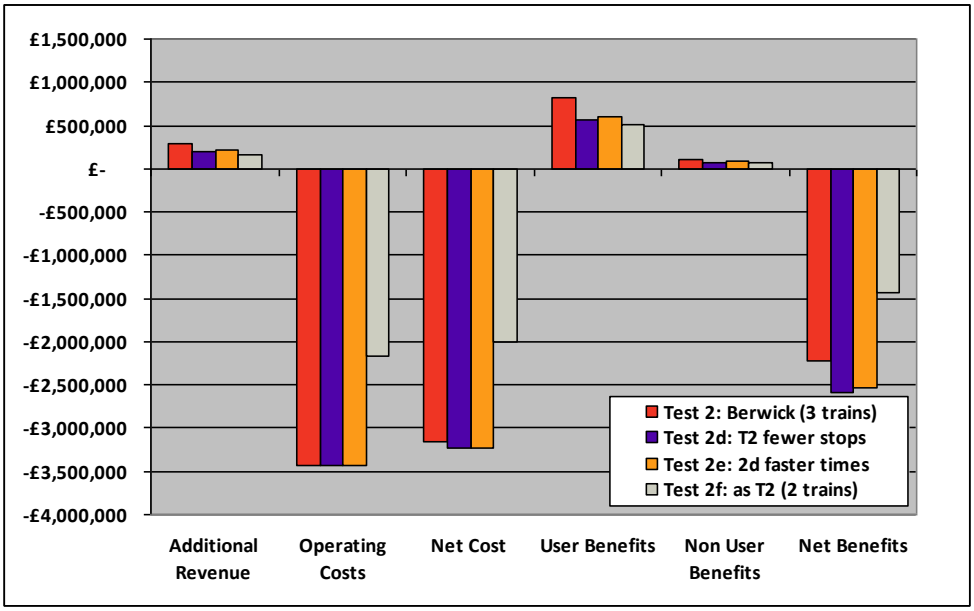


6.4.8 The pattern here is very similar to the Dunbar services, with the benefits accruing in the main at the stations nearest Edinburgh, plus Dunbar. The level of benefits associated with Berwick - Edinburgh travel is low suggesting that there is little merit in continuing trains to Berwick-upon-Tweed.

6.4.9 Figure 6.6 below shows the initial single year costs and benefits associated with T2, T2d, T2e and T2f as follows:

- additional revenue: additional train revenue as a result of the new service;
- operating costs: the total costs of operating the new service;
- net cost: revenue minus operating cost;
- user benefits: travel time savings turned into monetary values using 'values of time' (welfare benefits);
- non-user benefits: monetised values primarily associated with reduced congestion; and
- net benefits: the sum of the above, ie revenue – operating costs + user benefits + non-user benefits.

Figure 6.6 Edinburgh-Berwick: Single year benefits and costs



6.4.10 The level of user benefits is highest in T2. The removal of stops at Prestonpans, Longniddry and Drem reduces the level of benefits by around 30% in T2d. In T2e, the faster journey times from Dunbar and Berwick increase the level of benefits compared to T2d but this is not enough to compensate for the loss of the benefits from the three stations at which services do not stop in this scenario, ie the overall benefits are still less than T2. With only two new trains in T2f, the reduced level of service is reflected in much lower benefits than T2. Revenue follows a similar pattern to user benefits.

6.4.11 Operating costs are identical in T2, T2d and T2e, and are reduced in T2f where only two train sets are used.

6.4.12 Overall, all tests show that operating costs outweigh the combined user benefits and revenue - in all cases the net financial cost and net benefits are negative suggesting that the costs associated with the services outweigh the benefits realised.

6.4.13 This service would therefore initially require an annual subsidy of over £3m or £2m to run depending on whether three or two train sets are used.

6.4.14 The specification of these services therefore presents something of a dilemma:

- a journey time of over one hour from Berwick means that the stopping service would not be competitive with East Coast and Cross Country services between Edinburgh and Berwick, and would therefore be lightly used at the Berwick end; but
- shortening this journey time (paths and slots permitting) would require fewer intermediate stops, reducing the benefits to the East Lothian stations which make up the bulk of the benefits associated with the services.

60 Year Appraisal

6.4.15 The 60-year appraisal for the various Berwick services is shown in Table 6.2 below.

Table 6.2 Edinburgh - Berwick: TEE Analysis

TEE Analysis (£m)	T2 (3 trains)	T2d (T2 fewer stops)	T2e (T2d + reduced JT)	T2f (T2 2 trains only)
Costs (Present Value)				
Investment Cost	0.0	0.0	0.0	0.0
Operating Cost	67.8	67.8	67.8	42.7
Revenue	-10.6	-7.3	-7.9	-6.3
Other Gov Impacts	2.7	1.9	2.1	1.6
Total costs	**59.9**	**62.4**	**61.9**	**38.1**
Benefits (Present Value)				
Rail users benefits	36.2	25.1	26.7	22.1
Non-users benefits	4.8	3.4	4.0	2.9
Total Quantified Benefits	**41.0**	**28.5**	**30.7**	**25.0**
NPV	**-18.9**	**-33.9**	**-31.3**	**-13.1**
Quantified BCR	**0.68**	**0.46**	**0.49**	**0.66**

6.4.16 As with the Dunbar services, all options here show a negative NPV and a BCR of less than one. In general the BCRs for the Berwick services are lower than for the Dunbar services. This reflects the fact that very little additional benefit is realised in taking the services on to Berwick, yet the operating costs are significantly increased with the increased train miles. A local service to Berwick as such would not seem to be an attractive proposition, although new stations could change this picture.

6.4.17 Omitting station stops at Prestonpans, Longniddry and Drem to improve journey times to Dunbar and Berwick is seen to reduce the BCR from 0.7 to 0.5 so should not be pursued.

6.4.18 An Edinburgh to Berwick ScotRail service could be seen as a replacement for LDHS services between Berwick and Edinburgh. However, the longer journey times would create disbenefits for travellers relative to the present day. LDHS services would still have to call at Berwick in any case in order to retain connectivity between Berwick and Newcastle as Northern Rail services do not currently extend as far as Berwick.

6.4.19 In the longer term, a more radical re-cast of services could see Berwick and other intermediate stations omitted from LDHS services between Edinburgh and Newcastle with local services introduced between Edinburgh and Berwick and Berwick and Newcastle. Alternatively all LDHS trains could call at Berwick only, with this station acting as a hub for the area. Detailed consideration of these options lies beyond the scope of the current study however, which is limited to changes which could be implemented in conjunction with the current timetable. These ideas did emerge from the consultation process however as could be considered further.

6.5 Edinburgh - Newcastle Semi-fast Service

6.5.1 The RailSys modelling has identified the potential for new Edinburgh – Newcastle services as follows:

- 15 northbound paths; and
- 17 southbound paths.

6.5.2 The services would stop at Dunbar, Berwick-upon-Tweed, Alnmouth and Morpeth. The end to end journey time calculated from RailSys is around one hour and 35 minutes.

6.5.3 In May 2011, there were 25 northbound services from Berwick-upon-Tweed and 24 southbound services. At Alnmouth, there were 15 northbound and 17 southbound trains and at Morpeth there were 20 northbound and 21 southbound services. So again, each of the four stations would see a step change in the level of service with the introduction of additional semi-fast services. In addition, the links between these four stations would be greatly improved with regular, direct intra-Northumberland services between eg Morpeth and Berwick.

6.5.4 The following tests have been specified:

- **T3** – Edinburgh–Newcastle using all possible paths, an additional 32 services: this would require four additional train sets given the length of the route. Once more, T3 is not necessarily a *realistic* option but has been included as a 'best case' in terms of the benefits which could conceivably be generated by a semi-fast service; and
- **T3f** – Edinburgh-Newcastle, 20 additional services: requiring only three additional train sets.

6.5.5 An Edinburgh - Newcastle semi-fast service could be seen as an opportunity to reduce the number of LDHS service calls at the intermediate stations of Morpeth, Alnmouth, Berwick and Dunbar. The rationale underlying this is that this could speed up LDHS services between Edinburgh and Newcastle (and hence Edinburgh and London) providing benefits to longer distance passengers, and also making rail more competitive with air for anglo-Scottish travel.

6.5.6 Re-timetabling EUREKA LDHS services was beyond the scope of this study, but the following tests were undertaken to explore this issue, and in particular the impact of reduced LDHS stops at the intermediate stations (in conjunction with a semi-fast), and the impact of shorter LDHS journey times:

- **T3e** – as T3 with **all** East Coast and Cross Country stops at Dunbar, Berwick, Alnmouth and Morpeth removed (a 'worst case' in this respect);
- **T3g** - as T3 with **50%** of the East Coast and Cross Country stops at Dunbar, Berwick, Alnmouth and Morpeth removed;
- **T4** – base case with a five minute reduction in journey times between Edinburgh and Newcastle for East Coast and Cross Country trains (with no change to intermediate stops) - representing the hypothetical benefits associated with fewer intermediate stops and faster journey times; and
- **T4** - can be **combined** with **T3e / T3g** to estimate the **composite impact** of reducing LDHS stops and thus reducing LDHS travel times for long distance travellers.

6.5.7 These tests were primarily undertaken to inform longer term decision making as the EUREKA timetable sets the parameters for short term planning.

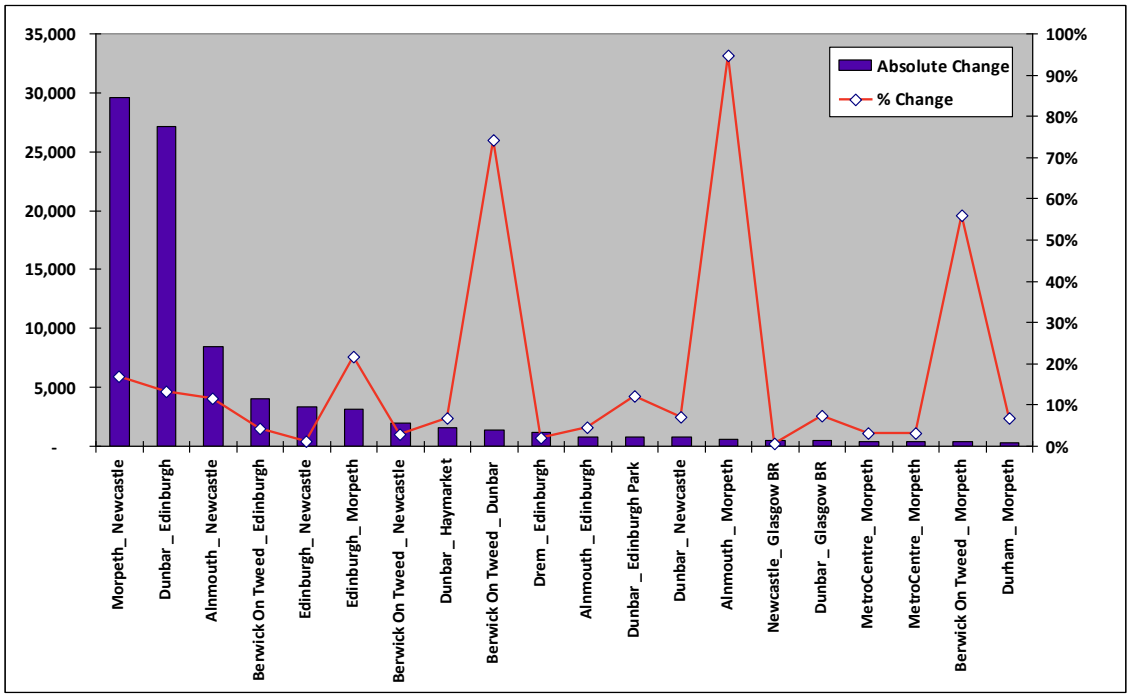
6.5.8 Another aspect of an Edinburgh - Newcastle semi-fast service is its potential to displace some of the Northern Rail services which operate between Morpeth and Newcastle. However most of these services currently call at Cramlington, many go on to Newcastle Metrocentre rather than terminating at Newcastle, and some also call at Manors. Any displacement by an Edinburgh - Newcastle service calling only at Morpeth, Alnmouth, Berwick and Dunbar would lead to a reduced service at Cramlington and Manors, and would require some passengers to interchange at Newcastle for journeys to the Metrocentre.

6.5.9 A final test has been specified to look at the impact of this potential displacement though:

- **T3h** – as T3f with reduced Northern Rail services, ie displaced by the Edinburgh – Newcastle semi-fast.

6.5.10 Firstly, Figure 6.7 below shows the scale and location of the additional annual patronage resulting from T3.

Figure 6.7 Forecast Change in Annual Passengers, Edinburgh – Newcastle Service (T3)

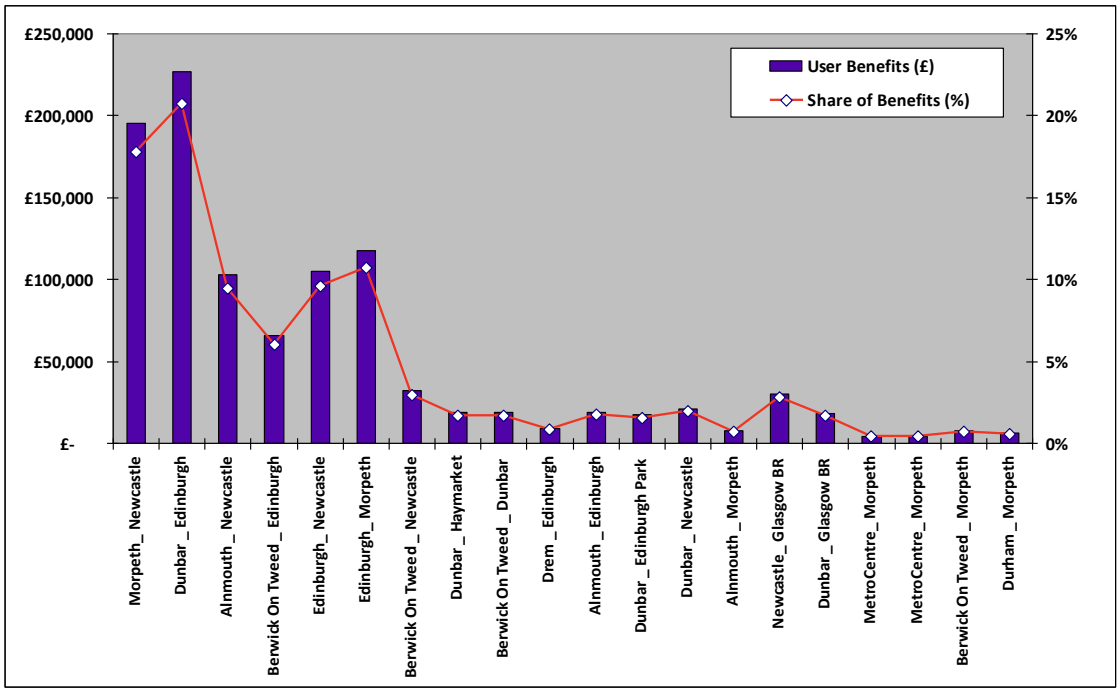


6.5.11 The main impacts of the Edinburgh - Newcastle semi-fast service are increases in passenger numbers between Edinburgh - Dunbar and Morpeth - Newcastle. Other increases are much smaller, although some large percentage changes are seen, given the low base numbers. Alnmouth - Newcastle also sees a significant increase as this service would represent a step change in the level of service for that movement. End-to-end Edinburgh - Newcastle movements see a modest, single digit percentage increase. Travel between the intermediate stations is forecast to grow strongly, but the base volume of travel is very low so changes are small in absolute terms.

6.5.12 Once again, it should be noted that MOIRA does not account for parking availability at railway stations and as many of the stations here have constrained parking on site, these figures may over-estimate the ability of these stations to cope with this level of demand.

6.5.13 Figure 6.8 below shows the distribution of user benefits in terms of the station origin-destination pairs noted in Figure 6.7.

Figure 6.8 Distribution of Annual User Benefits, Edinburgh – Newcastle Service (T2)



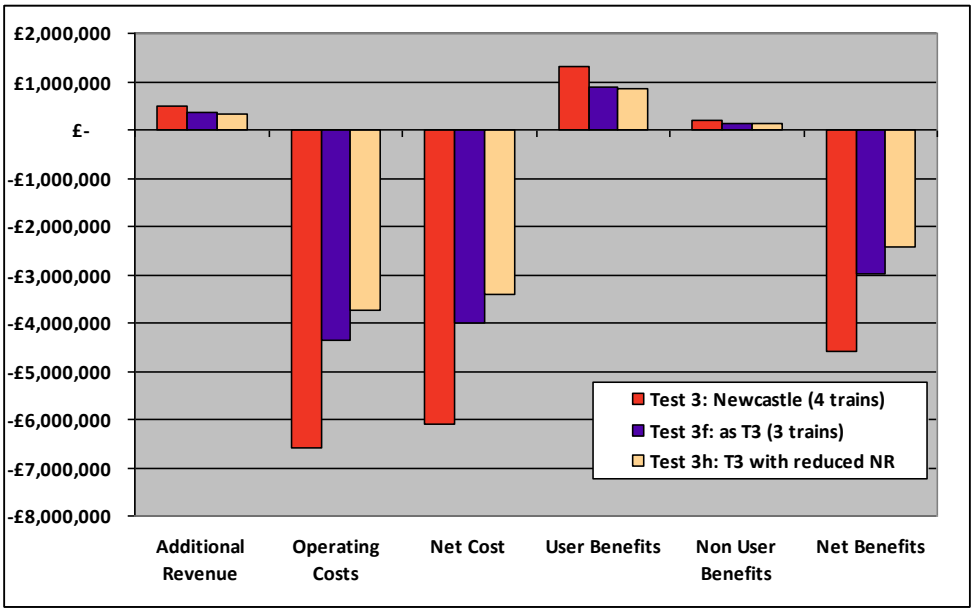
6.5.14 The distribution of the benefits is rather more even than the changes in passenger numbers. In addition to Edinburgh - Dunbar and Morpeth - Newcastle, Alnmouth - Newcastle, Edinburgh - Berwick, Edinburgh - Newcastle, and Edinburgh - Morpeth all see a good level of benefits arising from the new service.

6.5.15 Figure 6.9 below shows the initial single year costs and benefits associated with the semi-fast service tests T3, T3f and T3h as follows:

- additional revenue: additional train revenue as a result of the new service;
- operating costs: the total costs of operating the new service;
- net cost: revenue minus operating cost;
- user benefits: travel time savings turned into monetary values using 'values of time' (welfare benefits);
- non-user benefits: monetised values primarily associated with reduced congestion; and
- net benefits: the sum of the above, ie revenue – operating costs +user benefits + non-user benefits.

6.5.16 Figure 6.10 then shows the same information for tests T3, T3g, T3e and T4 which explore the relationship between the semi-fast and LDHS services.

Figure 6.9 Edinburgh - Newcastle: Single year benefits and costs (1)

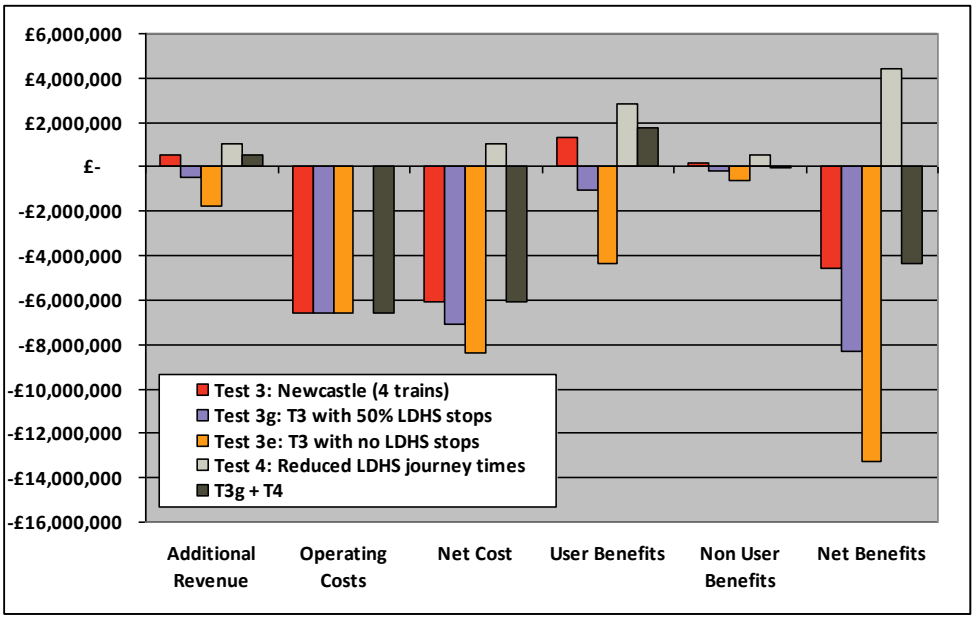


6.5.17 Looking at the impacts of the semi-fast in addition to all existing services, the absolute level of user benefit associated with T3 is around 60% higher than with T1 and T2, reflecting the greater scope of the new service here. As before, the reduced services seen in T3f (where the use of only three trains sets cuts the service frequency) sees benefits reduce by around one third compared to T3. Operating costs are reduced relative to T3 in T3f where only three train sets are used.

6.5.18 In T3h, the following Northern Rail services have been omitted from T3f to provide an illustration of the impacts of removing Northern Rail services: 1015 Newcastle – Morpeth; 1205 Newcastle Metro – Morpeth; 1400 Newcastle Metro – Morpeth; 1600 Newcastle Metro – Morpeth; 1818 Newcastle – Morpeth; 0849 Morpeth – Newcastle; 1049 Morpeth - Newcastle Metro; 1149 Morpeth - Newcastle Metro; 1449 Morpeth - Newcastle Metro; and 2245 Morpeth – Newcastle.

6.5.19 Variable operating costs have been amended to account for the reduced train miles in this test. It has also been assumed that only two rather than three new train sets are required. It can therefore be seen that T3h sees reduced operating costs compared to T3f and only slightly reduced benefits.

Figure 6.10 Edinburgh - Newcastle: Single year benefits and costs (2)



6.5.20 Considering the interaction between a semi-fast and LDHS services, the results of T3, T3g and T3e show how user benefits and revenue decline with reduced LDHS service intermediate stops, ie the new semi-fast is not enough to compensate for the loss of LDHS stops and results in a net loss of service quality. In the case of T3e where all LDHS stops are removed, there is a very large user disbenefit. Operating costs are the same in all three cases.

6.5.21 In T4, an illustrative five minute reduction in LDHS journey times between Edinburgh and Newcastle (and hence between Edinburgh and London etc) represents the journey time improvements brought about by a hypothetical removal of intermediate stops, and this does bring significant user benefits and additional revenue. At five minutes, these benefits do not outweigh the disbenefits seen in T3e, but a net user benefit is seen if combined with T3g. This is shown 'T3g+T4' in the figure. The figures for T4 can be scaled however so for example if a 10 minute journey time saving could be achieved as a result of the removal of intermediate stops, user benefits and revenue would be double the above figures. This theme is returned to below. Revenue figures show a very similar pattern to user benefits.

6.5.22 All tests have identical operating costs here. There are no operating cost changes associated with T4.

6.5.23 The semi-fast service would therefore require an initial annual subsidy of between £6m -£8m to run depending on whether four or three train sets are used.

6.5.24 The equivalent 60 year TEE analyses are shown below.

60 Year Appraisal

Table 6.3 Edinburgh - Newcastle: TEE Analysis (semi-fast only)

TEE Analysis (£m)	T3: 4 trains	T3f: T3 with 3 trains only	T3h: T3f with reduced NR
Costs (Present Value)			
Investment Cost	0.0	0.0	0.0
Operating Cost	127.4	83.8	72.4
Revenue	-18.8	-13.4	-12.1
Other Gov Impacts	5.1	3.7	3.3
Total costs	**113.8**	**74.1**	**63.6**
Benefits (Present Value)			
Rail users benefits	58.0	39.0	37.9
Non-users benefits	8.4	6.2	5.5
Total Quantified Benefits	**66.4**	**45.2**	**43.5**
NPV	-47.4	-28.9	-20.1
Quantified BCR	**0.58**	**0.61**	**0.68**

6.5.25 The best case test, T3, produces the largest benefits but also the highest costs and hence the poorest BCR of 0.58. Reducing the service frequency to comprise only three trains reduces costs and benefits but does improve the NPV and BCR somewhat in T3f.

6.5.26 Displacing selected Northern Rail services in T3h further improves the BCR by reducing overall rail operating costs with only a modest corresponding reduction in benefits, but only to 0.68. Note however that this saving in operating cost would accrue to Northern Rail rather than ScotRail.

6.5.27 As such, none of these options in isolation represent good value for money.

6.5.28 Table 6.4 considers these services combined with changes to LDHS service timetables and stopping patterns.

Table 6.4 Edinburgh - Newcastle: TEE Analysis (semi-fast and LDHS)

TEE Analysis (£m)	T3: 4 trains	T3g: T3 50% LDHS stops	T3e: T3 no LDHS stops	T4: 5m LDHS JT saving only	T3g + T4: combined	T3g + T4*2: combined
Costs (Present Value)						
Investment Cost	0.0	0.0	0.0	0.0	0.0	0.0
Operating Cost	127.4	127.4	127.4	-	127.4	127.4
Revenue	-18.8	18.3	65.6	-38.2	-19.9	-58.1
Other Gov Impacts	5.1	-4.8	-17.4	10.8	5.9	16.7
Total costs	**113.8**	**140.9**	**175.6**	**-27.4**	**113.4**	**86.0**
Benefits (PV)						0.0
Rail users benefits	58.0	-45.8	-190.7	124.7	78.9	203.6
Non-users benefits	8.4	-7.4	-26.3	24.4	17.0	41.4
Total Quant. Benefits	**66.4**	**-53.1**	**-217.0**	**149.0**	**95.9**	**244.9**
NPV	-47.4	-194.0	-392.7	176.4	-17.5	158.9
Quantified BCR	**0.58**				**0.85**	**2.85**

6.5.29 Table 6.4 shows the interaction between the introduction of a semi-fast and reduced LDHS service stops at the intermediate stations for the 60 year appraisal. As before, T3 shows that the introduction of a four-train semi-fast in isolation produces a negative NPV and a BCR of 0.58. In Table 6.3, T3h showed that this BCR could be increased to 0.68 with fewer new trains and a displacement of selected Northern Rail services.

6.5.30 T3g shows how removing 50% of the LDHS service stops at Morpeth, Alnmouth, Berwick and Dunbar produces disbenefits and revenue losses along the route, meaning that the introduction of the semi-fast is not enough to compensate for the reduced level of LDHS service. T3e shows the case if all LDHS service stops were removed and this created a very substantial negative NPV from reduced revenues and traveller disbenefits. On the other hand, T4 suggests that a five minute LDHS service journey time reduction would produce substantial benefits with a NPV of £176m to longer distance travellers between Edinburgh and Newcastle. Combining T4 with T3g (ie running the semi-fast, reducing intermediate LDHS service stops by half and achieving a five minute LDHS service travel time reduction) produces an improved BCR of 0.85.

6.5.31 However, if the benefits associated with T4 are doubled (representing a 10 minute journey time reduction), this coupled with the semi-fast produces a positive BCR of 2.85.

6.5.32 This analysis therefore suggests that a semi-fast could provide good value for money overall, if its introduction leads to significant LDHS service time savings. This would represent 'winners' and 'losers' though with Northumberland and east Scotland losing out in some respects and longer distance travellers benefitting.

6.5.33 It should be noted that these LDHS service time savings are hypothetical. Even if reducing intermediate stops between Edinburgh and Newcastle could achieve time savings on this section, there is no guarantee that these time savings could be carried all the way down the line to London. Without a recast of timetabling all down the ECML, these time savings would be likely to be lost in terms of trains complying with existing time slots further down the line.

6.6 New Stations

6.6.1 It has been a long-running aspiration of many stakeholders in the East Lothian and eastern Borders / Berwickshire areas to see the re-opening of stations at East Linton and Reston, where passenger services were withdrawn in the 1960s and 1950s respectively. This section considers the factors which would influence the demand for travel from these stations and their potential to impact on the viability of the train services reported in the previous sections.

6.6.2 Construction costs for the two new stations were estimated in the 2004 Edinburgh to Berwick Local Rail Study. These costs have been updated in line with construction cost indices and used here, but must still be regarded as preliminary. There were a number of construction options in each case and the average has been used here. The 2004 value for East Linton is £3.05m and for Reston the estimate was £2.53m. These figures are subjected to appropriate optimism bias within the appraisal[6].

East Linton

6.6.3 East Linton is 24 miles by road from Edinburgh and the route from East Linton (the A1) is dual carriageway from Haddington to Edinburgh. The A1 is actually dual carriageway to Dunbar, but there is no access to this section from East Linton. Its nearest stations are Drem to the west (6.3 miles) for ScotRail services and Dunbar to the east (6.1 miles) where LDHS and ScotRail services can be accessed, as can be seen in Figure 6.11 below.

6.6.4 There are 68 spaces at Drem station car park and this is often insufficient to cater for all the demand for parking at that station, and there are similar constraints on parking supply at Dunbar where a charge is applied by East Coast for parking on station premises.

[6] A 'Stage 2' optimism bias of 50% has been applied.

Figure 6.11 Location of East Linton

6.6.5 East Linton has a fairly frequent (at least hourly) bus service to Edinburgh, with journeys scheduled to take one hour and 10 minutes to Edinburgh Haymarket in the peak hours. By contrast the train from Drem takes between 25 and 30 minutes to Edinburgh Waverley making train much the more attractive option.

6.6.6 The 2001 Census reported that the settlement of East Linton had a population of around 1,750 some 800 of whom were in employment. Recent estimates by GROS up to 2008 do not suggest any significant change in these figures. The current East Lothian local plan does not allocate any significant new development at East Linton.

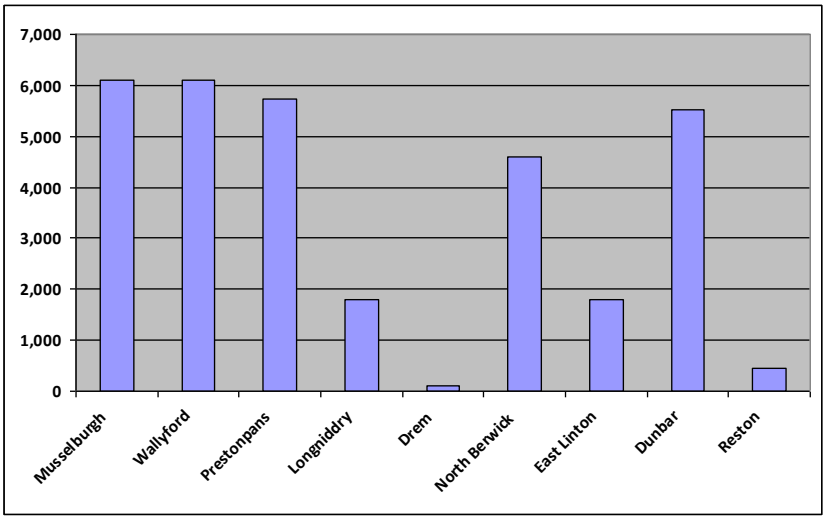
6.6.7 The 2001 Census found that 29% of employed adults resident in East Linton worked in Edinburgh (some 345 people) and of these 87% travelled to work by car. Overall, only 2% of all working adults in East Linton stated that they travelled by train to Edinburgh for employment. Survey evidence suggests that those who do travel via park and ride at Drem station.

6.6.8 The demand at individual railway stations in areas such as East Lothian is a combination of local 'walk in' demand and demand from car-based park and ride. The broad pattern of park and ride use in East Lothian was established from a set of passenger surveys undertaken at all station in East Lothian during 2003 as part of the SEStran Integrated Transport Corridor Study (SITCoS), so the travel behaviours here are relatively well known.

6.6.9 Looking at walk in catchment, Figure 6.12 below shows how East Linton compares to existing East Lothian stations and the other proposed new station site at Reston. It can be seen that East Linton has a similar level of walk in catchment to Longniddry but a much smaller catchment than most of the others and Musselburgh, Wallyford, Prestonpans Dunbar and

North Berwick have similar levels of (much higher) walk in catchments. Reston has a far smaller walk in catchment, although this is still larger than Drem.

Figure 6.12 Estimated Station Walk in Catchment (15 minutes walk)



6.6.10 Table 6.4 below considers all GROS-defined settlements in East Lothian in order of distance from Edinburgh, and shows a number of aspects of travel from these settlements. These settlements account for 90% of East Lothian's total population. In particular it shows the stations typically used by residents of each settlement (including East Linton if this were to be open).

6.6.11 A number of key messages are then highlighted below.

Table 6.5 The Public Transport / Rail Market in East Lothian

Locality	Distance from Edin. (miles)	2008 Population Estimate	Works in Edin (%)	PT Mode Share to Edinburgh (%)	Bus Mode Share to Edinburgh (%)	Train Mode Share to Edinburgh (%)	Stations Used if East Linton was re-opened
Musselburgh	6	22,380	54	39	32	7	Musselburgh
Prestonpans	9	7,910	43	42	38	4	Prestonpans
Whitecraig	9	1,600	39	33	29	4	Musselburgh
Tranent	11	10,440	43	28	26	2	P'pans / Newcraighall
Elphinstone	12	560	36	16	13	3	Newcraighall
Cockenzie	13	5,610	49	31	27	4	Prestonpans
Longniddry	13	2,450	49	21	8	13	Longniddry
Macmerry	13	1,280	34	35	33	2	Prestonpans
Ormiston	14	2,020	37	29	28	1	P'pans / Newcraighall
Pencaitland	15	1,470	45	16	5	11	Wallyford / P'pans

Locality	Distance from Edin. (miles)	2008 Population Estimate	Works in Edin (%)	PT Mode Share to Edinburgh (%)	Bus Mode Share to Edinburgh (%)	Train Mode Share to Edinburgh (%)	Stations Used if East Linton was re-opened
Aberlady	15	1,120	35	23	13	10	Longniddry
Haddington	17	8,850	27	21	18	3	L'niddry / N'hall
Gullane	20	2,450	34	12	7	5	Drem / Longniddry
Gifford	22	840	18	5	5	0	Wallyford
North Berwick	23	6,530	31	31	5	26	North Berwick
East Linton	24	1,700	27	14	7	7	East Linton
West Barns	28	660	24	21	5	16	Dunbar
Dunbar	30	7,960	17	37	8	29	Dunbar

6.6.12 A number of points emerge from this:

- as distance from Edinburgh increases, the proportion working in Edinburgh reduces consistently;
- the mode share of public transport reduces sharply with distance from Edinburgh, rebounding at North Berwick and Dunbar with the presence of stations;
- as distance from Edinburgh increases, the mode share of train increases dramatically compared to bus, ie bus is not attractive for longer distance commuting; and
- East Linton station would not be likely to be used by residents of any other settlement defined here, as they all have closer options from existing stations.

6.6.13 So for Edinburgh-bound travel, East Linton would not become the closest station for any of the settlements named above, although people from West Barns may use East Linton in preference to doubling back to Dunbar, depending on the services available and the availability of parking. There would be a reasonable rural hinterland however, covering a dispersed number of hamlets south of the A1 in particular.

6.6.14 The main impact of opening East Linton station would be likely to be an uplift in public transport modal share in line with other settlements in the area with a station, together with some transfer of demand from Drem station, used by current East Linton based rail travellers.

6.6.15 The approach taken to estimating demand for travel from East Linton station is based on benchmarking against other East Lothian stations. The Census Travel to Work data was used together with a number of parameters and local growth in rail patronage since 2001, to reproduce the total demand for rail travel from East Lothian as follows:

- total travel to work by train to Edinburgh * proportion commuting in a given day * factor for other purposes[7] * factor for other rail destinations * annualisation * returns; gives;
- 1,101,300 per annum (station entries and exits); and
- Office of the Rail Regulator (ORR) 2002 East Lothian stations total entries and exits = 1,090,300.

6.6.16 It can be seen that this formulation provides a good fit to the 2002 data. This means that if a good approximation of travel to work can be made for a given station, these factors can be applied to estimate its total daily and annual figures.

6.6.17 This approach was used to estimate the demand from East Linton was therefore as follows:

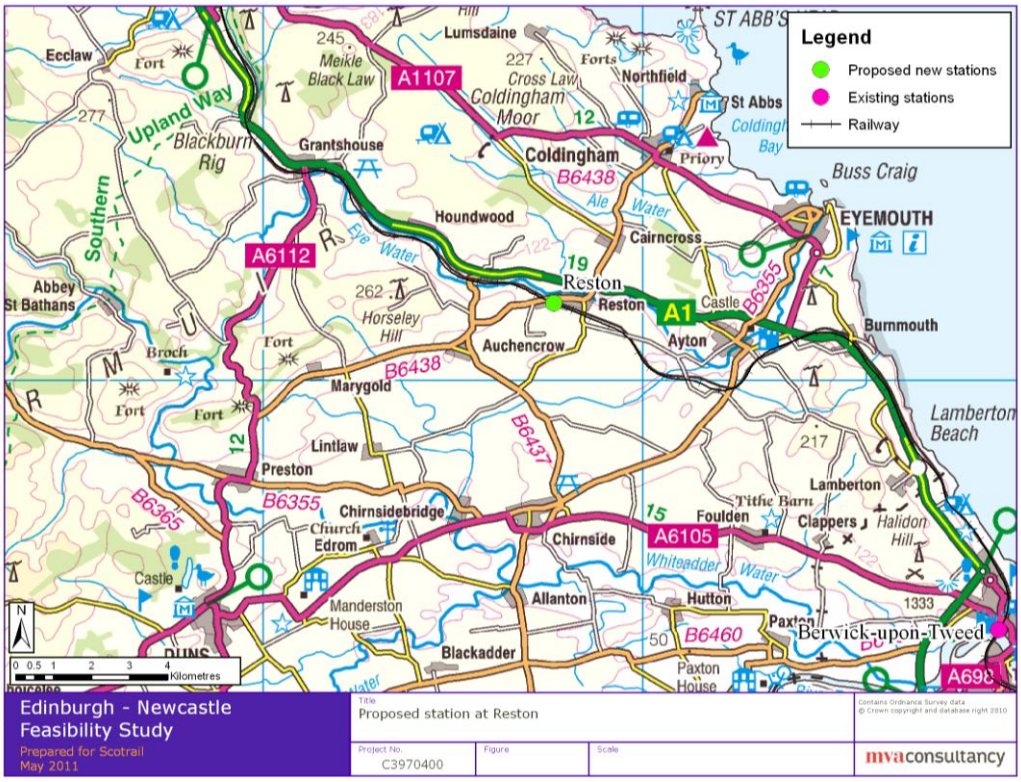
- in 2001, 345 East Linton residents worked in Edinburgh, 27 of whom travelled by train (8%);
- the average rail mode share for commuting to Edinburgh from the neighbouring stations at North Berwick, Dunbar and Longniddry was 23%;
- its therefore reasonable to assume that a station at East Linton would increase the proportion of rail commuting to Edinburgh from 8% to 23% - that's 80 commuters;
- factoring for the rural hinterland, the level of commuting on a typical day, other travel purposes and other Scottish rail destinations takes the figure to 142 boardings per weekday;
- this figure is growthed up to 2010 in line with observed growth in rail travel from similar East Lothian stations taking the figure to 197 boardings per weekday;
- annualising this figure and accounting for return trips gives the total of **126,000** station entries / exits per annum at East Linton – a figure midway between observed data for Drem and Longniddry stations;
- based on an analysis of existing commuting proportions, around 20% of this demand would however be abstracted from other stations, mainly Drem, (ie these people are already travelling by train), giving a **net gain** of **102,000** passenger journeys; and
- these figures are based on benchmarking against the current level of train service in East Lothian – elasticity based adjustments have been made to reflect different service frequencies (ie higher frequencies) where appropriate.

[7] Derived from National Rail Survey data

Reston

6.6.18 Reston is 10 miles by road from Berwick-upon-Tweed (its nearest station), 18 miles from Dunbar, and 47 miles from Edinburgh. A high proportion of the A1 in this area is of single carriageway standard, albeit one that does not suffer from significant congestion until very near Edinburgh. The location is shown in Figure 6.13 below.

Figure 6.13 Location of Reston



6.6.19 Reston itself is very small with a population of around 335 (2001 Census). GROS does not produce mid-2008 population estimates for Reston as it is too small, but there has been modest growth there since 2001. The current Scottish Borders Consolidated Local Plan (2011) has an allocation for a further 36 housing units at Reston[8], although it is understood that there are local aspirations for further development there, and the Local Plan does note two sites for longer term development, in connection with any new station.

6.6.20 As such Reston would have a very low 'walk in' catchment as demonstrated previously and station patronage would depend to a large extent on drive in park and ride. In terms of the settlements defined by GROS, the potential drive in 'catchment' for Reston could include Ayton, Chirnside, Coldingham, Duns and Eyemouth, and around 8,700 people live in these settlements. The Local Plan has provision for around a further 1,100 homes in these settlements.

6.6.21 In addition there would be a number of others living in smaller villages and hamlets not classified as 'settlements' by GROS including Burnmouth, Hutton, Grantshouse, Preston and St Abbs and these villages account for around a further 750 people.

[8] http://www.scotborders.gov.uk/pdf/35805.pdf

6.6.22 The A698 provides a good standard route between Coldstream (and indeed Kelso) and Berwick, so it assumed that residents of these towns would continue to use Berwick to access the rail network, although parking charges and availability issues in Berwick could still make Reston a viable choice for some. Reston is around 18 miles from Coldstream and the route is entirely on 'B' class and unclassified roads making this a relatively slow journey.

6.6.23 Taking the six settlements of Ayton, Chirnside, Coldingham, Coldstream, Duns and Eyemouth together, the census identified 78 people living in these areas and working in Edinburgh. Of these, 15 were reported as travelling to work by train, presumably either from Dunbar or Berwick. Nobody from the six settlements reported commuting to Edinburgh by bus so the other 63 (over 80%) reported car as their main mode of travel to Edinburgh.

6.6.24 Travel times by bus from Reston to Edinburgh are currently around one hour and forty minutes, against which the proposed 50 minute train journey would be a significant improvement. There are currently six buses per day northbound and six southbound from Reston to Edinburgh, operated by Perrymans Buses. These buses also call at Burnmouth, Eyemouth and Coldingham. The first bus provides an early arrival into Edinburgh (0845) but the last bus leaves Edinburgh for Reston at 1510 making a working day in Edinburgh impossible. However even if the bus service was extended to span the working day more effectively, the journey time for the bus compared to rail would be unattractive for regular commuters.

6.6.25 However it is possible to drive to Dunbar from Reston in around 26 minutes and pick up a LDHS service with a journey time of around 25-30 minutes (assuming parking availability). Even allowing for a transfer at Dunbar, the total journey time would be around one hour and five minutes, so in this case the differential between a new station at Reston and rail travel from Dunbar is much less.

6.6.26 All of these settlements in the Reston area therefore have a **very low proportion of residents who work in Edinburgh** with all seeing less than 3% of their resident working population employed within the City of Edinburgh Council area. This suggests a very low core commuter market, and reflects the time and costs associated with regular travel to Edinburgh from this area.

6.6.27 In terms of accessing the rail network at present, the residents of these settlements have to drive to Berwick-upon-Tweed (or Dunbar) or get a bus to Berwick-upon-Tweed. The settlements have a similar level of service in terms of bus links to Berwick:

- Ayton: 8 direct buses per day to Berwick, last return bus 1730;
- Eyemouth: at least hourly buses to Berwick, last return bus 2200;
- Coldingham: at least hourly buses to Berwick, last return bus 2200;
- Chirnside: approximately hourly buses to Berwick, last return bus 2022; and
- Duns: approximately hourly buses to Berwick, last return bus 2022.

6.6.28 National Rail Enquiries report that there are 150 parking spaces at Berwick station car park which is operated by the local council. The maximum charge is £3.50 for more than three hours. There are, however issues with parking availability at this station car park with parking often spilling over into neighbouring streets. This lack of capacity impacts on the communities' reliability of access to the rail network. Any change in parking supply at

Berwick-upon-Tweed would materially impact this though, and also therefore the potential attractiveness of Reston as a station. Indeed, Northumberland County Council commissioned a report from Network Rail which looked at the potential for car parking on the northern side of the platform. This has been an aspiration for several years but has not been progressed to date, primarily due to funding issues. The road distances to Berwick and Reston for the five communities are shown in Table 6.6 below.

Table 6.6 Settlements potentially affected by Reston Station

	Distance to Berwick (miles)	Distance to Reston (miles)	'benefit' (miles)
Ayton	9.0	3.0	6.0
Chirnside	9.5	5.0	4.5
Coldingham	11.5	3.0	8.5
Duns	16.0	10.0	6.0
Eyemouth	9.0	5.5	3.5

6.6.29 Residents of all these settlements would therefore have significantly shorter car journeys to access the rail network if a new station were in place at Reston.

6.6.30 However, residents of these settlements would only benefit if:

- the total journey time / cost / frequency to Edinburgh from Reston was more attractive than travelling via Berwick;
- ie the journey time offered by LDHS trains to Edinburgh (currently around 48-55 minutes with a maximum of one stop) may still be quicker than on a 'local' service from Reston (with a potential maximum of seven station stops);
- even though Reston is a shorter drive; and
- Reston would have free parking.

6.6.31 In addition, those travelling to destinations south of Berwick would probably still use Berwick-upon-Tweed to access LDHS services rather than parking at Reston and interchanging at Berwick.

6.6.32 The ONS report that the population of Berwick-upon-Tweed district is around 26,000, with the town itself having a population of 11,600. Berwick would also be the closest station for residents of Coldstream (2,000) and Kelso (5,500). It is conceivable that demand at Berwick station is being constrained by lack of parking there. As such Reston could prove an alternative, given the potentially unconstrained and free parking, particularly for those from the north of Berwick travelling north.

6.6.33 The potential patronage at Reston has been estimated as follows:

- in 2001, 78 residents of Ayton, Chirnside, Coldingham, Coldstream, Duns and Eyemouth worked in Edinburgh, 15 of whom travelled by train (ie a 19% rail mode share for travel to Edinburgh);

- as a best case, it could be assumed that the rail mode share of travel from this area to Edinburgh could rise to 30%, the same as Dunbar[9];
- its therefore reasonable to assume that a station at Reston would increase the rail mode share of existing commuting from this area to Edinburgh from 19% to 30% - that's 23 commuters;
- factored for the rural hinterland, the level of commuting on a typical day, other travel purposes and other Scottish rail destinations takes the figure to 59 boardings per weekday (2001);
- this figure is growthed up to 2010 in line with observed growth in rail travel from across Scotland taking the figure to 79 boardings per weekday;
- but the station would provide genuinely new travel opportunities to Edinburgh for the local community meaning additional journeys are likely to take place and an uplift factor of 20% has been applied to account for this taking the total to 95[10];
- annualising this figure and accounting for return trips gives the total of around **61,000** station entries / exits per annum;
- based on an analysis of existing commuting proportions, around 21% of this demand would however be abstracted from other stations, mainly Dunbar and Berwick, (ie these people are already travelling by train), giving a **net gain** of **48,000** passenger journeys and benefits and revenue figures should be adjusted accordingly; and
- note that benefits accruing to those travelling form Reston to Berwick have not been included as these are likely to be very small given the size of the walk in catchment at Reston.

6.7 Impact of New Stations on Services

6.7.1 This section considers the benefits and costs associated with the re-opening of the stations in conjunction with the new train services. East Linton station stops could form part of a Dunbar or Berwick service. It would seem less likely to form part of an Edinburgh - Newcastle semi-fast service. Reston would form part of an Edinburgh - Berwick service and again would be less likely to be part of an Edinburgh - Newcastle semi-fast.

6.7.2 It has been assumed here that any new station stops at East Linton and Reston can be accounted for within the new timetables developed in RailSys, ie there is no loss of time to 'existing' end to end travellers. This is an important assumption as it means that the only costs associated with the stations are the construction costs, ie train operation costs and existing user benefits are unaffected. As such, as long as the additional benefits and revenue from the new stations outweigh the construction costs (over a 60 year period) the addition of new stations will improve the business case.

6.7.3 Any extension of the end to end core service journey times (as assessed in Section 5.6) as a result of the additional station stop(s) would lead to a reduction in benefits to those passengers however, and have a negative impact on the business case.

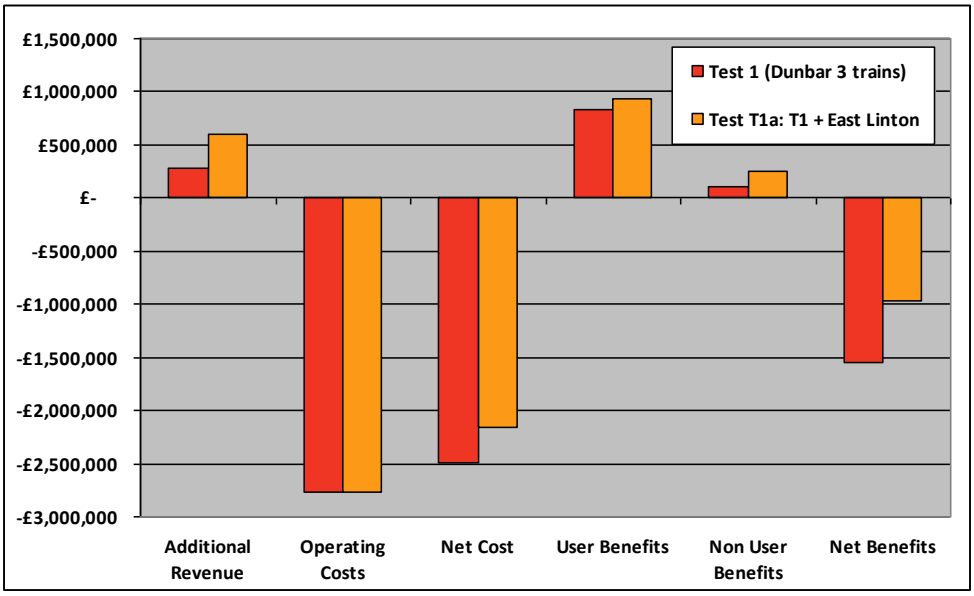
[9] Note that this value is higher than that used at East Linton, reflecting the greater distance to Edinburgh where bus is less competitive.

[10] http://www.konsult.leeds.ac.uk/private/level2/instruments/instrument004/l2_004b.htm#b

Dunbar Services

6.7.4 The impact of adding a station at East Linton to the new Dunbar service (T1) is considered here. Figure 6.14 below shows the impact on single year revenues and benefits.

Figure 6.14 Impact of Opening East Linton Station on Dunbar Service



6.7.5 The re-opening of East Linton (comparing T1a with T1) sees a small rise in overall user benefits and a larger rise in total revenues. This means that annual net costs and disbenefits are improved (ie less negative). The additional user benefits associated with East Linton are around an initial £108k per annum. Note that as discussed above, any increase in journey time to Dunbar passengers as a result of the extra station stop at East Linton would create disbenefits to Dunbar passengers. Each additional minute for Dunbar passengers would result in disbenefits of around £26k, so a two minute journey time increase would cancel out around 50% of the East Linton user benefits. These figures do not take account of construction costs however. These are accounted for in the 60 year appraisal in Table 6.6 below. This reproduces the results for T1 and T1a, and shows the incremental impact of East Linton.

Table 6.7 Edinburgh - Dunbar (East Linton): TEE Analysis

TEE Analysis (£m)	T1 (3 trains)	T1a (T1 + East Linton)	East Linton Impact
Costs (Present Value)			
Investment Cost	0.0	3.9	3.9
Operating Cost	54.5	54.5	0.0
Revenue	-10.5	-22.5	-12.0
Other Gov Impacts	2.7	5.9	3.3
Total costs	**46.7**	**41.9**	**-4.8**
Benefits (Present Value)			
Rail users benefits	36.5	41.3	4.8
Non-users benefits	4.6	11.3	6.6
Total Quantified Benefits	**41.1**	**52.6**	**11.4**
NPV	**-5.6**	**10.7**	**-**
Quantified BCR	**0.88**	**1.26**	

6.7.6 This analysis therefore suggests that an Edinburgh - Dunbar stopping service which includes a new station stop at East Linton could return a positive NPV and BCR. The key caveats underlying this are:

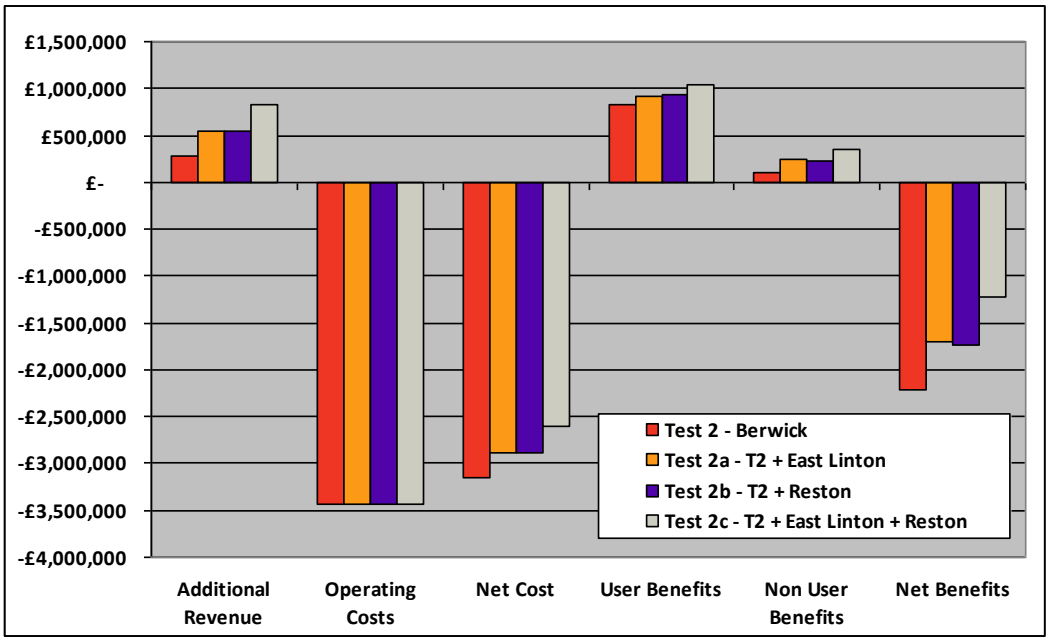
- sufficient parking is available at East Lothian stations to cater for this additional demand;
- LDHS service calls at Dunbar are retained; the reduction or removal of stops would result in net disbenefits and a negative BCR given the reduced frequency and longer journey times; and
- the addition of East Linton does not generally bring about delays for 'existing' Dunbar passengers: note that the RailSys work undertaken broadly supports this assumption.

6.7.7 The benefits associated with East Linton are based on a similar level of service / frequency to existing East Lothian stations (ie around 18 trains per day each way). Test 1 would provide broadly this level of service. If the Dunbar service was run with only two train sets (ie T1b), the benefits associated with East Linton would be proportionately lower, reflecting the lower service frequency. However, sensitivity tests have suggested that this formulation still returns a similarly positive BCR, ie 'T1b + East Linton' is positive.

Berwick-upon-Tweed Services

6.7.8 The impact of adding East Linton and / or Reston to the new Berwick service is considered here. Figure 6.15 below shows the impact on single year revenues and benefits.

Figure 6.15 Impact of Opening East Linton & Reston stations on Berwick Services



6.7.9 The additional revenue and user benefits generated by the two new stations are significant but do not eliminate the net costs and disbenefits associated with T2. In purely financial terms, these services would require an initial annual subsidy of between £2.5m and £3.5m, although the additional stations do have the impact of reducing subsidy. This excludes construction costs.

6.7.10 Any additional journey time associated with the introduction of a Reston stop to a Berwick service (ie T2) would not have a material detrimental impact on existing passengers as very few would be travelling to / from Berwick. However, an East Linton stop would have a material impact on Dunbar passengers if journey times were increased as a result. As noted above, every additional minute would create a disbenefit of around £26k, to set against the benefits derived.

6.7.11 The picture for the 60 year appraisal is shown in Tables 6.8, 6.9 and 6.10 below for East Linton, Reston and East Linton / Reston combined respectively.

Table 6.8 Edinburgh - Berwick (East Linton): TEE Analysis

TEE Analysis (£m)	T2 (3 trains)	T2a (T2 + East Linton)	East Linton Impact
Costs (Present Value)			
Investment Cost	0.0	3.9	3.9
Operating Cost	67.8	67.8	0.0
Revenue	-10.6	-21.6	-11.0
Other Gov Impacts	2.7	5.7	3.0
Total costs	**59.9**	**55.8**	**-4.1**
Benefits (Present Value)			
Rail users benefits	36.2	40.6	4.4
Non-users benefits	4.8	10.9	6.1
Total Quantified Benefits	**41.0**	**51.5**	**10.5**
NPV	**-18.9**	**-4.3**	**-**
Quantified BCR	**0.68**	**0.92**	

6.7.12 It has already been shown in test T2 that the costs of providing additional Edinburgh - Berwick services greatly outweigh the benefits from providing these services. A new station at East Linton would considerably improve the business case for additional Edinburgh - Berwick services but would be insufficient, on its own, to generate a positive business case for these enhanced local services.

Table 6.9 Edinburgh - Berwick (Reston): TEE Analysis

TEE Analysis (£m)	T2 (3 trains)	T2b (T2 + Reston)	Reston Impact
Costs (Present Value)			
Investment Cost	0.0	3.3	3.3
Operating Cost	67.8	67.8	0.0
Revenue	-10.6	-20.2	-9.7
Other Gov Impacts	2.7	5.3	2.6
Total costs	**59.9**	**56.1**	**-3.8**
Benefits (Present Value)			
Rail users benefits	36.2	41.1	4.8
Non-users benefits	4.8	10.1	5.3
Total Quantified Benefits	**41.0**	**51.2**	**10.2**
NPV	**-18.9**	**-4.9**	**-**
Quantified BCR	**0.68**	**0.91**	

6.7.13 As with East Linton, the addition of Reston to the Berwick service improves the business case but is not enough to produce a positive BCR. This level of benefit is greater here for each rail user despite the lower level of patronage, given the step change in service provision at Reston compared to the more modest, incremental impact at East Linton.

Table 6.10 Edinburgh - Berwick (East Linton & Reston): TEE Analysis

TEE Analysis (£m)	T2 (3 trains)	T2c (T2 + East Linton + Reston)	East Linton & Reston Impact
Costs (Present Value)			
Investment Cost	0.0	7.2	7.2
Operating Cost	67.8	67.8	0.0
Revenue	-10.6	-28.7	-18.1
Other Gov Impacts	2.7	7.6	4.9
Total costs	**59.9**	**53.9**	**-6.0**
Benefits (Present Value)			
Rail users benefits	36.2	44.4	8.1
Non-users benefits	4.8	14.8	10.0
Total Quantified Benefits	**41.0**	**59.2**	**18.2**
NPV	**-18.9**	**5.3**	**-**
Quantified BCR	**0.68**	**1.10**	

6.7.14 The addition of the two new stations to the Berwick service has the effect of producing a small positive NPV and a BCR of just over one. Note that the increased revenues from the two new stations reduce the total costs of this option compared to T2a and T2b.

6.7.15 Overall, this is therefore a finely balanced proposal which would be sensitive to any changes in the underlying assumptions.

6.7.16 As previously stated, any diminution of the LDHS station stops at Dunbar (or Berwick) would lead to disbenefits which, taken together with the above could turn the NPV negative, depending on the balance of benefits to LDHS passengers and disbenefits to local passengers.

6.7.17 East Linton or Reston could conceivably be added to any Edinburgh - Newcastle semi-fast service but this would not seem to be in keeping with the nature of a semi-fast service. In any case, sensitivity testing has shown that adding the benefits associated with East Linton and Reston to an Edinburgh - Newcastle service is not sufficient to produce an overall positive NPV for the whole service, given the large negative NPV to be overcome, so this option can be discounted.

6.8 Summary

6.8.1 Table 6.11 overleaf provides a summary of the main TEE findings.

Table 6.11 Summary of TEE findings

	Dunbar			Berwick-upon-Tweed							Newcastle			LDHS	
TEE Analysis (£m)	**T1: Dunbar**	**T1b: T1 (2 trains)**	**T1a: T1 + East Linton**	**T2: Berwick**	**T2f: T2 (2 trains)**	**T2d: T2 fewer stops**	**T2e: T2d faster JTs**	**T2a: T2 + East Linton**	**T2b: T2 +Reston**	**T2c: T2 +East Linton + Reston**	**T3 Newcastle (4 trains)**	**T3f: T3 (3 trains)**	**T3g: T3 50% LDHS removed**	**T4 LDHS 5 minutes faster**	**T3g+T4 Composite**
60 year appraisal	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**	
Costs (Present Value)															
Investment Cost	0.0	*0.0*	3.9	0.0	*0.0*	0.0	0.0	3.9	3.3	7.2	0.0	*0.0*	0.0	0.0	0.0
Operating Cost	54.5	*35.9*	54.5	67.8	*42.7*	67.8	67.8	67.8	67.8	67.8	127.4	*83.8*	127.4	0.0	127.4
Revenue	-10.5	*-6.9*	-22.5	-10.6	*-6.3*	-7.3	-7.9	-21.6	-20.2	-28.7	-18.8	*-13.4*	18.3	-38.2	-19.9
Other Gov Impacts	2.7	*1.8*	5.9	2.7	*1.6*	1.9	2.1	5.7	5.3	7.6	5.1	*3.7*	-4.8	10.8	5.9
Total costs	**46.7**	***30.8***	**41.9**	**59.9**	***38.1***	**62.4**	**61.9**	**55.8**	**56.1**	**53.9**	**113.8**	***74.1***	**140.9**	**-27.4**	**113.4**
Benefits (Present Value)															
Rail users benefits	36.5	*24.3*	41.3	36.2	*22.1*	25.1	26.7	40.6	41.1	44.4	58.0	*39.0*	-45.8	124.7	78.9
Non-users benefits	4.6	*3.0*	11.3	4.8	*2.9*	3.4	4.0	10.9	10.1	14.8	8.4	*6.2*	-7.4	24.4	17.0
Total Quantified Benefits	**41.1**	***27.3***	**52.6**	**41.0**	***25.0***	**28.5**	**30.7**	**51.5**	**51.2**	**59.2**	**66.4**	***45.2***	**-53.1**	**149.0**	**95.9**
NPV	**-5.6**	***-3.5***	**10.7**	**-18.9**	***-13.1***	**-33.9**	**-31.3**	**-4.3**	**-4.9**	**5.3**	**-47.4**	***-28.9***	**-194.0**	**176.4**	**-17.5**
Quantified BCR	**0.88**	***0.89***	**1.26**	**0.68**	***0.66***	**0.46**	**0.49**	**0.92**	**0.91**	**1.10**	**0.58**	***0.61***	**-0.38**		**0.85**

6.9 Sensitivity Testing

6.9.1 The results summarised in Table 6.11 above are largely based on a common set of assumptions to those used in the previous RUS modelling, for the purposes of consistency with the previous analysis. There are perhaps two main aspects where alternative assumptions could substantively affect the findings though and these are explored below.

Decongestion Benefits

6.9.2 In the absence of a detailed transport model, car travel assumed to be removed from the road as a result of the improved rail services (ie through modal shift) attracts a pence / mile benefit, and this appears as a 'non-user benefit' in the above TEE analysis. Decongestion benefits make up over 80% of these non-user benefits. The level of decongestion benefit depends on the nature of the roads which are being relieved, ie removing traffic from highly congested areas creates a higher benefit per vehicle mile than removing traffic from uncongested areas.

6.9.3 The RUS analysis used a 'weighted average' value which reflects all road types. However, the rail schemes proposed here would affect relatively uncongested areas with the exception of the approaches to Edinburgh and Edinburgh itself.

6.9.4 A sensitivity test has been undertaken for the Dunbar and Berwick-upon-Tweed service based on a more representative estimate of decongestion benefits which better reflects the road types affected.

Train Revenues

6.9.5 The RUS analysis implicitly assumed that the additional rail revenue seen as a result of the rail proposals was entirely 'additional' to public transport. In reality it is likely that a proportion of this additional rail revenue would be the result of a switch from bus use and hence lead to a reduction in bus revenue. This means that only a proportion of the new rail revenue should be counted as additional public transport in terms of the TEE analysis.

6.9.6 In practice, this transfer can be large, but for the purposes of this sensitivity test, we have made a conservative assumption that 50% of the rail revenue is new and 50% is a transfer from bus, and hence a loss of revenue to the bus operators and not a net gain to public transport. Note that although commuting levels by bus from the Reston area have been shown to be low, there will be a quantum of bus travel for other purposes from this area (to Edinburgh and other destinations) which could switch to the train resulting in a significant switch of revenue from bus to train.

6.9.7 Table 6.12 below shows the impact of these sensitivity tests on the previous tests which returned a positive NPV, ie tests T1a (Dunbar & East Linton) and T2c (Berwick plus East Linton & Reston).

Table 6.12 Summary of Key Sensitivity Tests

	Dunbar		Berwick-upon-Tweed	
TEE Analysis (£m)	**T1a: Dunbar & East Linton**	**T1a: Sensitivity**	**T2c: Berwick & East Linton & Reston**	**T2c: Sensitivity**
60 year appraisal	**£m**	**£m**	**£m**	**£m**
Costs (Present Value)				
Investment Cost	3.9	3.9	7.2	7.2
Operating Cost	54.5	54.5	67.8	67.8
Revenue	-22.5	-11.3	-28.7	-14.3
Other Gov Impacts	5.9	5.9	7.6	8.3
Total costs	**41.9**	**53.1**	**53.9**	**68.9**
Benefits (Present Value)				
Rail users benefits	41.3	41.3	44.4	45.5
Non-users benefits	11.3	6.7	14.8	8.0
Total Quantified Benefits	**52.6**	**48.0**	**59.2**	**53.5**
NPV	10.7	-5.1	5.3	-15.4
Quantified BCR	**1.26**	**0.90**	**1.10**	**0.78**

6.9.8 Table 6.12 therefore shows that the adjustments to the calculation of decongestion benefits and net additional public transport revenues has the effect of turning the positive NPVs into negative NPVs and hence BCR values of less than one, with revenue and non-user benefits reduced accordingly.

6.9.9 This shows how sensitive the outcome is to the assumptions used, and therefore how marginal the case is from this perspective. Applying these 'downside' sensitivity parameters to any of the other tests would produce similar outcomes, ie a diminution of the BCR.

6.9.10 The cost associated with the 60 year maintenance of the new stations has also not been included in the analysis. Although modest in this context, its inclusion would give a further downside to the numbers.

6.10 Other aspects of STAG

6.10.1 The above analysis has focussed on the quantified financial and social cost benefit analysis. These are the key elements of the 'Economy' criteria of STAG. The other four key areas are accessibility and social inclusion, environment, integration and safety. The preceding analysis has quantified the impacts of the schemes on some aspects of these, in the main related to the benefits associated with modal shift from road to rail. In particular, this includes the quantification of:

- decongestion benefits;
- reductions in carbon emissions; and

- the reductions in accidents due to reduced traffic volumes.

6.10.2 New rail services and the opening of new railway stations make positive contributions to many of the Government's objectives, as encapsulated in STAG, as all of the new service options analysed above would have the effect of improving rail services and hence public transport accessibility. However, it is the balance of the cost of providing these services versus the scope of the benefits which decision makers ultimately have to balance.

Accessibility & Social Inclusion

6.10.3 The greatest impacts here would be in the localities affected by the proposed new railway stations. East Linton lies in an area where there are already good rail services. This means that the scope of these benefits would not extend significantly beyond East Linton. East Linton is a relatively prosperous community with low levels of unemployment and high levels of professional occupations compared to the national average. As such there is not a strong rationale for East Linton station from the perspective of social-inclusion relative to other communities.

6.10.4 On the other hand, the incremental impact of re-opening Reston would be much greater. The consultation identified local concerns regarding the long term future of the east Berwickshire area. In particular, the presence of a station is felt locally to be an important factor in allowing younger people to remain resident in the area. More generally, the new station is also seen locally as an important issue for the future sustainability and economic development of the area. The new station would open up opportunities to access employment in Edinburgh, albeit we have seen that the sheer distance from Edinburgh means that low proportions of the local population are likely to take up these opportunities. Unemployment levels in some of the areas potentially affected by a new station at Reston are higher than the national average. As such there is a stronger case in terms of social inclusion for a new station at Reston.

6.10.5 There is no doubt that a new station at Reston would provide a step-change in accessibility for residents of the local settlements of Ayton, Chirnside, Coldingham, Duns and Eyemouth as well as the smaller villages in the area and Reston itself. However, aside from Reston, this access would be via park and ride unless there is an equivalent step-change in the quality of local bus services and their connectivity to local settlements. If the bus services do not provide good access to Reston, then easy access to the station would be limited to those with access to a car, which is poor from a social inclusion perspective. Indeed the regular use of park and ride often means that households are often required to own than one car in rural areas such as east Berwickshire.

6.10.6 By many socio-economic measures, the areas affected by these proposals do not suffer from significant deprivation. None of these areas are defined as 'deprived' by the Scottish Indices of Multiple Deprivation (SIMD). There may however be issues associated with an aging population in the Reston area.

Integration

6.10.7 In terms of policy integration, the proposals considered in this study are clearly aligned to the land use planning and transport strategies. As noted above, investment in rail clearly meets many of the policy objectives associated with transport. For example, the Government Economic Strategy, under the Infrastructure, Development and Place heading

states that a key strategic approach and policy includes: '*providing sustainable, integrated and cost effective public transport alternatives to the private car, connecting people, places and work, across Scotland*.'

6.10.8 The re-opening of Reston station would provide opportunities for local bus services to be amended to provide links to the station. This increased connectivity would need to be maximised if the full potential of the new station were to be realised.

Environment

6.10.9 As noted above, new rail services and infrastructure generally have a positive impact from an environmental perspective provided that there is sufficient modal shift from road to rail to reduce overall emissions.

6.10.10 This study has not considered any further the local environmental impacts associated with construction of the new stations. The previous studies did not however identify any environmental 'showstoppers' so it is assumed here that there are no significant environmental issues associated with the construction activity.

6.10.11 It should be noted that the construction of new stations would give rise to issues with embedded carbon though. STAG notes a value of 100 tonnes of embedded carbon per 'standard station structure'[11].

Safety

6.10.12 The only relevant safety issues are the reduction in road accidents brought about by reduced traffic levels. These have been accounted for in the quantified analysis.

[11] http://www.transportscotland.gov.uk/stag/td/Part2/Environment/7.4.2.7

7 Summary

7.1 Introduction

7.1.1 This study has looked at the operational, financial (including revenues and costs) and socio-economic aspects of the introduction of enhanced rail services between Edinburgh and Newcastle. Importantly, the RailSys work has demonstrated the availability of paths on the network which could form the basis for new rail services in the area.

7.1.2 The introduction of new rail services and stations is generally in line with Scottish and UK Government policies in terms of economic, social and environmental objectives, provided they demonstrate value for money, while a balance with the needs of existing passengers must also be considered. It is this balance between costs, benefits to new passengers and costs / benefits to existing passengers which is the key issue here.

7.2 Dunbar Services

7.2.1 Dunbar is currently in a near-unique position in that it is a relatively small (but growing) town served by both LDHS and local services. There is also a local desire to improve the latter whilst retaining the former, with particular reference to the remaining 'gaps' in the timetable.

7.2.2 The analysis here suggests that the additional of a new Dunbar specific service produces a BCR of less than 1.0, even when calling at all intermediate services in East Lothian. However, the addition of a new station at East Linton creates a marginally positive case. The construction of a new station at East Linton would result in an increased level of rail commuting from the settlement but some abstraction from Drem.

7.3 Berwick Services

7.3.1 As with Dunbar, the business case for a local Edinburgh - Berwick service is weak, indeed weaker than Dunbar. The local train travel times from Berwick to Edinburgh cannot compete with LDHS services so there are few benefits in taking the trains beyond Dunbar.

7.3.2 However, the addition of East Linton and Reston in combination to Berwick services does produce a small positive NPV. However this small positive NPV is very sensitive to the assumptions used and simple sensitivity tests surrounding these assumptions resulted in the NPV becoming negative. The addition of only one station is not sufficient to create a positive case.

7.3.3 Berwick services would provide the added benefit of increased connectivity from East Lothian to the south, ie LDHS services could be joined at Berwick rather than having to double back to Edinburgh or use Dunbar. This would also apply if Dunbar LDHS stops were scaled back.

7.4 Newcastle Services

7.4.1 The business case for an Edinburgh - Newcastle semi-fast service is the weakest of the three. The additional benefits and revenue are not sufficient to outweigh the operating costs of the service. The displacement of selected Northern Rail services would not create a sufficient cost saving to materially affect the case and would lead to a reduction in the level of service at Cramlington in particular.

7.4.2 In the longer term, there is scope to create a positive overall impact if a semi-fast service was introduced in conjunction with far fewer, or no LDHS service calls between Edinburgh and Newcastle (improving journey times for these services), although any option along these lines would face local public acceptability issues.

Appendix A – Consultation Responses

1 Introduction

1.1 This Appendix documents the main responses received from the consultation exercise. The Appendix is divided into three sections:

- Responses from stakeholders;
- Responses from individuals;
- Emerging common themes.

1.2 Individuals have not been named in association with comments to preserve anonymity.

2 Stakeholder Responses

2.1 As part of the consultation main stakeholders were advised of the study and given the opportunity to provide input to the stage of generating options for enhanced train services in the corridor. Representatives from the following organisations were invited to comment:

Table A1 Stakeholders invited to comment

Department for Transport	Nexus	One NorthEast Regional Tourism Team
Office of Rail Regulation	Government Office for the North East	Lothian NHS Board
Scottish Borders Council	Visit Scotland	North East Strategic Health Authority
Scottish Enterprise	One North East	Community Action Northumberland
North East Chambers of Commerce	Northern Rail	Adapt North East
Edinburgh Chamber of Commerce	Newcastle City Council	Scotland National Rural Network website
CBI Scotland	Track Access Manager	SUSTRANS Scotland
CBI North East	Rail Freight Group	SUSTRANS
SEStran	Network Rail	Visit Scotland
City of Edinburgh Council	ATOC Ltd	One NorthEast Regional Tourism Team
East Lothian Council	Railfuture North East	Gateshead Council
Public Transport Policy Officer	Railfuture Scotland	Confederation of Passenger Transport – Northern
Newcastle City Council	Passenger Focus	Sunderland Council
North Tyneside Council	Confederation of Passenger Transport – Scotland	South Tyneside Council
Alnmouth Rail User Group	RAGES	Relevant Community Groups

2.2 Responses were received from 21 organisations / elected representatives and their comments are summarised below.

East Lothian Council

2.3 East Lothian Council have set out their views of the enhanced rail services between Edinburgh and Newcastle and raise the following issues:

- Council has been lobbying for a number of years for a regular local service between Edinburgh and Dunbar and possibly reopening East Linton to complement the infrequent Inter City East Coast (ICEC) service;
- Council's preferred option is an hourly service between Dunbar and Edinburgh from early morning to late at night calling at some or all intermediate stations in East Lothian complementing the long distance ICEC and Cross Country services;
- Recommend a local rail service from Dunbar to Musselburgh to allow for direct public transport access from Dunbar to Queen Margaret University;
- East Lothian Council highlight the proposed housing developments in the region amounting to 8,500 homes;
- The council has a number of other aspirations for rail projects but recognise that the following proposals have implications on the capacity of the ECML:
  - Half hourly local service between Edinburgh and Drem with alternate trains terminating at North Berwick and Dunbar;
  - Provision of a rail connection to the proposed new settlement at Blindwells (1,600 houses with potential for future expansion);
  - Provision of more cross-city services to enable East Lothian residents to access the employment centres on the west side of the city and further afield without having to change trains;
  - Later departures from Edinburgh in the evening, similar to North Berwick.
- Welcomes the proposed 'Eureka' timetable with its more regular arrival and departure pattern to Edinburgh;
- Reiterates the recommendation of the ECML Route Utilisation Strategy for provision of an additional northbound platform at Dunbar station and the benefit it would have in speeding up existing ECML services and assist the case for a local service;
- Council supports the principle of a Parkway station at Musselburgh to provide an alternative access to Edinburgh. A site has been identified and is safeguarded in the East Lothian Local Plan 2008.

City of Edinburgh Council

2.4 The City of Edinburgh Council raised the following issues and proposals for the enhanced rail service between Edinburgh and Newcastle:

- City of Edinburgh Council priorities are:
  - To improve journey times on long-distance services (including to Berwick); and

- To provide a good local service between Edinburgh and the medium-sized towns east and south on the ECML. Dunbar, in particular is highlighted.

- Providing a good local service would allow for a local service to replace some long distance calls;
- Half hourly off peak North Berwick service should be protected; and
- Not convinced of the case for establishing new stations and suggest the study should carefully compare the benefits of a semi-fast local service calling at a wider range of existing stations as opposed to new stations.

Northumberland County Council

2.5 Northumberland County Council made the following comments regarding the analysis of the impact of reducing the number of calls made by long distance high speed trains at smaller stations:

- Connectivity between stations within Northumberland is poor;
- An electric semi-fast service serving principal stations in Northumberland would improve connectivity between stations, making return journeys between Morpeth, Alnmouth, and Berwick feasible yet they also consider there is still a case for retaining certain key business trains from Northumberland stations (See below);
- Morpeth, Alnmouth and Berwick, have key business trains in the early morning and evening to and from London. If customers for these trains were obliged to change trains in Newcastle, this could encourage people to drive to Newcastle from Northumberland or even consider the option of flying. It is essential that any semi-fast electric service operating between Newcastle and Edinburgh provides early morning and late night arrivals and departures;
- Late night services to Northumberland stations are a particular area requiring improvement; and
- The section of the East Coast Main Line between Newcastle and Edinburgh does not have so many high speed sections as the line south of Newcastle. However the superior acceleration of electric multiple units would be more valuable on this section of route, thus the slower top speed of such trains compared with high speed traction may be less of a disadvantage in terms of journey times. This is very relevant for stations that may be substituting certain high speed links for a semi-fast electric service. Further analysis of potential journey times may be derisible in this particular case.

2.6 Regarding the options for displacing some local services north of Newcastle Northumberland County Council raised the following concern:

- At present there is an hourly local service between Morpeth and Newcastle stopping at Cramlington. The replacement of these services by high quality electric trains would reduce journey times, improve line capacity, and attract new customers to rail. It would be essential to maintain stops at Cramlington which is a growing market. However certain direct links to the Metro Centre and beyond would be lost. An analysis of through traffic from stations north of Newcastle to the Metro Centre would be advisable.

2.7 Regarding station improvements on the East Coast Mainline Northumberland County Council raised the following concerns:

- Increasing demand for rail in Northumberland is demonstrated by the following improvements along the East Coast Main Line. These are as follows:
  - Construction of a new 68 space car park adjacent to the northbound platform at Alnmouth station, with level access.
  - Development of new bus/rail interchange facilities at Morpeth station, new traffic signals at the station approach to ease access to the station and construction of an additional 92 car parking spaces.
  - Doubling the size of the car park at Cramlington station to 100 spaces.
  - Supporting a scoping study by Network Rail in partnership with the Railway Heritage Trust into the possibilities of constructing a new car park adjacent to the northbound platform at Berwick station.

Scottish Borders Council

2.8 Scottish Borders Council states that along with East Lothian Council and RAGES it supports the re-introduction of rail station at Reston as it feels it will reinvigorate both Reston and the whole of Berwickshire and is widely supported by Local Members, Community Councils and the majority of the population. While recognising the difficulty in balancing an improved local service with maintaining the long distance rail market Scottish Borders Council provides key points in support of a new rail station facility at Reston:

- Land required for the new facility is already allocated in the Scottish Borders Council Development Plan;
- Design requirements for a new station including track gradient, track cant and a suitable length of track for a station facility to be sited appear to be satisfied;
- Adequate parking close to the site could be provided to allow for a park and ride facility;
- SESplan Main Issues report, Scottish Borders Structure Plan and Local Plan highlight the need for improving public transport links;
- Significant housing development is allocated in the Scottish Borders Development Plans including within Reston which could impact on the patronage figures for a Reston station in the 2005 STAG 1. Recommend that these figures are reviewed; and
- Scottish Borders Council feels that future development at Reston is constrained by a lack of infrastructure including rail connectivity.

Cross Country Trains

2.9 Cross Country operate services between Newcastle and Edinburgh (approximately hourly, forming part of the Edinburgh-Plymouth service group) and are interested in any long-term developments on this route and the potential impacts upon LDHS services. Cross Country raised the following concerns:

- Key priority for Cross Country on the ECML is to reduce journey times through timetable improvements and minor infrastructure enhancements, and in the longer term by reviewing the stopping patterns the services make at smaller stations; and

- Believe that the study needs to identify the economic value of removing smaller station calls from some LDHS services as a standalone option. They recognise this could be politically sensitive but believe it is important to firstly identify as a discrete option the economic benefits (BCR) that removing those services would bring, before then assessing the business case for adding additional services.

Nexus

2.9.1 Nexus is the Tyne and Wear Passenger Transport Executive and although it does not have any direct influence over train services within Northumberland it supports any proposals which improve the frequency and calling patterns at stations within Northumberland. Nexus raised the following concerns to be taken into consideration in the consultation process:

- Nexus is opposed to any deterioration in the quantity of existing local services operating north of Newcastle as a result of any proposals to amend longer-distance services operating to and from Scotland;
- Concerned that Cramlington station does not have platforms long enough to accommodate main-line trains, other than via the use of Selective Door Opening. The existing service should not to be sacrificed for this reason; and
- In favour of service improvements between Scotland and North East England, but not at the cost of a minimum hourly service between Morpeth and Newcastle, calling at Cramlington.

Northern Rail

2.10 Northern Rail operates local and inter-urban services in the North and North East of England and raised the following concerns:

- A similar question was tackled in the East Coast MainLine Route Utilisation Strategy. The option of Edinburgh - Newcastle stopping services had a worse BCR than Network Rail and TFS's preferred option of alternating half-hourly Edinburgh - North Berwick/Dunbar (or Berwick OT);
- If Newcastle - Morpeth/Chathill were absorbed by the proposed electric stoppers, that would break the current through journeys to Metrocentre for North East local passengers. It would then need to be decided how this fits with ambitions to reinstate passenger services on the Blythe & Tyne route - B&T to Metrocentre.

John Lamont MSP

2.11 John Lamont is the MSP for the Roxburgh and Berwickshire constituency and puts forward the following issues and proposals:

- Supportive of RAGES' campaign to open Reston station for the following reasons:
  - Reston is an ideal geographic position to attract the greatest patronage in Eastern Berwickshire as it is halfway along the track from Berwick-upon-Tweed to Dunbar;
  - Unlimited availability of land for parking;
  - Since the STAG 1 showing Reston as having a daily patronage of 200 there has been the development of 680 households in the area and permission granted for a further 80; and

- Great desire among the East Berwickshire community for the reopening.

Councillor Michael Cook – Scottish Borders Council

2.12 Michael Cook is one of three Scottish Borders's councillors for East Berwickshire and put forward the following views:

- Belief that local people are strongly supportive of the development of a new station at Reston to give them access to a more efficient, environmentally friendly and safer mode of transport;
- Concern that there could be a tendency to under-predict patronage figures and highlights the popularity of the East Coast 'Edinburgh Festival Trains' at weekends this year as an example. Believes this is significant, particularly for Reston, in that overly-cautious patronage estimates could adversely impact on the cost benefit analysis part of this study. The 2005 STAG 1 showed Reston as having a daily patronage of 200. Since that study was conducted, new houses have been erected in Eyemouth, in Chirnside, and in Duns, with permission given for many more, including in Reston itself.
- The availability of extensive areas of land for parking at Reston contrasts with the parking restraints of Dunbar and Berwick-upon-Tweed

Councillor James A Fullarton – Scottish Borders Council

2.13 James A Fullarton is Councillor for Chirnside and District and raises the following issues:

- In East Berwickshire residents have to travel to Dunbar or Berwick-upon-Tweed to travel to Edinburgh and due to the fare structure favouring Dunbar residents often choose to drive direct to Edinburgh instead;
- Depopulation of Berwickshire appears to have stopped and a potential market exists for reconnected services to Berwickshire towns. Further emphasised by the new high schools at Duns and Eyemouth attracting young families who will in the future have to travel to Edinburgh or Newcastle for further education;
- Cost of private motoring is rising and the Scottish Borders is an area of low wage and public transport links are required;
- Better public transport would open up the job markets in Newcastle and Edinburgh;
- Ageing population have a role to play in increasing patronage;
- In the long term proposes using the west coast for a fast train service from London to Edinburgh and Glasgow would offer benefits for a more local service; and
- Local services could kick start the east coast economy.

Office of Rail Regulation

2.14 The Office of Rail Regulation is the independent regulator with responsibility for overseeing the fair and efficient allocation of capacity and as such feels it is inappropriate to comment. The ORR has identified appropriate stakeholders to contact including:

- Network Rail (who can advise on available capacity and any performance implications for existing services);

- Department for Transport;
- All operators and prospective operators using ECML (both passenger and freight);
- Funders of local services using ECML; and
- Passenger representative bodies.

2.15 As well as developing service options based on the gaps and options in the February 2008 ECML RUS consideration should also be given to the 2016 Capacity review for the ECML and Network Rail's Freight Route Utilisation Strategy.

Department for Transport (DfT)

2.16 Department for Transport is the franchising authority for long distance passenger services operating over the Newcastle – Edinburgh route and also for the local services between Newcastle and Morpeth/Chathill. The DfT were involved in the changes to the ECML timetable to encourage growth and meet stakeholder aspirations by increasing service frequency, reducing journey times and adopting a more regular calling pattern.

2.17 The new timetable will provide the following level of service:

- Dunbar – Two hourly service to/from Edinburgh with extra calls at peak times;
- Berwick – Hourly fast East Coast service to/from London and two hourly Cross Country service, normally providing through trains to/from Glasgow;
- Alnmouth – Broadly hourly service provided alternately by East Coast and Cross Country; and
- Morpeth – a small increase in the number of trains calling, with retention of key through journey opportunities to/from London.

2.18 The DfT is currently carrying out a consultation exercise on future policy for franchising of rail services. Development of the specification for the new franchise will include consideration of options for future service changes north of Newcastle including examining the business case for increasing the level of weekday East Coast trains between King's Cross and Edinburgh to two per hour, either by extension of the remaining London – Newcastle services or by providing further fast services to compete directly with domestic air travel.

2.19 The DfT raised the following concerns relating to a new local service between Edinburgh and Newcastle:

- There will be an on-going requirement for fast passenger train paths between Newcastle and Edinburgh and to run freight trains via this route therefore increasing pressure on route capacity;
- A large part of the travel market to/from Berwick, Alnmouth and Morpeth is to stations south of Newcastle and there are also established flows to/from various stations in Scotland. Would not want to reduce the number of calls in long distance trains at Berwick, Alnmouth and Morpeth much below the level being provided from May 2011, even if extra local services were available;
- Network Rail examined options for extra local services in its Route Utilisation Strategy, published in February 2008, and concluded that the service options tested would be

poor value for money and would not earn sufficient revenue to cover their direct operating costs;

- If Transport Scotland decides to fund extra services, there is likely to be an impact on the revenue earned by the current services on the route. The DfT would need to be satisfied that there would be no extra financial burden on the DfT through current franchises and that longer term franchise value would be protected; and
- The DfT would be interested in understanding if there is any scope for synergy between any new services and the current Newcastle – Morpeth / Chathill local services, which might allow an element of subsidy to be re-directed.

One North East

2.20 One North East is the Regional Development Agency (RDA) covering North East England which aims to transform the English regions through sustainable economic development. One North East raised the following concerns in relation to enhanced rail services:

- Essential that semi-fast services between Newcastle and Edinburgh does not result in diminished services for the stations in Northumberland or a reduction in their connectivity with both Newcastle and Edinburgh or elsewhere;
- Concern over the ongoing discussions over the Cross Country timetable. These services are viewed as critically important to Northumberland; and
- Take into account the existing and planned station facilities as well as rolling stock availability.

Alnmouth Rail User Group (ARUG)

2.21 The Alnmouth Rail User Group (ARUG) is an organisation set up in 2003 to help improve rail services in Northumberland. ARUG propose the following requirements for consideration:

- A fast service to Newcastle and Edinburgh every 2 hours (any operator);
- A semi-fast service to Newcastle and Edinburgh every 2 hours (any operator) - serving Morpeth, Alnmouth, Berwick, Dunbar;
- Above two patterns arranged to provide as near to an hourly service north and south as possible;
- A morning peak all local stations service from Chathill to Newcastle and evening peak return (currently operated by Northern);
- Consideration also be given to extending the semi-fast service to Glasgow via ScotRail electrified routes; and
- Peak hour patterns supplemented as required by any operator to at least maintain and preferably improve the current and proposed May 2011 peak hour services.

2.22 Possible solutions from ARUG include:

- East Coast (or subsequent operator) provide the fast service as per proposed May 2011 timetable;
- The semi-fast service is either provided by ScotRail throughout; or ScotRail operating to Berwick with Cross Country running fast from Edinburgh to Berwick and then taking on the Alnmouth and Morpeth stops, or a combination of both options throughout the

day. The latter would be preferable in order to maintain a direct service from Northumberland stations to Birmingham and beyond.

- The Northern service could also be covered by the first southbound semi-fast service from Edinburgh and evening return - thus releasing a train to Northern for other services.

Rail Action Group, East of Scotland (RAGES)

2.23 The Rail Action Group, East of Scotland (RAGES) is an action group seeking to improve rail services in the East of Scotland area including Dunbar, East Linton and Reston. RAGES representatives attended the consultation presentation and contributed further observations to be taken into consideration including the following:

- ScotRail have reported the following:
  - There are currently five 322s to be replaced by four 380s next year all 4-car sets;
  - There are three 'spare' 380s to be available for additional options;
- RAGES understand that First ScotRail indicated that any extra Dunbar services to be created in the short term would be with the existing 322s and then after March 2011 by the 380s and that unlike the 322s, the 380s would be shared diagram-wise with the Ayrshire/Inverclyde services. This has raised the concern about sufficient stock to supply any new services recommended in the study.

2.24 RAGES have subsequently held a public meeting to discuss the study and raised the following points:

- Unanimous support for re-opening Reston station;
- There should be a regular interval local service throughout the day, with early morning and late evening trains catering for travellers going both north to Edinburgh and south to Berwick and Newcastle from Reston. Co-ordination of time tables at Berwick would be essential to provide for southbound passengers. Possibly an off-peak frequency of two hours would be sufficient, but trains should run more often than this in peak periods. A last departure from Edinburgh at about 2300 would be suitable, and also a late departure from Newcastle and a Sunday service should be offered;
- It would be desirable to have some long distance trains stopping at Reston also, to allow connections to London, York and possibly Glasgow. The success of an increased number of calls at Alnmouth (of similar size and catchment to Reston) was cited as proof that these can attract passengers to rail;
- Introduce a good level of connecting bus services to serve communities such as Eyemouth, Duns, Coldingham, St Abbs, Houndwood, Ayton, Chirnside etc. There should also be taxis available. There should be adequate car parking space at Reston station, free, secure storage for cycles, adequate shelters and a car share database to attract regular passengers and limit the number of cars parking at the station;
- As a re-opened station would attract more traffic into Reston, it would be necessary to review the layout at the junction with the A1 road and possibly upgrade it; and
- Fares on the trains calling at Reston should be reasonable.

2.25 The benefits associated with reopening the station would be:

- Would be possible for students at Edinburgh and commuters to travel daily by train which would attract new residents to the area;
- Reduce the need for two cars per family;
- Reduction in car traffic and pollution;
- Reduce parking pressure in Dunbar; and
- There could be an increase in inward investment in east Berwickshire, in particular tourism.

Railfuture

2.26 Railfuture northeast is an independent organisation campaigning for better rail services for both passengers and freight in the North East region. Railfuture's contribution to the consultation process includes the following points and concerns:

- Cross Country services are critically important to the North East region and there is concern that no agreement has been reached by DfT with CrossCountry for the change from East Coast to CrossCountry for the North East to Edinburgh and Glasgow service;
- Concerning the May 2011 ECML timetable it is important to:
  - Optimise the use of the mainline services between Edinburgh and Newcastle to provide direct links between the main intermediate stations and stations north to Edinburgh and Glasgow and south both on the main line to London and across the country to Leeds, Sheffield, Birmingham and beyond; and
  - Optimise the calling patterns of the mainline services to provide internal connectivity within Northumberland and SE Scotland.
- Long distance travellers have a strong preference for through trains. Changing trains in Newcastle for shorter journeys would also result in a disproportionate extension to the journey time for passengers making journeys of intermediate length. As a result railfuture believes it is a requirement to ensure the following:
  - The introduction of a semi-fast service does not result in a degradation of the direct links but does improve the connectivity within Northumberland and the access to both Edinburgh and Newcastle from the main stations concerned; and
  - The final timetable makes good provision for early, late and weekend journeys and for commuter journeys from Northumberland stations to both Edinburgh and Newcastle.
- To include Cramlington station alongside the study of Berwick, Alnmouth and Morpeth. Cramlington from both population and functional perspectives should have either direct links to the Intercity network or a much improved local service to Newcastle but recognises that platform length at Cramlington is a constraint for mainline trains. It may be that improved links could be obtained between stations in Northumberland and those in Scotland (and vice versa) by providing good connections at Berwick.

2.27 Railfuture are aware of the benefits of the integration of a semi-fast service with the current local service but has the following concerns related to the displacement of the local services:

- The morning and evening services to Chathill (potentially Belford) from Newcastle;

- The current extension of the Morpeth trains from Newcastle to the Gateshead MetroCentre, and occasionally Hexham;
- The services provided at Manors station, a valuable access point for Newcastle shopping, Newcastle and Northumbria Universities, the surrounding office accommodation and the Tyne & Wear Metro Wallsend line;
- Take into consideration any existing station facilities and planned enhancements when developing the enhanced timetable. Such facilities would include the following:
  - Provision for car parking, and step-free access are currently planned or in progress at Berwick, Alnmouth, Morpeth and Cramlington;
  - The construction of a platform at Belford to exploit the turn-back of the Newcastle Chathill services is at an advanced state of planning;
  - A second platform at Dunbar is recognised as necessary in the ECML RUS and may be essential to release the necessary line capacity in that area; and
  - Platform capacity at Newcastle is scarce and extra provision would be expensive but imaginative solutions for turn-back time may be available using the existing tracks and facilities.
- The rolling stock to be used may determine some aspects of the service. Four-car, 100mph electric units obtained new or by cascade would have obvious service quality and environmental attractions, the number of units required depending on the frequency of service proposed. However, electric stock cannot currently run through to the Gateshead MetroCentre. In the medium term, some rebalancing of such a loss of service may be provided by the proposed passenger services from the Ashington, Blyth and Tyne network (currently freight only).

South East Northumberland Rail User Group (SENRUG)

2.28 SENRUG is an organisation set up to campaign for better rail services in South East Northumberland and to represent the interests of current rail users and those who would use the train if only those services and facilities were better. SENRUG's concerns relating to the Fast (Inter City) service are as follows:

- Should be an appropriate service that links together the key Northumberland regional stations (that is, from south to north: Morpeth, Alnmouth, Berwick) and Dunbar. Additionally, the current East Coast services that do stop at Morpeth are frustratingly close to the Cross Country ones (and vice versa) then followed by long gaps through large sections of the day;
- The level of current inter-city services at Morpeth is poor. Would like to see one inter-city type service in each direction, every two hours;
- SENRUG recognise that it is not essential for all services to continue south of Newcastle to London or Birmingham. A semi-fast service between Edinburgh and Newcastle would go a long way to meeting their aspirations; and
- Suggest investigating the possibility of a TPE and ScotRail services interconnected by a service through Northumberland to provide a Morpeth to York direct route.

2.29 Regarding a slow service SENRUG have the following comments:

- Propose that a market could be established for an all stations stopping service between Newcastle and Berwick with the intermediate stations at Belford and Beal re-opened. A stopping service would open up the county for leisure and tourism in Belford and Beal:
  - Propose contacting First in Cornwall to establish a link between rail passenger numbers and a developed tourism industry; and
  - Highlight the proposals for a major housing and leisure development (Blue Sky) at Stobswood (Widdrington station). Whilst now on hold due to the current economic downturn, lack of transport access to Stobswood was earlier cited as an area of concern about the proposals. This could be addressed by a reasonable train service to Widdrington Station.
- A stopping service from Berwick or further north to Newcastle is likely to be an extension (rather than additional to) the current Morpeth – Newcastle stopping service. This route currently proceeds on beyond Newcastle to MetroCentre. If it were proposed a stopping service from Berwick or Edinburgh were to similarly link on to MetroCentre, this proposal would undoubtedly be of interest to MetroCentre management who wish to increase public transport access to their retail centre.

2.30 In summary SENRUG propose that the stopping service serves a greater number of communities, has the potential to be more responsive to local needs (such as school finish times) and make a greater contribution to the development of rural areas in the county, and tourism. But the stopping service is less likely to be viable unless Beal and Belford are re-opened. If there is no political will to do this, then the semi-fast using existing stations only is probably better. SENRUG would like to see comparative overall journey times for both a semi-fast and the stopping service.

2.31 SENRUG provided a copy of their Manifesto. The key points relative to this study include the following (points previously raised have been excluded):

- Berwick Service throughout the day: The current single AM and single PM local service to Chathill should be extended to Berwick with additional trains throughout the day;
- 2-hourly Inter-City Service: There should be an Inter-City service (either East Coast Main Line route or Cross Country route) stopping at Morpeth every 2 hours throughout the day in each direction;
- Earlier morning London service: The current 0720 service does not arrive in London until 1040. A pre 1000 am arrival in required;
- Evening service to London;
- Later return train from London: The current 1730 from Kings Cross is too early for many business travellers and should be supplemented with a later train;
- Better weekend service to / from London; and
- Engineering Works: Use local rail services instead of bus substitution.

Abbey St Bathans, Bonkyl and Preston Community Council

2.32 The Chair of the Abbey St Bathans, Bonkyl and Preston Community Council stated that providing interim stations on the line between Berwick and Edinburgh (particularly Reston) is extremely important for the residents of Berwickshire as we do not have a station in this

area, the nearest being either Dunbar or Berwick. The introduction of a new station would reduce the reliance on private transport and bring much needed investment into the Berwickshire area. Abbey St Bathans, Bonkyl and Preston Community Council proposed the following options:

- Regular services during the day and a train later in the evening from Edinburgh and Newcastle. All services that stop at East Linton / Reston, should also stop at Berwick and Dunbar. Services should be timetabled with local bus services to ensure that opportunities to access the train service are maximised;
- There is demand for a new station in the area to provide a reliable alternative to the bus services which currently serve the communities;
- Regular services provided by both ScotRail and National Rail stopping at Reston and East Linton can / would provide the best outcomes and value for money; and
- Currently Berwickshire residents access the rail network by driving to Dunbar or Berwick.

Chirnside Community Council

2.33 Secretary for the Chirnside Community Council proposed later trains from Edinburgh to Berwick on a Saturday to facilitate a night out in Edinburgh.

Dunbar Community Council

2.34 The Secretary of the Dunbar Community Council raised the main concerns for the Community Council being the lack of a late night service from Edinburgh to Dunbar on a Saturday night but iterates that this improvement should not be at the expense of the long distance trains to London.

Reston and Auchencrow Community Council

2.35 Mrs JJ McLean is a member of the Reston and Auchencrow Community Council and was asked to provide comment by Scottish Borders Council. Reston and Auchencrow Community Council provided background to the reopening of Reston including details of local support for the reopening of the railway at Reston (public meeting in 1999 and Petition (PE556) 2002/2003 with nearly 2000 signatories) and details of Stakeholder Reports, Feasibility Studies and Scott Wilson's STAG 1.

2.36 Reston and Auchencrow Community Council raised a number of benefits that opening Reston Station as a Park and Ride would bring including the following:

- Tourism, although cycle storage, designated footpaths and cycleways essential
- Reduction of emissions via car journeys;
- Access to education, training and employment;
- Access for the elderly;
- Safe and secure area for pedestrians;
- Social inclusion;
- Improved journey times;

- Improve accessibility ensuring public transport choice;
- Connecting remote and disadvantaged communities; and
- Regeneration of Eyemouth and new build of houses in the locality.

2.37 Reston and Auchencrow Community Council reviews the responses to Consultation on Rail Investment Priorities and highlights the following improvements to attract new customers:

- Provide more parking at stations;
- Better integration with other modes;
- Any increase in speed should be accompanied by improvements to interchange services (rail and bus);
- Speed is important but where long distance services have limited number of intermediate stops, customers want better connections to 'feeder' services;
- Provide extra capacity;
- Priority should be according to economic, social inclusion or environmental benefits;
- Network should be enhanced to provide for all types of transport ie commuters, long-distance passengers and freight;
- Construction of new public transport interchanges;
- Economy should not be the sole focus for future investment, increased social inclusion, environmental benefits and improved accessibility are also considered to be as important;
- Rail investment is lagging behind other modes of transport ie roads and domestic air; and
- Provision of extra services on existing lines.

2.38 Mrs JJ McLean also highlights the duty of public bodies in relation to Part 4 of the Climate Change (Scotland) Act to reduce emissions and the steps towards this aim that the opening of Reston would make.

3 Individual responses

3.1 A number of individuals from the area affected by the Edinburgh to Newcastle rail service also contributed to the consultation process. This chapter provides a summary of those responses.

Response 1

- Additional early morning service from Dunbar to Edinburgh to arrive before 9am. Later mid-week trains from Edinburgh to Dunbar to make it possible to go for a meal or film after work;
- Better access to the station from the Old Spot Road and through the car park. It is a very short distance through the old goods yard and would not take much work to make the station accessible creating a large short cut from the existing route;

- Steps from the footpath linking the football pitches with Countess Road up onto the platform would save a long round trip for people living in the estates around Lochend Woods; and
- In general, supportive of the opening of a station at East Linton as part of a local Dunbar – Edinburgh service to improve service from Drem – Berwick to a standard similar to the North Berwick route.

Response 2

- Reinstated East Linton rail station as part of the Dunbar local service. A survey was carried out by the Community Council about four years ago which showed huge support for the re-instatement of even a limited service and planning permission has just been granted for the building of 50 new houses which could add more potential users;
- The new local service to Dunbar which started in May is welcome but there are not enough local stops in particular there is one afternoon train to Queen Margaret University, but no morning train;
- Later services to Dunbar on all evenings, not just Fridays;
- Introduction of local service between Edinburgh and Berwick because of the increasing number of commuters to East Lothian and Edinburgh living in Berwick; and
- Support the reopening of Reston station for environmental reasons.

Response 3

- Improved access for bikes and pedestrians;
- Toucan crossing at top of Countess Road saves entering one way system and makes it more attractive to cycle;
- Improved sheltered cycle parking and lockers;
- Incentives to cycle/walk to station equivalent to free car parking for Season Ticket holders;
- Alternative to season ticket for regular travellers (book of 10 tickets with discount);
- Earlier service on Sunday morning;
- Improved information about new services; and
- Supports station at East Linton but uncertain about Reston (concerned about the potential).

Response 4

- Supports Reston station;
- There is community support for a station at Reston – over 3,000 signatures supporting it;
- There is land available to build the station and for parking;
- Reston is an ideal location between Berwick and Dunbar;
- Would bring more work to the area; and

- Would cut down on CO_2 emissions.

Response 5

- Regular services, particularly in the evening from Edinburgh to Dunbar for both work and social activities as well as Saturday mornings; and
- Service is unreliable and there are examples of services being missed off of timetables which results in commuters losing faith in the service.

Response 6

- Supports reopening of the Reston station; and
- Land for parking is available at Reston.

Response 7

- Supports reopening of the Reston station to provide a commuting service to Newcastle and Edinburgh to avoid having to drive to Berwick-upon-Tweed and reduce the environmental impact of driving.

Response 8

- Supports reopening Reston station to benefit students studying in Edinburgh and Newcastle and those who commute for work; and
- Would increase tourist activity in the area.

Response 9

- Does not support more ScotRail services between Dunbar and Edinburgh, believes that the existing limited stop services should stop to provide an hourly service;
- Additional services would add to environmental concerns; and
- Uncertain about late night trains on Friday and Saturday, believes the services would be abused and result in anti-social behaviour.

Response 10

- Supports reopening Reston station.

Response 11

- Suggests the following improvements;
- A later service than 0738 to alleviate crowds but still get to Edinburgh by 0900;
- Later service at evenings and weekends for social activities;
- Supports reopening East Linton and Reston for leisure purposes; and
- With the QMU on the line between Dunbar and Edinburgh a stopping service at the university would make commuting for students possible.

Response 12

- Support reopening Reston;

- The eastern Borders been ignored and neglected in favour of the more affluent and densely populated central Borders;
- The proposed development of Reston Auction Mart with its 112 dwelling houses set to double the population of the village, combined with the recent major housing developments in Eyemouth and Duns, are testimony to the need for this rail station;
- Reston is well located in Eastern Borders for a station;
- Unlimited free parking is available at Reston; and
- Reopening station is vital for future success of the area.

Response 13

- Supports reopening of Reston for environmental reasons and ease as parking in Berwick-upon-Tweed is particularly difficult; and
- Proposes a bus service connecting the surrounding areas to the station.

Response 14

- Supports reopening of Reston station as it would have a profound effect on the settlement and surrounding area.

4 Key themes

4.1 The following key themes were regularly raised by stakeholders:

Consideration of the options for displacing some of the local services operating north of Newcastle

- One North East, Nexus, railfuture and DfT – essential that semi-fast services between Edinburgh and Newcastle does not result in diminished services for the stations north of Newcastle, both local and long distance; and
- Northumberland County Council, railfuture and SENRUG – improve connectivity between Northumberland stations but not at the expense of long distance services.

Cramlington

- Nexus - concerned Cramlington will be overlooked because the platforms aren't long enough;
- Railfuture – include Cramlington station alongside Berwick, Alnmouth and Morpeth in the study due to its population and potential patronage but recognises that platform level would be a constraint; and
- Northumberland County Council – maintain stops at Cramlington which is a growing market.

Concern over the current Cross Country timetable

- One North East and Railfuture - Concerned that no agreement has been reached between DfT and Cross Country over the changes from East Coast to Cross Country for the North East to Edinburgh and Glasgow.

Take account of infrastructure improvements

- Northumberland County Council – increasing demand for rail in Northumberland is demonstrated by a number of facility improvements; and
- Railfuture and One North East – take into account any existing or planned station facilities when developing the enhanced timetable.

Reston

- Councillor Michael Cook, John Lamont MSP, Scottish Borders Council, Abbey St Bathans, Bonkyl and Preston Community Council, RAGES, Auchencrow Community Council, Individuals – Local support for opening Reston station;
- Councillor Michael Cook and Reston, John Lamont MSP, Individuals – Noted availability of land for park and ride facility;
- Individuals - Reston is ideal location for station;
- Individuals, RAGES - New station would reduce traffic on A1 and CO_2;
- Individuals and RAGES - Would bring more work and investment to the area; and
- RAGES and Individuals - Propose a bus service to surrounding settlements.

Semi-fast service Newcastle to Edinburgh

- ARUG - Every two hours serving Morpeth, Alnmouth, Berwick and Dunbar; and
- Railfuture and Northumberland County Council - Early and late services from Northumberland stations to Edinburgh and Newcastle.

Fast Edinburgh to Newcastle service every two hours

- ARUG and SENRUG.

Rolling stock constraints

- Railfuture – rolling stock to be used may determine some aspects of the service; and
- RAGES and One North East – concerned about stock availability for new services.

Chathill

- ARUG and railfuture – morning peak from Chathill to Newcastle and evening peak return.

2005 STAG 1

- Councillor Michael Cook, Scottish Borders Council and John Lamont MSP - Concern that the 2005 STAG 1 under predicted patronage figures at Reston due to recent development.

Dunbar services

- East Lothian Council – Hourly service between Dunbar and Edinburgh stopping at intermediate stations from early morning to late evening;
- Dunbar Community Council, Individuals – Later evening service;

- Individuals - Additional early morning service arriving in Edinburgh by 9am and at the weekends; and
- Individuals - Improved service to QMU.

East Linton

- Individuals - Supportive of reopening East Linton station.

MVA Consultancy provides advice on transport, to central, regional and local government, agencies, developers, operators and financiers.
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