Gilsland Station Feasibility Study

Report

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Executive Summary

Introduction
JMP has been commissioned by the Tyne Valley Rail Users Group (TVRUG) to assess the potential for reopening Gilsland Station on the Newcastle – Carlisle railway. The study considers the potential use of the station by local residents and tourists, in particular visitors to the Hadrian’s Wall World Heritage Site, which would be very well served by the proposed station.

Potential Demand for the Station
Our analysis suggests that the station would generate around 10,500 trips each year from the local population and around 15,300 trips from visitors to the area, giving a total of just under 26,000 trips per year. This estimate was ‘validated’ by comparing it with usage at other stations on the line and with Horton-in-Ribblesdale station on the Settle – Carlisle Line which has a similar mix of local and visitor users and attracts around 19,000 trips per year.

In parallel with the demand forecasting exercise two surveys of potential users were undertaken. A survey of local residents devised and implemented by TVRUG achieved 182 responses, 98% of whom said they would use a station at Gilsland. A survey of visitors to the local area found that support for a new station was overwhelming; with 76% saying they would have used the train for their visit if the station had existed. While the results of such surveys need to be treated with caution they nevertheless provide encouraging support for the proposal.

Feasibility and Costs
Although primarily a demand study a preliminary engineering assessment has been undertaken. Our initial conclusion is that it would be feasible to re-construct a new station at the proposed location. The cost of doing so is provisionally estimated at £2.5m. It appears to be feasible to utilise an existing under bridge to allow passengers to cross the line, avoiding the need for an expensive new over bridge.

Appraisal of the Station
An assessment of the viability of the business case for the station has been carried out.

While the station is not financially viable as the costs exceed the income that the station will generate, it does appear that it is economically viable when considered from a broader economic perspective. When benefits such as travel time savings, carbon savings and vehicle operating cost savings are included in the assessment the station appears to represent, in Department for Transport terminology, ‘medium value for money’ delivering around £1.78 of benefit for every £1 of investment. There are further benefits to the local economy created by additional expenditure of around £0.3m per year by visitors to the local economy around Gilsland. When these are included the station delivers a benefit to cost ratio of £3.98 to £1.

In summary, the benefits to local residents in terms of improved accessibility to leisure, education and work opportunities and from increased visitor spend in the local economy appear to be significant. There is considerable support for the proposal from both the local population and from visitors to the area as well as the authorities responsible for tourism and visitors to Hadrian’s Wall.
1 **Introduction**

1.1 In March 2013 JMP was commissioned by the Tyne Valley Rail Users Group to provide a study assessing the potential for the reopening of Gilsland Station on the Newcastle – Carlisle; Tyne Valley Line.

1.2 The study was designed to build on previous assessments conducted in 2001 and 2005 that had concluded that there was no case for the reopening of the station based on the demand available from local residents alone. Since these studies were completed the level of rail use has increased substantially, both locally on the Tyne Valley Line, and more generally across Great Britain as a whole, therefore it was felt to be worth reassessing the situation. In addition the potential demand related to tourism in the area, in particular Hadrian’s Wall, had not previously been assessed. The level of such demand may have the potential to significantly improve the viability of the station and therefore justify a case for reopening, bringing benefits to both local residents and visitors to the area. JMP has also made an assessment of the wider economic impacts to the local area that the reopening of the station might bring and provided a high level assessment of the engineering feasibility of constructing a station at the proposed site and of the costs involved in doing this.

1.3 From the above an economic assessment of the scheme has been carried out in line with Department for Transport Webtag appraisal procedures. The conclusion of this assessment will demonstrate if a strong enough case exists to consider reopening.

1.4 Following this introduction the report is structured as follows:

- Background to Gilsland Station and the surrounding area
- Assessment of demand from local residents
- Assessment of tourist demand for station
- Wider economic benefits of proposed station
- Site of the proposed station and feasibility of construction
- High level estimate of construction costs
- Economic assessment
- Conclusions
2 Background to Proposed Station

Gilsland Village

2.1 The village of Gilsland is located on the Cumbria/Northumberland border, around 20 miles from Carlisle and Hexham, and 40 miles from Newcastle. The village is located on Hadrian's Wall, with the wall skirting extremely close to the edge of the village with a number of Roman Milecastles and the Birdoswald Roman Fort close by.

2.2 The village has a population of around 400, a figure which rises to around 1,100 when the surrounding area including the neighbouring village of Greenhead is included.

2.3 The economy of the area is largely based on agriculture, forestry and tourism, with the latter being the strongest source of growth at the present time and likely to continue to be so. The RAF Spadeadam site to the north of Gilsland, that acts as a training area for the RAF also hosts a number of businesses which contribute to the local economy.

2.4 The village is relatively isolated at present, being some distance off the main A69 Carlisle – Newcastle trunk road and having a limited bus service to Hexham and Carlisle, supplemented from April to October by the AD122 bus service which links sites of interest along Hadrian's Wall, although this has seen service reductions in 2013, with only two services each way per day serving Gilsland. Journey times by bus to and from locations such as Haltwhistle and Hexham, are quite long making this option less attractive for visitors to the area.

2.5 The area has a rich heritage dating back to Roman times, largely related to Hadrian’s Wall, but with other later influences playing a part. This, coupled to the attractive setting of the surrounding area has supported the development of a strong tourism market in the area.

2.6 The opening of the Hadrian’s Wall National Trail in 2003 has acted as a new focus for tourism development in the area, adding to the pre-existing attractions such as the Birdoswald Roman Fort and Roman Army Museum. In combination these and other attractions are thought to bring around 40,000 tourists per year to the area. The development of The Sill (see box below) will act as a catalyst for further development of the tourism economy in the area. Given the relative difficulty in accessing the area by sustainable modes any improvement in accessibility would be likely to encourage further tourists to visit the area.

The Sill

The Sill is a £10.5M initiative that will see the creation of a Landscape Discovery Centre and YHA Youth Hostel at Once Brewed. The project will host extensive learning and participation activities, with the aim of welcoming new visitors. Surveys have shown that there is a low awareness of the National Park as a whole and that a “physical getaway destination”, is necessary to provide essential visitor facilities. The Sill provides a significant opportunity to reach many more people. The Sill and Gilsland station have the potential to complement and support each other.

2.7 To help illustrate the rich diversity of the cultural heritage within Gilsland and the surrounding area we have included the following description prepared by a member of the study steering group in the box overleaf.
Gilsland - & Greenhead – Attractions and History

Prior to the Romans arriving from AD 80, there were likely to have been Celts living in the area, although there is little evidence of their existence left. Following the arrival of the Roman’s a number of forts were constructed along the Stanegate Road which ran east-west from Corbridge to Carlisle. Locally these were at Nether Denton and Carvoran. Following on from the Stanegate the Roman’s constructed Hadrian’s wall from AD 122 onwards. The wall and its associated fortifications represent the bulk of the visible archeology in the area.

Within walking distance of the Gilsland Station site is a Milecastle at Poltross Burn and an excellent example of a Roman bridge abutment at Willowford. Around both Gilsland and nearby Greenhead good stretches of the Wall exist, each with their own character. A good example of a fort exists at Birdoswald to the west of Gilsland, and the Roman Army Museum to the east of Greenhead, is internationally renowned for its interpretation and provides a 3D aerial film of the Wall.

There is a strong tradition that St Patrick was born somewhere between Greenhead & Gilsland, son of a descendant of a Roman, and abducted by pirates from Ireland as a small boy.

Moving beyond the Romans, the remains of Medieval castles exists at Thirlwall and Blenkinsopp, both with legends attached to them.

Sir Walter Scott, while still a young lawyer, came with a friend to Shaw’s Hotel at Gilsland - this was a spa, very fashionable among the affluent folk of the north who were too far from Bath - he was after a bride, having been jilted, and found his Charlotte at the Spa. Just what it must have been like can be read in St Ronan’s Well, one of his novels set in Scotland but clearly based on Gilsland.

Definitely based on Gilsland is Guy Mannering in which he introduces the Dandy Dinmont dog breed - and Meg Merrilees also known as Margaret Teasdale. The wicked hostess of Mumps Hall. Is buried in the churchyard at Upper Denton, a tiny closed church with a Roman arch stolen from the Wall inside. The Mumps Hall in the village is not the original as anyone who reads the novel will easily deduce!

The Spa hotel today is a replacement for the original which was burnt down and rebuilt in the 19th century. Its enterprising landlord seized on the later fame of Scott and developed the story that he popped the question to Charlotte at the Popping Stone which sits on the river bank below the building. In fact the stone, probably brought by a glacier, has a much longer history associated with fertility rites.

The original walks through the woods from the hotel down to the well where the elegant crinolined ladies & their beaux took the waters still exist and are delightful at all seasons while up river is the wonderful waterfall of Crammel Linn. During WW2 the Spa became a maternity hospital for Tyneside and is often visited by the babies now they’re grown.

As well as more ancient sites the area also has a diversity of industrial archeology, coalmining began in the eighteenth century along the Tipalt Burn and the remains of various drift mines can be seen, also the coal staithes beside the railway line at Burnt Walls. The great whinstone quarry above Greenhead - now a Country Park with walks & nature & geology trails - put paid to various Roman remains and provided employment for 100 men for 100 years.

Both villages have churches and pubs, tea rooms and lively village halls. There are many walks in addition to following the Hadrian’s Wall Trail and the Pennine Way, and similarly many cycle routes...There is a monthly Farmers’ Market at Greenhead. The excellent local food grows on four legs in the fields and on the fells and there’s plenty of wild life and live music.

All these can be accessed on foot from Gilsland station. There are similar treasures in all the surrounding valleys & villages.
Gilsland Station

2.8 While Gilsland is relatively isolated it is very close to the Newcastle – Carlisle “Tyne Valley” Line. The line opened in 1836 and included a station at Gilsland, along with a station at nearby Greenhead. The station was typical of its type in having a relatively low number of services calling at it, being designed to serve the needs of the area in a pre car world. The station was however relatively popular as a tourist destination, particularly for visitors to the nearby Gilsland Spa Hotel.

2.9 The station closed in 1967 along with a number of others on the line and many other of its type across the country. At this point in time rail use was falling and stations in rural areas were considered to be unviable. Competing local bus services provided more frequent links to other settlements and travel patterns were very different to now, with fewer trips to places such as Newcastle and Carlisle than currently exist. Disposable incomes were also lower, limiting the scope for tourism and in any case the nature of tourism in the UK was quite different from the present situation.

Background to Present Proposals

2.10 The proposal to reopen the station at Gilsland dates back to 2001. At that time a study assessed the potential for a number of new stations on the Tyne Valley Line including Gilsland. Of the potential sites identified, Gilsland was seen as the strongest contender. In 2005 the Tyne Valley Rail Study again looked at the proposal and carried out a demand forecasting exercise. This found that the level of patronage likely to be generated by the local population alone would not be sufficient to support a case for a new station, however the report did suggest the station site should be safeguarded with a view to reassessing the situation at a later date. One of the key issues that the report raised was the “cost” incurred to other passengers using the Tyne Valley line, imposed by the additional time required to incorporate the stop at Gilsland, and the resulting impact on demand, that would be likely to offset the revenue benefit brought about by the reopened station.

2.11 However neither the 2001 or 2005 studies included an estimate of the potential demand that might be brought about by tourist use of the station. Although such traffic would have a seasonal aspect, it would have the potential to bring a regular volume of passengers over the year and thus improve the case for reopening. Furthermore the nature of tourist traffic (likely to be dominated by visits at weekends) would allow a range of timetable options that could minimise the impact on other passengers that has created concerns in the past.

2.12 A further issue is that in the intervening years since 2005 there has been substantial growth at stations on the Tyne Valley Line, notably west of Hexham. In part this is related to improvements in the stopping patterns at the smaller intermediate stations but is also linked to an overall increase in rail use across the UK. The table below presents the increase in patronage between the 2005 study and 2011-12 Office of the Rail Regulator Station Usage data. This will have an impact on the potential number of local passengers who would use the station.

<table>
<thead>
<tr>
<th>Station</th>
<th>2005 Patronage</th>
<th>2011-12 Patronage</th>
<th>% Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hexham</td>
<td>344,117</td>
<td>380,110</td>
<td>10%</td>
</tr>
<tr>
<td>Haydon Bridge</td>
<td>15,872</td>
<td>31,678</td>
<td>99%</td>
</tr>
<tr>
<td>Bardon Mill</td>
<td>5,228</td>
<td>9,076</td>
<td>73%</td>
</tr>
<tr>
<td>Haltwhistle</td>
<td>54,271</td>
<td>75,988</td>
<td>40%</td>
</tr>
<tr>
<td>Brampton</td>
<td>8,898</td>
<td>11,896</td>
<td>33%</td>
</tr>
<tr>
<td>Wetheral</td>
<td>9,885</td>
<td>17,430</td>
<td>76%</td>
</tr>
</tbody>
</table>
2.13 From the above it can be seen that double digit patronage growth has occurred at all stations, but the smaller stations have seen the greatest increase, much of which can be linked to service changes which have occurred in recent years that have provided a more appropriate service. This is positive and suggests that a station at Gilsland could have greater potential than previously considered. However it should also be noted that this increase in usage will impact on the level of existing demand that would be affected by the increased journey time imposed by stopping services at the station.

Residential and Tourist Surveys

2.14 The Tyne Valley Rail Users Group, working with residents in Gilsland have carried out two surveys to inform our understanding the potential market for rail services in the Gilsland area.

2.15 The first survey conducted over the winter of 2012-13 asked residents about the likelihood of them benefiting from the opening of the station. The survey sampled 182 residents, of whom 98% stated that they would make use of a reopened station at Gilsland. 41% of potential users stated that they would use the station more than weekly, with the remaining 59% using the station monthly or less often.

2.16 The range of trip purposes was quite diverse, however the majority of trips would be related to leisure (43%) or visiting family (27%), with lower levels of use for commuting (13%) or education (12%). Finally of those respondents who ran a business, 52% claimed that the reopening of the station would make a difference to their business, perhaps reflecting the level of tourist related businesses in the area.

2.17 The trip purposes presented by residents would in the long term be likely to change if the station reopened as it is likely that this would result in more job and education opportunities becoming feasible for local residents. We might conclude therefore that in the medium to long term the station would be likely to attract a higher proportion of regular commuters than the survey suggests. In addition the RAF Spadeadam site, and the companies based on the site may utilise the station when receiving visitors.

2.18 The second survey was aimed at visitors to the area, either visiting for the day or staying overnight; this survey was carried out in Spring 2013, and attracted 62 respondents. Of these, perhaps unsurprisingly, 81% had arrived in the area by car, although 5% had used rail in some form for part of their journey to the area, presumably to Hexham or Haltwhistle with the journey being completed by bus. Of those sampled only 42% were day visitors with the remaining visitors staying overnight. This result may be linked to the locations in which the surveys were placed and promoted, however it does show a relatively high level of overnight stays, compared to average for the area (described later in the section on wider economic impacts).

2.19 Of those visitors surveyed 76% stated that they would have used the station as part of their visit if the station were reopened, and 88% of visitor staying overnight in the area would have used the station as part of day trips from Gilsland. Finally 75% stated that they would have visited the area for longer had the station been open, presumably as this would provide more opportunities for day trips.

2.20 The results of the two surveys are extremely positive although it should be considered that there is likely to be some level of response bias where respondents provide the answers that is thought are required of them. Even allowing for this it would seem that the station would be of use to both residents and visitors and that there is strong support for the reopening of the station.
Support for the Station

2.21 There is strong support for the reopening of the station, not just from local residents and visitors, but also from organisations, local authorities and politicians that service the area. The TVRUG has received letters of support from the following groups and individuals:

- Hadrian’s Wall World Heritage Site Management Plan Committee
- Cumbria County Council
- Carlisle City Council
- Fiona Hall MEP – North East England
- Guy Opperman MP – Hexham
- Rory Stewart MP – Penrith and The Border
- English Heritage
- Cumbria County Council
- Carlisle City Council

2.22 This level of support in principle for the reopening of the station is important as attempts are made to develop the case for the station further.

Summary

2.23 From the above it can be seen there are positive indications of a case for a station at Gilsland built around developments in tourism in the surrounding area, based around the asset of the Hadrian’s Wall World Heritage Site, and also an increase in the use of rail for journeys by local resident at adjacent stations which are likely to have similar characteristics to Gilsland village and its catchment area. The results of the residents and visitors surveys would also suggest both strong support for the station and evidence that there would be demand for a station if it were reopened.
3 Demand Forecasting

3.1 The most crucial aspect of a feasibility study of this nature is the demand forecasting exercise, as this forms the foundation on which all potential benefits are built. As described in the introduction, previous studies that have examined the case for a station at Gilsland have only attempted to assess the level of benefit that would be brought from local residential demand. For the majority of stations of this nature this would represent the only source of passengers available, however in the case of Gilsland the tourism potential of the area, and the current relatively limited public transport facilities represent an opportunity to further improves the levels of usage and thus the viability of the station.

3.2 The rest of this chapter fall into three distinct parts, the first dealing with local residential demand, the second dealing with the calculation of tourism demand for the station and the final section estimating the revenue arising from this demand.

Local Residential Demand

3.3 In 2005 as part of the Tyne Valley Rail Study a high level assessment of the potential for reopening Gilsland Station was carried out. JMP has revisited this assessment and applied the same methodology to estimate residential demand.

3.4 The approach applies trip rates per head of population, found in the Association of Train Operating Companies (ATOC) Passenger Demand Forecasting Handbook (PDFH), the rail industries standard forecasting guidance. This applies different trip rates depending on the distance of dwellings from the station with two distinct bands, the first being 0-800m distance from the station, and the second being 800m to 2 km. The trips rates used are presented in the table below:

Table 3.1 Local Residential Demand Origin Trip Rates

<table>
<thead>
<tr>
<th>Catchment</th>
<th>Daily Trip Rate per thousand population</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-800m</td>
<td>25</td>
</tr>
<tr>
<td>800m-2km</td>
<td>6</td>
</tr>
</tbody>
</table>

3.5 The catchment population for the station was based on the four parishes in and around the Gilsland area. The latest population estimates prepared by the Office of National Statistics as a result of the 2011 census were used to estimate the demand for the station. The table below presents the population of these parishes. Although he parish of Upper Denton passes close to the station it was not included in the assessment as there was no significant population in that part of the parish near to the station.

Table 3.2 Parish Population 2011

<table>
<thead>
<tr>
<th>Parish</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thirlwall</td>
<td>455</td>
</tr>
<tr>
<td>Greenhead</td>
<td>385</td>
</tr>
<tr>
<td>Waterhead</td>
<td>130</td>
</tr>
<tr>
<td>Kingwater</td>
<td>170</td>
</tr>
<tr>
<td><strong>Total Population</strong></td>
<td><strong>1,140</strong></td>
</tr>
</tbody>
</table>
3.6 The population is broadly similar to the 2001 population used in the previous study, highlighting that the population of this rural area is broadly stable.

3.7 Based on the approach taken in the 2005 Tyne Valley Rail Study the catchment area population was allocated as being 35% within the 0-800m catchment and 65% within the 800m-2km catchment. This weighting reflects the characteristics of the area whereby stations are likely to have a wider catchment than in more urban areas, although the trip rate per head is likely to be lower. The effect of this is that all catchment population is allocated to one of these two categories. When the trips rates are applied to the population the local residential demand is forecast to be as follows:

Table 3.3 Local Residential Demand

<table>
<thead>
<tr>
<th>Catchment</th>
<th>Annual Trips (Origin and Destination)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-800m</td>
<td>7,242</td>
</tr>
<tr>
<td>800m-2km</td>
<td>3,228</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10,470</strong></td>
</tr>
</tbody>
</table>

3.8 The results presented above are measured in terms of single trips, so for example a day return trip from Gilsland to Newcastle would count as two single trips within this methodology. This is consistent with the methodology used by the Office of Rail Regulation for measuring station usage, making the results presented here comparable with other stations. By way of comparison the 2005 study suggested that 10,198 trips per years would be generated. Thus the difference in predicted demand is only 2.5%. Given that the methodology applied relies on population change this result is not surprising, as the population has remained relatively consistent. The number of trips forecast is likely to represent around one person boarding or alighting each service, assuming a two hourly service is implemented, although in practise demand is likely to be clustered around specific services, and specific days of the week.

3.9 It might however be expected that demand would have increased since the 2005 assessment in line with general rail demand across the country and also on the Tyne Valley Line itself. Therefore a sensitivity test has been applied by comparing demand forecasts in the 2005 study with actual demand recorded on the line itself. An assessment has been made of the stations between Haydon Bridge and Wetheral inclusive. The results of this are presented in Table 3.4 below.

Table 3.4 Actual Demand Compared to Modelled Demand 2004-05 and 2011-12

<table>
<thead>
<tr>
<th>Station</th>
<th>2005 Forecast</th>
<th>2004-05 Actual</th>
<th>2011-12 Actual</th>
<th>2004-05 % of Forecast</th>
<th>2011-12 % of Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haydon Bridge</td>
<td>19,453</td>
<td>15,872</td>
<td>31,078</td>
<td>82%</td>
<td>159%</td>
</tr>
<tr>
<td>Bardon Mill</td>
<td>15,005</td>
<td>5,228</td>
<td>9,076</td>
<td>35%</td>
<td>60%</td>
</tr>
<tr>
<td>Haltwhistle</td>
<td>43,735</td>
<td>54,271</td>
<td>75,958</td>
<td>124%</td>
<td>173%</td>
</tr>
<tr>
<td>Brampton</td>
<td>12,684</td>
<td>8,698</td>
<td>11,896</td>
<td>69%</td>
<td>94%</td>
</tr>
<tr>
<td>Wetheral</td>
<td>26,025</td>
<td>9,885</td>
<td>17,430</td>
<td>38%</td>
<td>67%</td>
</tr>
<tr>
<td><strong>All (exc Haltwhistle)</strong></td>
<td><strong>73,167</strong></td>
<td><strong>39,683</strong></td>
<td><strong>69,480</strong></td>
<td><strong>54%</strong></td>
<td><strong>95%</strong></td>
</tr>
</tbody>
</table>

3.10 It can be seen from the table that at the time of the previous study all stations west of Hexham, with the exception of Haltwhistle were performing below the modelled demand for the stations.
Haltwhistle is something of an outlier within this group as it is the only station with an hourly service throughout the day, which may have had the effect of making the station attractive for railheading. Excluding Haltwhistle, the stations were only generating 54% of forecast demand in 2004-05, which would suggest that the forecast demand for Gilsland in 2005 at this point may have been optimistic. The reasons for the disparity between the 2005 forecast results and the actual demand may have been linked to the quality of service at the intermediate station at this time, with stations such as Wetheral for example, being served by fewer trains than at present.

3.11 Since the 2005 study there has been a significant increase in demand at all stations, this is most noticeable at Haydon Bridge but has occurred at all stations. While Bardon Mill and Wetheral are still below the 2005 modelled forecast the absolute increase represents almost a doubling of demand, and it is possible that these stations will continue to head towards their forecast demand in the coming years. On average, again excluding Haltwhistle, the actual level of demand now represents 95% of the forecast demand. This would suggest that the updated forecast for Gilsland would have a greater chance of being realised were the station to be reopened. The table below presents a number of sensitivity tests for the Gilsland local demand estimate, based on the analysis above.

Table 3.5 Local Residential Demand – Sensitivity Tests

<table>
<thead>
<tr>
<th>Test</th>
<th>Annual Demand (Single Trips)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model Forecast (Base)</td>
<td>10,470</td>
</tr>
<tr>
<td>Intermediate Stations Average</td>
<td>9,946</td>
</tr>
<tr>
<td>Bardon Mill Test</td>
<td>6,282</td>
</tr>
</tbody>
</table>

3.12 Based on the results presented above a reduced demand sensitivity test will be carried out in Section 8 of the report, as part of the economic appraisal. Revenue estimates for the local residential demand will be presented later in this section.

Tourist Demand

3.13 While the station has been seen to have the potential to generate a reasonable number of trips from the local population, this alone is unlikely to be sufficient to construct a case for the station being reopened. However the potential demand from tourists presents the opportunity to increase demand further. As described earlier the area around Gilsland has a rich heritage centred on Hadrian’s Wall, located in a highly scenic setting. This generates two distinct groups of tourist, those seeking to visit the remains of the wall including Milecastles and Forts and the museums and exhibitions associated with these, and the second group being recreational visitors including walkers, who are attracted by the landscape of the area and major paths such as the Hadrian’s Wall trail which runs east-west and the Pennine Way which runs north-south. The development of The Sill heritage centre may also act as a further catalyst for walkers visiting the area, and the development of the station at Gilsland would allow walks along the wall between Gilsland and Bardon Mill via The Sill.

3.14 Forecasting demand arising from tourists is more complex than forecasting local residential demand, not least because the methodology with respect to the link between rail services and tourism is less well developed. However JMP has developed a robust approach based on available data. The potential market for tourism trips has been split into two categories:

- Existing tourist trips abstracted from car
• Newly generated trips brought about by improved accessibility

3.15 The first category, of abstracted trips, includes existing visitors not just to Gilsland but also to other parts of Hadrian’s Wall since the development of a station at Gilsland would make Gilsland more attractive to visit than at present relative to other locations in the area. The second category relates to entirely newly generated trips, with no abstraction from other sites. This is particularly important in terms of the wider economic impact of visitors to the area (discussed later in the report) as this group would bring entirely new revenue to the area in terms of visitor spend. The following sections set out the approach to estimating tourism demand.

Tourism Demand Methodology

3.16 The basis for the tourism demand forecasting was data on visitors to the key Hadrian’s Wall sites kindly provided by the Hadrian’s Wall Trust. This gave information on visitor number to all sites along the length of the Wall although attention was focussed on the central sites between Brampton and Hexham. In addition, information was obtained on the usage of the Hadrian’s Wall National Trail, including the number of walkers passing through particular locations, and the results of surveys of trail walkers that provide evidence on the number of walkers visiting one of the main Hadrian’s Wall attractions as part of their visit.

3.17 Of the available sites for which data was available the following were included:

- Walkers count locations: Willowford, Walltown, Cawfields, Housesteads Track
- Visitor Sites: Chesters, Housesteads, Roman Army Museum, Birdoswald Fort

3.18 To avoid issues related to double counting the Cawfields and Walltown walkers count location results were averaged as they were in close proximity to each other and it was felt that there would be a high probability of walkers passing through both these locations on one walk. The number of visitor sites has also been reduced relative to the total available. This was because it was felt that some sites had specific attractions that would reduce the level of transferability of visits to other locations, these included the Vindolanda Museum and the Once Brewed Visitor Centre. The total number of visits to each of the sites are presented in the table below. Data for walker counts is for 2007 while data for visitor attractions is for 2012.

Table 3.6 Annual Visitor Numbers at Selected Sites

<table>
<thead>
<tr>
<th>Category</th>
<th>Location</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walker Count</td>
<td>Cawfields</td>
<td>19,734</td>
</tr>
<tr>
<td></td>
<td>Walltown</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Willowford</td>
<td>20,866</td>
</tr>
<tr>
<td></td>
<td>Housesteads Track</td>
<td>137,387</td>
</tr>
<tr>
<td>Visitor Attraction</td>
<td>Chesters</td>
<td>45,481</td>
</tr>
<tr>
<td></td>
<td>Housesteads</td>
<td>75,077</td>
</tr>
<tr>
<td></td>
<td>Roman Army Museum</td>
<td>53,281</td>
</tr>
<tr>
<td></td>
<td>Birdoswald</td>
<td>29,233</td>
</tr>
<tr>
<td>All</td>
<td>Total Visits</td>
<td>381,059</td>
</tr>
</tbody>
</table>

3.19 Before it was possible to estimate the level of demand attracted to the station some further data cleaning was required. This included dividing the visits into three categories to include those only walking, those only visiting attractions and those both walking and visiting an attraction. This was
necessary to avoid the double counting of visitors. In addition it was identified that 1/3 of trips to the visitor attractions involved visits to more than one visitor attraction. This figure was identified from a report assessing the business case for the expansion of the Once Brewed Visitor Centre. Based on this, 1/3 of visits to visitor attractions were removed as it was felt that visits that involved visits to multiple sites would not be readily transferrable to rail. Finally, visitors who were thought to arrive by public transport were separated from car users, a 6% public transport mode share was assumed, based on the accessibility provided by the AD122 bus service - this represents an average figure with some sites having a higher level and others a lower level.

3.20 At the end of this process we have an estimate of the total potential market from which rail trips could be attracted. This was divided into three groups; walkers who included a site visit, walkers who did not include a site visit and visitors to sites who did not go for a walk. The table below presents a summary of these three markets.

Table 3.7 Identified Potential Market (Annual)

<table>
<thead>
<tr>
<th>Group</th>
<th>Car Users</th>
<th>Existing Public Transport Users</th>
<th>Total Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walkers – Site Visit</td>
<td>42,480</td>
<td>2,710</td>
<td>45,190</td>
</tr>
<tr>
<td>Walkers – No Site Visit</td>
<td>106,358</td>
<td>6,785</td>
<td>113,143</td>
</tr>
<tr>
<td>Site Visit – No Walk</td>
<td>104,285</td>
<td>5,653</td>
<td>109,938</td>
</tr>
<tr>
<td>Total Visits</td>
<td>253,123</td>
<td>16,156</td>
<td>269,279</td>
</tr>
</tbody>
</table>

3.21 Having identified the size of the potential market for rail services it was possible to apply a conventional demand forecasting methodology to the results to obtain the likely demand at Gilsland.

3.22 Firstly, demand created through abstraction from existing car trips was estimated. The method used was one set out in the Transport Research Laboratory (TRL) Handbook “The Demand for Public Transport”. This used a cross elasticity of demand to estimate the number of existing trips that would be abstracted from car to rail. A cross elasticity of demand estimates the number of trips removed from mode A (in this case car) when a proportional change in the costs of mode B (in this case rail) is implemented. To operationalise this, estimates of the generalised cost of public transport access to Gilsland at the present time were made compared to the generalised cost with a reopened rail station. Generalised cost is the monetised value of a trip, measured in terms of cash fare and the monetised value of time, so for example if a passenger held a value of time of 11 pence per minute and a journey took 15 minutes and had a fare of £3.00 the generalised cost of the trip would be £4.65 ((11 x 15) + 300).

3.23 For the purposes of the modelling exercise it was assumed that all trips were from Newcastle to Gilsland. This assumption was made as it would seem logical that a significant part of the catchment area for Hadrian's Wall would lie in Tyne & Wear, the nearest major conurbation, and while some trips will originate from further away some will also be nearer. The majority of the change in generalised cost resulting from the opening of the station arises from journey time rather than fares changes, based on the removal of the need to change from rail to bus and the connection time associated with this. The level of abstraction from car to rail was estimated at 1.2% of the total car market. While this figure might seem low the frequency of the rail service and to an extent the journey time still makes car a more attractive mode in a lot of cases.
3.24 An estimate was also made of the newly generated demand, that is, entirely new trips to the area. This was based around the level of existing public transport demand, estimated at 6% of the total market for visitors to the area. This was again estimated using an elasticity based process based around the change in generalised cost from the opening of the station. An elasticity of -0.9 was applied, which when applied to the generalised cost gave a 22% increase in the number of trips by public transport to the area.

3.25 The table below presents an estimate of the annual number of tourism trips that Gilsland station might generate. Again this is presented in terms of the number of single trips generated to make the figure comparable with the residential demand forecast previously. In addition the residential demand is presented for completeness.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Total Trips Generated (single trips)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstracted Tourism Trips</td>
<td>6,200</td>
</tr>
<tr>
<td>Newly Generated Tourism Trips</td>
<td>9,102</td>
</tr>
<tr>
<td>Total</td>
<td>15,302</td>
</tr>
<tr>
<td>Local Residential Trips</td>
<td>10,470</td>
</tr>
<tr>
<td>Total (Local Demand &amp; Tourism)</td>
<td>25,772</td>
</tr>
</tbody>
</table>

3.26 It can be seen that the potential tourism market for a station at Gilsland is substantial at around 15,000 trips per annum, being 1.5 times the number of local trips generated. Clearly this figure represents a high level estimate and a greater understanding of the origins of trips visiting the whole Hadrian’s Wall area would be needed to provide a more accurate estimate of the effect of the opening. It is important to note that the station would receive significantly more newly generated trips than abstracted trips. This is important for the local economy in the area as abstracted trips would not generate any additional benefits to the local economy, merely transferring them from other parts of the local economy, bringing no net increase. In contrast the newly generated trips would represent an entirely new source of income to the area.

**Validation of Results**

3.27 It is fair to say that there is a possibility that the methodology under represents the potential for newly generated trips as the new station will represent a step change in the level of public transport accessibility to the area where the elasticity approach is really designed for estimating the impact of more marginal changes.

3.28 With this in mind and in an attempt to validate the results of the demand forecasting exercise, an assessment was made of a comparator station which was thought to have similar characteristics. The comparator was Horton-in-Ribblesdale station on the Settle & Carlisle line. This station was appropriate as the station has a very tight catchment area with no leakage to other stations due to the topography of the area. It was possible to carry out the same process as that applied to estimate the local demand at Horton, which has a much smaller catchment population than Gilsland. The result of this showed that local demand represented around 5,000 out of 19,000 annual trips. This left around 14,000 single trips per annum that could be nominally allocated to tourism. Horton-in-Ribblesdale is located at the heart of the Three Peaks area of the Yorkshire Dales National Park, and in addition to the Three Peaks path a number of other long distance paths including the Pennine Way and Dales Way pass through the area. This makes the station very attractive to recreational walkers, as might be the case at Gilsland. It is known that 80,000 people per year complete the Three Peaks walk, if this market is taken in isolation a mode share of 8.75%
for rail would be implied. In practice many visitors will carry out other less strenuous walks, so the mode share will drop below this. In view of this it would seem that the number of tourism trips forecast for Gilsland would seem to be relatively robust based on the assumptions made about existing mode share.

Revenue Estimates

3.29 Having completed the estimates of demand for the station it is then possible to estimate the revenue accruing as a result of the opening of the station. This was achieved in two parts. Firstly the revenue resulting from the local residents was generated. This was estimated by applying a trip distribution based on a gravity model to the total number of local trips (10,470). The gravity model was based an approach set out in the PDFH. The resulting trip distribution allocated trips from Gilsland to other stations on the line. The trip distribution was limited to trips between Carlisle and Newcastle. Newcastle and Carlisle stations acted as proxies for all other stations on the network. This will result in something of an underestimate of the total revenue generated by the station but will capture robustly the revenue allocated to the Tyne Valley Line.

3.30 Having estimated a trip distribution, a fares matrix for trips from Gilsland was estimated based on an average of fares from Brampton and Haltwhistle stations. As the number of trips estimated represented single trips, the number was divided by two to produce the number of return trips each year. The off peak return fare was then multiplied by the number of trips between each origin destination pair to obtain a total revenue estimate.

3.31 To estimate the revenue accruing from tourism trips the average fare per trip from the local demand generated was multiplied by the estimated number of return trips (single trips divided by two). This had the effect of imposing the same trip distribution on the tourism revenue as for the locally generated revenue, again this represents a conservative approach as the tourism trips may be longer than the average trip for local users.

3.32 The average fare was £13.25, quite close to the fares between Gilsland and Metrocentre or Newcastle. This shows that while the absolute number of trips generated by the station is relatively low the revenue per passenger is quite high. This is a reflection of the type of trips that are likely to be generated at stations in rural areas with trip length being quite high as trips are dominated by accessing work, education and leisure opportunities in urban areas. The table below presents the revenue estimate for the station by demand group.

**Table 3.9 Forecast revenue generation at Gilsland Station (£ per annum)**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Total Trips Generated (single trips)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Residential Trips</td>
<td>£68,487</td>
</tr>
<tr>
<td>Abstracted Tourism Trips</td>
<td>£41,151</td>
</tr>
<tr>
<td>Newly Generated Trips</td>
<td>£60,413</td>
</tr>
<tr>
<td>Total</td>
<td>£170,051</td>
</tr>
</tbody>
</table>

3.33 It can be seen from the table that the revenue generated is very positive. However it must be considered that this revenue has to offset the loss in revenue from existing stations as a result of the lengthened journey time as a result of trains calling at the station, and also cover the operating costs of the station, discussed further in following sections. However even allowing for this the generated revenue would seem sufficient to represent a net increase in revenue on the Tyne Valley Line.
### Impact on Existing Public Transport

3.34 Within this assessment there has been no explicit attempt to model the effect on existing public transport services, mostly bus services, which operate in the area.

3.35 The forecasts presented have assumed that none of the existing visitors accessing the area by public transport would transfer to the station at Gilsland. This is because it is felt that the level of complication involved in accessing many of the locations along Hadrian's Wall is such that only visitors with a desire to visit a particular site would use the existing services, and therefore these visitors are not regarded as tradable to Gilsland in much the way that visitors to the Vindolanda site were excluded from this assessment as it was felt that visitors had a specific purpose in visiting this site that could not be traded for a visit to the Gilsland area.

3.36 The main bus service that might be affected by the new station is the AD122 service which links various attractions in the area. The effect of opening the station at Gilsland is thought to be complementary rather than competitive, as the service would be able to connect in and out of trains as it does at Hexham and Haltwhistle and provide the option of days out involving catching the train to Gilsland, using the bus to visit a number of sites and returning from Haltwhistle or Hexham. With the possibility of joint marketing and tickets between bus and rail this would create an attractive package to market to potential users.

3.37 In terms of all year round services the introduction of the new station would not be likely to have a significant effect. The station would be more likely to attract car users rather than existing bus users. In addition bus services are likely to be used heavily by holders of concessionary passes who would not be attracted to rail services as the concessionary pass brings free bus travel but does not reduce the cost of rail services to pass holders. Furthermore the rail service is likely to serve longer trips while the bus service will be aimed at shorter distance trips, which are largely two distinct markets.

3.38 It is possible that the 685 service between Newcastle and Carlisle would be a beneficiary of the station opening, as any existing passengers lost as a result of lengthened journey times may in some circumstances move to the competing bus service if this provided a more direct option.

### Summary

3.39 Based on the methodology applied it is estimated that a total of around 25,000 trips per annum might be generated by a station at Gilsland, bringing a revenue of around £170,000 per annum. The previous estimates of local residential demand are still valid, representing around 10,500 trips per annum. The reasons that these estimates are still valid are linked to the historic underperformance of stations on the line which appears to have subsequently improved, with significant growth in demand in recent years. An estimated 15,000 trips per annum would be generated as part of tourist visits to the area. Approaching 2/3 of these trips would be newly generated, helping to bring a boost to the local economy, while the remaining 1/3 represents the movement of existing tourism trips to rail, helping to improve the sustainability of visits to the area by removing car trips from the road network. Finally the impact on existing public transport services is thought to be limited due to the contrasting markets that bus and rail services are aimed at. Were the station to be reopened it would be necessary to mount a concerted marketing campaign to attract visitors to use the station, due to the step change in the quality of the public transport offer relative to the existing situation.
4 Effect on Existing Users of Tyne Valley Services

Introduction

4.1 While the station will generate new revenue for the Tyne Valley Line, through new rail trips by local residents and by tourists visiting the area the station also has the potential to lower demand for existing rail trips. The cause of this is linked to the additional time that will need to be added to the timetable to accommodate stops at the station, this lengthening of journey times (albeit small) for existing users will have an effect on demand and this needs to be assessed to fully appraise the impact of the opening of the new station.

4.2 Northern Rail has kindly supplied Automatic Passenger Count (APC) data for Haltwhistle and Brampton stations. This data is collected by specially equipped trains within the Northern Rail fleet and provides data for individual services and stations. This allows a very detailed assessment to take place of the potential effect on existing demand.

Service Options

4.3 The effect that Gilsland station would have on existing traffic flows on the line is likely to be very dependent on the service pattern chosen for the station. There are a number of options for this which are presented below:

- All services stop providing an hourly service in each direction
- Services call every two hours – in the same pattern as the services which stop at Bardon Mill and Brampton
- A more bespoke pattern where the basic service level is two hourly but additional services stop at “peak times” for Gilsland, for example Saturday mornings when there are likely to be more visitors arriving, or all day on Sundays.

4.4 The first option would have the greatest impact on existing revenues as all services would be affected by the opening of the station, and this would lead to the greatest reduction in revenue. The second option would provide a more limited service, although it would be likely to meet the needs of the majority of leisure travellers and limit the effect on existing users. The third option would maximise the potential of Gilsland while attempting to limit the impact on existing revenue. It is likely that the exact details of this last option would have to be identified in more detail as the station was developed further, and might even be best implemented after the station had opened when patterns of demand became more apparent.

4.5 For the purposes of this assessment two scenarios have been modelled, the first with all trains stopping and the second with a two hourly service equal to the present service at Bardon Mill and Brampton.

Assessment of Revenue Loss

4.6 The APC data provided by Northern was analysed and from the figures presented an annualised total was prepared. A small number of services on Mondays to Saturdays (three in each direction) are provided by ScotRail, as part of through services from South West Scotland. These services were not included in the APC data and assumptions had to be made about the loadings on these trains. The assumption made was that the load would equal the average of the two Northern services either side of the ScotRail services in the timetable.
4.7 From the APC data it has been estimated that around 204,679 passengers per year use the “slow” services passing through the Gilsland site, and 120,611 passengers use the “fast” services. Given that there are more slow services than fast services and that the slow services tend to dominate at peak times this result is not surprising.

4.8 These figures were then applied to an assumed trip distribution for stations along the line to convert the total number of trips into a series of origin and destinations. The approach used was based on a method set out in Section C of the (PDFH). From this it was also possible to estimate revenues based on the application of off peak return tickets between origin destination pairs. An approach set out in section B4 of the PDFH was then used to estimate the change in demand arising from the extra journey time from trains calling at Gilsland. It was assumed that journey times would be lengthened by 2 minutes as a result of trains calling at Gilsland. Such a change in journey time is not unreasonable given that trains are operating at the line speed of 60 mph at this point in their journeys. The same impact was assumed for both stopping and slow trains. The resulting change in demand is presented in the table below:

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Base Trips</th>
<th>Trips Lost</th>
<th>% Loss</th>
<th>Revenue Lost (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Fast” Services</td>
<td>120,611</td>
<td>1,962</td>
<td>1.6%</td>
<td>£32,432</td>
</tr>
<tr>
<td>“Slow” Services</td>
<td>204,679</td>
<td>3,029</td>
<td>1.4%</td>
<td>£49,449</td>
</tr>
<tr>
<td>All Services</td>
<td>325,289</td>
<td>4,991</td>
<td>1.5%</td>
<td>£81,881</td>
</tr>
</tbody>
</table>

4.9 It can be seen from the above that while the fast services carry fewer passengers overall, they generate a proportionately greater loss in revenue. This is due to the nature of these services where trip length is inherently longer due to the lack of stops in the service, thus increasing revenue per trip. Given the likely level of demand for the station it has been decided to apply the results of the “slow” services scenario as the central case within the appraisal.

Patterns of Demand

4.10 The APC data provided also allowed an assessment to be made of the patterns of demand on the line to ascertain if demand is stronger at particular time periods. The most useful assessment is to compare loading on weekdays compared to weekends. The best comparison to make is that between the Monday to Friday service and the Saturday service where the timetable is essentially the same but where loadings will differ. Comparisons with Sunday services are complicated by the different timetable that operates on Sundays, in addition to small sample sizes from the APC data. The figures below present a comparison of loading between weekday and Saturday services.
Figure 4.1 Average eastbound train loads at Haltwhistle

Figure 4.2 Average westbound train loads at Haltwhistle

4.11 Figure 4.1 presenting eastbound train loads shows a marked contrast between weekdays and Saturdays. In the mornings eastbound services are significantly busier on Saturdays than on weekdays, illustrating the dominance of leisure trips on the line, and the relative lack of commuting
on eastbound weekday services. The cause of this spike is likely to be linked to shopping and other leisure trips towards the Metrocentre and Newcastle. A similar but less pronounced pattern exists for westbound services, with average loading generally being higher on Saturdays, but in this case a much stronger peak exists in weekday evening peak services. This suggests that the Saturday eastbound morning peak loads return over a longer period, perhaps explaining the high loads on the last two departures from Newcastle.

4.12 The implication of these results is that the stopping more trains at Gilsland would not have a major effect on demand for existing services by less than 2%. This is because the number of trips on weekdays is relatively low, while the high number of trips on Saturdays are not likely to be sensitive to changes in journey time as leisure passengers have very low values of time, so would be unlikely to change mode as a result of the increased journey time. The main constraint to service planning might be overcrowding on eastbound Saturday morning services, although this might be a wider issue that needs to be addressed to benefit other stations on the line in addition to Gilsland.

Summary

4.13 Overall it can be seen that the revenue impacts of reopening Gilsland station on existing usage of the Tyne Valley Line are not severe and the revenue from Gilsland station would more than offset the loss to existing services. The reduction in demand would be around 5,000 trips per annum at most, against 15,000 additional trips from Gilsland. In terms of revenue, in the worst case scenario the revenue loss would represent around 47% of the revenue accruing to Gilsland. In addition it is possible that not all of the forecast loss would occur as the increase in journey time is relatively small and the sensitivity of passengers to the changes may not be great given the dominance of leisure traffic on the route. For the purposes of this study, to limit the impact on existing services, it is assumed that only the slower stopping services would serve Gilsland.
5 Wider Economic Impacts

5.1 Following the estimation of the demand and revenues for the station it is possible to prepare an estimate of the wider impacts of the station on the local economy. These benefits are entirely related to the additional tourism generated in Gilsland, Greenhead and the surrounding area as a result of more visits taking place.

5.2 The benefits of additional tourists visiting the area are represented by additional visitor spend. Broadly this falls into two categories, the first being overnight visitors who will spend more per trip, as they will have to purchase some form of accommodation. The second group will be day visitors who will spend less individually than overnight visitors, but who are likely to more numerous than overnight visitors.

Assessment of Wider Economic Impacts

5.3 As part of this work the Hadrian’s Wall Trust kindly provided information on tourism spend along Hadrian’s Wall. This data was prepared by the Scarborough Tourism Economic Assessment Model (STEAM), recognised as the standard source of information on the economic impact of tourists across specific locations.

5.4 The data on visitor spend is divided into five categories; accommodation, food/drink, recreation, shopping and transport. Of these transport is excluded from this assessment as this has already been incorporated as part of the revenue assessment of the station. From the information in the STEAM data, which provides a total value for all visitors it is possible to estimate the average spend per visitor. For overnight visitors it has been estimated that £34.22 per person is spent on accommodation, and a further £61.01 is spent during the day. Day visitors in contrast only spend £16.69. The disparity between day spend for day visitors and overnight visitors can be attributed to the need to spend more on food and drink as a result of being based in the area rather than returning home. The average duration of stay for overnight visitors is 2.7 nights.

5.5 Clearly overnight visitors are of greater value to the economy as a whole than day visitors. The available data suggests that for the Hadrian’s Wall area as a whole 11% of visitors stay overnight, however given the isolated nature of Gilsland it is likely that a higher proportion of visitors will be overnight visitors than the average. This is also backed up back by the tourism survey carried out by TVRUG which found that 58% of visitors stayed overnight. To accommodate this, a sensitivity test has been carried that assumes that 20% of visitors would stay overnight. An assessment of the annual economic impact of visitors to the area is presented below.

Table 5.1 Economic Impact of Tourism on Gilsland Area (£ per annum)

<table>
<thead>
<tr>
<th>Visitor Group</th>
<th>Abstracted Car Trips</th>
<th>Newly Generated Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Overnight</td>
<td>11%</td>
<td>20%</td>
</tr>
<tr>
<td>Overnight</td>
<td>£87,682</td>
<td>£159,421</td>
</tr>
<tr>
<td>Day Visitor</td>
<td>£46,049</td>
<td>£41,392</td>
</tr>
<tr>
<td>Total</td>
<td>£133,731</td>
<td>£200,814</td>
</tr>
<tr>
<td></td>
<td></td>
<td>£196,327</td>
</tr>
<tr>
<td></td>
<td></td>
<td>£294,810</td>
</tr>
</tbody>
</table>

5.6 Overall it can be seen that visitor spend will bring between £329,000 and £494,000 per annum to the Gilsland and Greenhead area dependent on the assumption about the level of overnight visitors. However this falls into two categories. The smaller category of abstracted car trips represents revenue that might be transferred to Gilsland at the cost of revenue elsewhere on the
Hadrian’s Wall corridor. The second category represents entirely new revenue generated as a result of the station being constructed.

5.7 A further impact of this additional spend in the local economy is an impact on the jobs market. The STEAM data suggests that for every additional £41,000 spent in the economy a new full time job will be created. Around 80% of jobs created will be direct, which is to say a job will be created within the business that is receiving the additional revenue while the remaining 20% will be indirect, with the supply chain of the company receiving the additional income. Based on the figures presented above it is possible to estimate the number of additional jobs that will be created as a result of the additional visitor spend.

Table 5.2 Additional Jobs Created as a result of visitor spend (FTE)

<table>
<thead>
<tr>
<th>Visitor Group</th>
<th>Abstracted Car Trips</th>
<th>Newly Generated Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Overnight</td>
<td>11% 20%</td>
<td>11% 20%</td>
</tr>
<tr>
<td>Direct</td>
<td>2 4</td>
<td>4 6</td>
</tr>
<tr>
<td>Indirect</td>
<td>1 1</td>
<td>1 1</td>
</tr>
<tr>
<td>Total</td>
<td>3 5</td>
<td>5 7</td>
</tr>
</tbody>
</table>

5.8 For the size of the area and its resident population the increase in jobs represents an important uplift. If abstracted car trips are ignored, for the reasons set out above, the station has the potential to generate between five and seven additional full time jobs. To put this in context the results of the 2011 census identify 31 people being employed in tourism related activities within the parish of Thirlwall (the parish in which Gilsland lies), therefore the additional jobs could represent an uplift of 22% in tourism related jobs in the area.

Summary

5.9 From the above it can be seen that the reopening of the station at Gilsland would have a positive impact on the economy of Gilsland and the surrounding area and would bring a net increase in spending and jobs in the Hadrian’s Wall area as a whole. The net increase in spending would represent an additional £200,000 to £300,000 per annum based on present levels of visitor spend. An additional 5 to 7 full time jobs would also bring a useful increase in employment opportunities within the local area helping to support and develop local businesses.
6  Station Location and Feasibility

6.1 Having conducted an assessment of the likely demand and revenue impacts of a station at Gilsland, an assessment is now carried out of the physical feasibility of constructing a station that meets current design standards on the proposed site. This then leads in the following section to an assessment of the costs of constructing the station.

Station Location

6.2 The location for the proposed station is on the site of the former station. No other sites have been considered in detail as this site is readily available and presents comparatively few access problems relative to a new site. It is also located relatively centrally to the village and adjacent to the main road through the village.

6.3 The site is located in the south of the village off the B6318 road which runs from the A69 at Greenhead to Gilsland. On the railway the site is located close to milepost 42 between Brampton and Haltwhistle stations. Road access to both side of the rail line is possible, although the south side of the railway line (Carlisle bound side) is the most appropriate location for any car park associated with the site.

6.4 The platforms of the previous station have been removed in both directions with no evidence at all of the former station in the westbound direction. On the eastbound line the former station building and house still stands, albeit set back from the line, and are now used as private residences. This may present some issues relating to land ownership and access for the development of the eastbound platform.

6.5 The track gradients do not present any barriers to the location of a station. The site is located on a change in gradient, with a falling gradient of 1 in 922 towards Upper Denton westbound and a level gradient towards Haltwhistle. There also appear to be no constraints relating to the location of signals and signalling equipment. The only obvious issues being the need to move a signalling conduit in the eastbound direction forward to accommodate the platform, and the need to alter the position of a flange lubricator on the westbound line.

Design Specification

6.6 There are clearly a number of separate items that the station will require, all of which will need detailed design work if the scheme is progressed and for which sufficient space is required on the site. In the case of Gilsland these are:

- 2 Platforms - assumed to be 50m or 100m long to accommodate two or four car trains
- Access ramps – built to present design standards to accommodate wheelchair access
- Waiting accommodation
- Station Lighting
- Car Park

6.7 Each of these elements are discussed separately below, including a discussion of potential issues and options.
Platforms

6.8 The station will require two platforms in the eastbound and westbound directions. The central case assumption is that the platforms will each be 50m long. This is sufficient to accommodate trains formed of two 23m vehicles, of which Class 156s, that provide the majority of services, are formed. An alternative option that would future proof the station against any future increase in train length on the line would be the construction of 100m long platforms that would provide sufficient accommodation for four 23m vehicles. At the present time the majority of smaller station on the line are unable to accommodate such trains therefore the use of four car trains in the medium term would seem unlikely.

6.9 A third option would be to construct the platform to a significantly shorter length, for example 15m. This would be shorter than the trains stopping at the station and would therefore require a derogation from the Office of Rail Regulation (ORR) and Her Majesty’s Railway Inspectorate (HMRI). While this option would lower construction costs significantly it would present a deliverability issue as such a station has not been opened under present legislation in England, although examples exist in Scotland such as Conon Bridge or Beauly. This option should be considered if a business case for a longer station cannot be made satisfactorily.

6.10 Locating 50m platforms within the present site would not appear to present any serious issues. In the case of the westbound (Carlisle) platform there appears to be sufficient space within the curtilage of the existing railway boundary. This may also be possible in the case of the eastbound (Newcastle) platform although land ownership issues are complicated in this area by the extent of land ownership on the part of the former station house.

6.11 Were 100m platforms to be considered it would seem that these could again be accommodated in the westbound direction without any severe issues. However in the case of the eastbound platforms there is the complication of an embankment dropping down to Rose Hill, on which it is not clear if there would be sufficient space to mount a platform without resorting to expensive measures such as cantilevering. The central case assumption used in this report is that the platform will be 50m long.

Access Ramps

6.12 It has been identified that it should not be necessary to provide a footbridge at the station to cross the line as both the pedestrian subway at the west end of the station site and the B6318 road bridge at the east end of the site could be used to cross the line. However access ramps to the platforms will be required. In the case of the westbound platform this does not present any severe constraints as the site is relatively level and there should be sufficient room to accommodate a Disability Discrimination Act (DDA) compliant access ramp. However the provision of a compliant ramp for the eastbound platform presents more challenges. The most suitable location for an access ramp would be at the top of Rose Hill adjacent to the former station building where the road and rail levels are very similar. However there may be land ownership issues related to this and it is possible that a Compulsory Purchase Order (CPO) would be required. This may be complicated further as it is not clear if Rose Hill is part of the adopted highway or a private road. If the latter this may require other agreements. In addition consideration of access to the former station building would have to be given, when planning this. An alternative access point for the eastbound platform would be at the west end of the site where a public right of way presently passes under the railway through a subway. This shows signs of having previously been used as access to the station. There are a number of issues with this option and these are as follows:

- Potential gradient of ramp within the constraints of footpath and platform location
- The need to upgrade subway to DDA standards
- Infringement on the curtilage of Station House

6.13 The first and second points represent the most significant impact in terms of cost and deliverability, while the third point has the potential to create delivery delay and require land purchase. Insufficient space to install a DDA compliant ramp would effectively prevent this access point being developed as a DDA compliant access point. In addition if the existing subway required substantial upgrading this would add a significant amount to costs, in addition to the need to re-grade the ramp on the eastbound side. It is therefore recommended that this option is not pursued for providing DDA compliant access unless access points via Rose Hill cannot be pursued.

Waiting Accommodation and Station Lighting

6.14 In addition to platforms the station would require some form of waiting facilities. Given the likely volume of passengers using the station and the costs involved only a minimal level of provision could be afforded. In common with many other stations across the network this would be in the form of a bus shelter style facility, with one shelter provided on each platform. One issue that might hamper the delivery of this would be any planning restriction affecting the area around the location such as conservation areas. Gilsland village itself falls outside the Northumberland National Park, however the location of the station is still within an environmentally sensitive area and this may constrain the options for the cost effective delivery of waiting accommodation.

6.15 Station lighting would be a requirement for the operation of the station at night. However it is noted that Gilsland is in a sensitive area in relation to light pollution, and there is desire to minimise the level of light pollution created in the area. While minimising light pollution would contribute to increased costs it may well be possible through careful design.

Car Park

6.16 There appears to be sufficient space to provide the station with a 22 space car park adjacent to the westbound platform, which would be likely to meet the needs of local residents using the station. There may however be land ownership issues associated with delivering this, as the land required would fall outside of the present railway boundary. To minimise the impact of this it would be desirable to develop the station with a lower level of parking to minimise the land take and the impact on surrounding properties.

Site Plan

6.17 The following figure presents a plan of the suggested layout of the station with 50m platforms and a 22 space car park in place. The figure is illustrative, but demonstrates that the requirements of the station can be accommodated within the chosen site. Appendix A presents photos of the station site as it exists at the current time.
Figure 6.1 Proposed Gilsland Station Site Plan
Deliverability Issues

6.18 In addition to the component parts of the station described above there are a number of issues that need to be considered as part of the process for delivering the proposed station at Gilsland. At this point in the development of the station they are mainly issues about which there is a need for awareness rather than being causes for concern.

6.19 The first main issue relates to land ownership issues around the station site. The existing operational railway land is likely to yield sufficient space to deliver the westbound platform. However the delivery of the eastbound platform, access ramps and station car park may create more issues. The eastbound platform and associated access ramps are likely to require the purchase of land from the present owners of the Station House. If this required a Compulsory Purchase Order this would add to the costs involved. It is also important to consider access to Station House for the owners and occupiers and this would have to be accommodated within the designs for the station. A further issue relates to the status of Rose Hill, if this is a private road rather than part of the adopted highway there would be a need to establish access over this to provide access to the station.

6.20 The station car park and upgrade of the access road may also present some complications. At the present time there is an unofficial car park in front of the properties adjacent to the westbound line, although a public right of way crosses the site the ownership of this land is unclear and it is also unclear if the area is part of the adopted highway maintained by the local authority or the responsibility of the owners of the properties. If the latter is the case there would again need to be land purchased to facilitate the car park and to provide formal access to the station.

6.21 It is suggested that if the station proposal is to be taken forward there would be a need to begin consultation with the relevant land owners at an early stage of development.

6.22 A further issue relates to the quality of the existing bridges under the railway. The present subway to the west of the station site (Engineers Line Reference (ELR): NEC2-132), is of sub standard height and width and may require some upgrading. However the scope of this work could be limited if the subway is not used to provide DDA compliant access to the station. The main bridge (ELR: NEC2-131) which carries the railway over the B6318 presents a greater issue. The bridge provides the main vehicular access to Gilsland from the A69, however the bridge is relatively narrow with the width varying from 4.4m to 4.6m. At the present time the bridge has no pedestrian facilities which would be required if the station was to be reopened. The solution to this issue might well involve the introduction of a number of traffic management measures, including limiting the bridge to traffic passing through the bridge in one direction at a time, either through the use of signs or traffic signals. This would reduce the need for the carriageway to extend the across the full width of the bridge and provide sufficient space to construct a pavement.

6.23 The alternative to the option above would involve the physical widening of the bridge which would be extremely expensive and would have a significant impact on the business case for the station, unless the widening of the bridge could be justified on wider grounds, for example if it was necessary to replace the bridge deck as part of more general Network Rail renewals. Further discussion would need to be held with the Highways Department of Northumberland County Council to understand the full implication of improving the underbridge.

6.24 These represent the main constraints to the delivery of a station at the proposed site and in general the site represents a viable location for a station with relatively few complications.
7 Station Cost Estimates

7.1 Following the examination of the feasibility of constructing a station at Gilsland above it is possible to develop an estimate of the costs of constructing the station and the associated works required. It should be considered that these costs represent a high level estimate and by their nature cannot consider any issues that may be found if a more detailed engineering assessment is carried out, for example if it was found that strengthening of earthworks were required.

Capital Costs

7.2 The capital costs estimated cover the cost of the construction of the station itself along with the costs of constructing the car park, access ramps and any other directly associated highways works. An estimate has been made of the cost of land purchase where necessary. The table below presents the estimated costs of the main elements of construction.

Table 7.1 Capital Costs of Construction

<table>
<thead>
<tr>
<th>Cost Item</th>
<th>Estimated Cost</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2* 50m Platforms</td>
<td>£180,500</td>
<td>Would assume lightweight construction</td>
</tr>
<tr>
<td>2* Passenger Shelter</td>
<td>£33,930</td>
<td>Assumes minimalist bus shelter approach</td>
</tr>
<tr>
<td>Platform Access Ramps</td>
<td>£100,000</td>
<td>Assumes disabled access from Rose Hill</td>
</tr>
<tr>
<td>Upgrade Works to Subway (ELR: NEC-132)</td>
<td>£75,000</td>
<td>Does not include significant widening or increased headroom</td>
</tr>
<tr>
<td>S&amp;T Cable Diversion</td>
<td>£20,000</td>
<td>Movement of conduit on Up Line</td>
</tr>
<tr>
<td>Platform Lighting and Associated Plant</td>
<td>£77,394</td>
<td>Lighting columns and electricity supply</td>
</tr>
<tr>
<td>Car Park (up to 22 spaces maximum)</td>
<td>£150,000</td>
<td></td>
</tr>
<tr>
<td>Highway Works around B6318 Underbridge (ELR: NEC-131)</td>
<td>£200,000</td>
<td>This would vary dependent on exact scheme specified</td>
</tr>
<tr>
<td><strong>Total (excluding land purchase)</strong></td>
<td><strong>£836,824</strong></td>
<td></td>
</tr>
<tr>
<td>Land Purchase</td>
<td>£30,000</td>
<td>Estimated – assumes small areas of land with little alternative use</td>
</tr>
<tr>
<td><strong>Total (including land purchase)</strong></td>
<td><strong>£866,824</strong></td>
<td></td>
</tr>
</tbody>
</table>

7.3 The costs of construction are estimated at £836,000, excluding the cost of land purchase. This does however include significant amounts for highway works and work to the subway at the west end of the station site. An additional £30,000 has been added for the purchase of land to facilitate access ramps and car parks. It is felt that the value of this land is currently quite low as there is little alternative use for it for commercial, industrial or residential purposes.

7.4 In addition to the construction costs estimated above there are a number of additional costs that need to be included. These relate to preparation costs such as surveys and design works, Network Rail fees and the addition of risk and contingency. Finally a figure is applied to represent optimism bias surrounding the business case as a whole. This latter figure is an economic concept and not a
financial concept and is therefore only used in the appraisal discussed in the later report. The rate applied is 66% to the rail aspects of the project and 44% to the highways and car parks aspects of the project. While the figure appears high it is in line with Department for Transport WebTAG guidance for rail projects that are at an early stage of development. The purpose of Optimism Bias is to acknowledge that at an early stage in a project there are significant risks to both the calculation of costs and benefits, as the scheme evolves further this figure lowers as the exact risks associated with a particular scheme are acknowledged and assessed in detail.

7.5 It has been assumed that some aspects of the work, including the highways works and the construction of the car park would be carried out by Northumberland County Council (NCC) and therefore the levels of risk applied vary depending on which body (NCC or Network Rail) are responsible for a scheme.

7.6 The table below presents the additional costs involved to give a final estimate of scheme costs both with and without Optimism Bias.

Table 7.2 Total Scheme Costs

<table>
<thead>
<tr>
<th>Cost Item</th>
<th>Estimated Cost</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction Costs</td>
<td>£866,824</td>
<td>From Table 4.1</td>
</tr>
<tr>
<td>GRIP4/5 Survey and Design Work</td>
<td>£200,000</td>
<td></td>
</tr>
<tr>
<td>Network Rail Fees</td>
<td>£82,760</td>
<td>17% of Network Rail associated costs</td>
</tr>
<tr>
<td>Risk and Contingency</td>
<td>£531,121</td>
<td>45% at this preliminary stage</td>
</tr>
<tr>
<td><strong>Total Scheme Costs (exc Optimism Bias)</strong></td>
<td><strong>£1,680,705</strong></td>
<td></td>
</tr>
<tr>
<td>Optimism Bias (Rail 66%, Highway, 44%)</td>
<td>£860,789</td>
<td></td>
</tr>
<tr>
<td><strong>Total Scheme Costs (inc Optimism Bias)</strong></td>
<td><strong>£2,541,494</strong></td>
<td></td>
</tr>
</tbody>
</table>

7.7 Overall it can be seen that the scheme costs are around £1.7M excluding optimism bias. With the inclusion of Optimism Bias this rises to £2.5M. Given the nature of the station these costs are not untypical, primarily because a footbridge, which would represent a significant additional cost, is not required. These costs should be treated as early stage estimates and would require further work to validate them.

Ongoing Operating Costs

7.8 In addition to the capital costs presented above the ongoing operating and maintenance costs of the station need to be considered. The main components of these are as follows:

- Station Long Term Charge
- Day to day maintenance costs
- Utilities costs (lighting)

7.9 The station long term charge is a charge made by Network Rail (the landlord) on the tenant (the train operator – presently Northern Rail) for the lease of the station. The charge is designed to cover those maintenance responsibilities that go beyond those for which the franchisee is responsible, largely long term maintenance issues. For the station to be viable it would as a
minimum have to cover its operating costs from the revenue generated. The table below presents the estimated operating costs for the proposed station.

Table 7.3 Ongoing Operating Costs

<table>
<thead>
<tr>
<th>Category</th>
<th>Estimated Cost per Annum (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Station Long Term Charge</td>
<td>£13,335</td>
</tr>
<tr>
<td>Light Maintenance</td>
<td>£2,000</td>
</tr>
<tr>
<td>Utilities (lighting)</td>
<td>£4,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>£19,335</strong></td>
</tr>
</tbody>
</table>

7.10 It can be seen from the above that the Station Long Term Charge represents a significant proportion of the annual operating costs. The figure presented is taken from that at Bardon Mill which is a similar station in Network Rail category F2.

Summary

7.11 The section above has presented some estimates of costs for the development of a station at Gilsland. The capital costs of the scheme are thought to be around £1.7M, rising to £2.5M when optimism bias is included. This latter figure is the one that will be used in the business case presented in the next chapter in the report. Ongoing operating costs are thought to be in the region of £20,000 per annum.
8 Economic Appraisal

8.1 Having completed a demand forecasting and costing exercise it is possible to carry out an economic appraisal of the scheme. This appraisal is based on the principles set out in the Department for Transport's Webtag appraisal guidance. The purpose of the appraisal is to establish if a case exists for reopening the station based on the benefits that the scheme would bring to the area.

8.2 In addition to the revenue forecasts produced, other benefits have been estimated, these include the benefits of travel time savings to users, the volume of reduced vehicle operating costs based on the number of car abstracted from the road network, reductions in carbon released as a result of fewer car trips being made and reductions in congestion and accidents as a result of reduced vehicle trips.

Appraisal Methodology

8.3 The appraisal process estimates the costs and benefits of the scheme over the whole life of the scheme. The whole life of the scheme is assumed to be 60 years. While in reality the station would be likely to last longer than this, this is the standard scheme life in transport appraisal. The annual benefits are therefore extended over 60 years. At this point a discount rate is applied. The purpose of the discount rate is to convert the 60 years’ worth of scheme benefits to a present value. The rationale for doing this is to incorporate the preference of individuals and society to have a unit of benefit now rather than in the future. To achieve this a discount rate is used to represent this preference. The discount rates used here is 3.5% per annum for the first year and 3% thereafter. This in line with both DfT Webtag guidance and the HM Treasury Greenbook on project appraisal. For consistency across all projects in transport a base year of 2010 is used. The impact of this discount rate is that £1 of benefit received in 60 years time is only worth 10 pence at today's prices.

8.4 A range of external benefits have been calculated based on Webtag guidance, the majority of these benefits relate to the removal of externalities imposed by the use of cars on the road network. This is typical of schemes of this nature where mode shift takes place from road to public transport. It should however be noted that the wider economic impacts of the scheme in the form of benefits to the local economy cannot be included in the main BCR. They can however be included within an adjusted BCR.

8.5 The results of the exercise are a present value of costs (PVC) which represents the capital costs of the scheme (including Optimism Bias as discussed above) and the operating costs discounted to 2010 values and a present value of benefits (PVB), incorporating all revenue and external benefits. This latter figure will be net of the impact of revenue reduction in existing services as a result of increased journey times. From this a Net Present Value (NPV) of the scheme and the Benefit Cost Ratio can be prepared. The table below presents the total discounted values of the different categories of costs and benefit.
Table 8.1 Discounted Costs and Benefits – Central Case (£)

<table>
<thead>
<tr>
<th>Category</th>
<th>Value (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVC</td>
<td></td>
</tr>
<tr>
<td>Capital Cost</td>
<td>£2,283,868</td>
</tr>
<tr>
<td>Operating Costs</td>
<td>£466,267</td>
</tr>
<tr>
<td>PVB</td>
<td></td>
</tr>
<tr>
<td>Additional Revenue</td>
<td>£3,507,453</td>
</tr>
<tr>
<td>Lost Revenue</td>
<td>-£867,670</td>
</tr>
<tr>
<td>External Benefits</td>
<td>£2,242,529</td>
</tr>
<tr>
<td>Wider Economic Impacts</td>
<td>£6,068,336</td>
</tr>
</tbody>
</table>

8.6 A number of sensitivity tests have been carried out on the appraisal to test differing assumptions in the forecasts prepared. Therefore the results presented in this section represent the central case against which other sensitivity tests are based around.

8.7 The table below presents the results of the central case appraisal. This is presents for three circumstances, the first being a purely financial appraisal including only costs and revenues, the second being the economic appraisal including external benefits and the third being an adjusted economic appraisal including the wider economic impacts.

Table 8.2 Results of Central Case Appraisal

<table>
<thead>
<tr>
<th></th>
<th>Financial Appraisal</th>
<th>Economic Appraisal</th>
<th>Adjusted Appraisal</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVC</td>
<td>£2,750,135</td>
<td>£2,750,135</td>
<td>£2,750,135</td>
</tr>
<tr>
<td>PVB</td>
<td>£2,639,783</td>
<td>£4,882,135</td>
<td>£10,950,648</td>
</tr>
<tr>
<td>NPV</td>
<td>-£110,352</td>
<td>£2,132,177</td>
<td>£8,200,513</td>
</tr>
<tr>
<td>BCR</td>
<td>0.96</td>
<td>1.78</td>
<td>3.98</td>
</tr>
</tbody>
</table>

8.8 It can be seen from the table that in purely financial terms the station does not represent value for money. This is caused entirely by the capital costs element of the scheme which dominates the Present Value of Costs. Such a result is typical for schemes like this where the initial cost is high and the stream of benefits runs for a long period of time and are therefore highly discounted. However if capital costs were excluded the station would cover operational costs and the loss of existing revenue, and would give a net increase in the revenues on the line.

8.9 The result of the economic appraisal suggests that the scheme represents a medium level of value for money, meaning that the Benefit Cost Ratio lies in the range 1.5 to 1.99. For a scheme of this nature the result is encouraging and suggests that there may be a case for the development of the station.

8.10 The Department for Transport would generally only consider funding schemes that represent high value for money (BCR over 2.00), except in exceptional circumstances, however the nature of the scheme is such that it might be attractive to other potential funding streams given the strong links to tourism and the local economy. This is emphasised by the adjusted BCR which includes the effects of the wider economic impacts on the local economy in terms of additional spend. Only additional spend from newly generated trips has been included in the appraisal. The result gives an
adjusted BCR of 3.98, representing a high value for money when non transport benefits are included.

8.11 This final result further improves the case for developing the station on wider economic rather than transport grounds and may direct the likely sources of funding for the scheme. While this central case represent the most likely outcome based on the analysis carried out, it is prudent to carry out some sensitivity tests to understand how robust the case is.

Sensitivity Tests

8.12 A number of sensitivity tests have been carried out to assess the viability of the scheme, some tests relate to the costs of the scheme while others relate to the level of benefits accruing. The sensitivity tests identified are as follows:

- 50% Increase in capital costs, benefits remain constant
- 25% Reduction in demand
- Loss of existing revenue equals all trains rather than “slow” trains
- Overnight stay proportion = 11%

8.13 Each assessment was carried out in isolation to avoid over complicating the assessment. The results are presented in the table below.

Table 8.3 Results of Central Case Appraisal

<table>
<thead>
<tr>
<th></th>
<th>50% Capital Increase</th>
<th>25% Reduction in Demand</th>
<th>Loss of Existing Revenue (All Trains)</th>
<th>Overnight Stay = 11%</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCR (Financial)</td>
<td>0.68</td>
<td>0.64</td>
<td>0.75</td>
<td>0.96</td>
</tr>
<tr>
<td>BCR (Economic)</td>
<td>1.25</td>
<td>1.25</td>
<td>1.57</td>
<td>1.78</td>
</tr>
<tr>
<td>BCR (Adjusted)</td>
<td>2.81</td>
<td>2.35</td>
<td>3.77</td>
<td>3.24</td>
</tr>
</tbody>
</table>

8.14 The results of the sensitivity tests show that there would still be a case for the station in all circumstances, as the economic BCR of the station does not fall below 1 in any case. However if either the demand fell by 25% or the capital costs increased by 50% the case would be severely weakened with the station only representing low value for money (1.00-1.25). It is interesting to note that the loss of existing revenue (i.e. if all trains stopped at the station) does not have a serious impact on the case for the station with the case still representing a medium level of value for money. Equally, lowering the level of overnight visitors does not have a major impact on the adjusted BCR. Given the already robust levels of risk and optimism bias that dominate the costs it would seem that the case is generally quite robust.

Summary

8.15 It can be seen from the appraisal above that a case does exists for the reopening of the station at Gilsland. While the station does not represent a high level of value for money as defined by the Department for Transport it does represent a medium level of value for money with a significant volume of additional quantifiable economic benefits to the local economy. This may therefore make the station attractive to non-transport or combined funding sources. Clearly further work would be required to identify the detailed costs of the station, as this dominates the viability of the station.
9 **Next Steps for Scheme Development**

9.1 Having carried out an initial feasibility assessment that indicates that a case exists for the development of a station at Gilsland it is appropriate to consider the next steps needed to take the case further in terms of further scheme development work and the sources of potential funding.

**Scheme Development Work**

9.2 This report represents an initial feasibility study, which has identified that there is a case for the reopening of the station. To take the scheme forward there will be a need to enter the scheme into the Network Rail GRIP (Governance for Railway Investment Projects) process. This is an eight stage process that schemes from the inception stage through to completion. The early stages of GRIP relate to selecting options and carrying out design work, while the later stages deal with the delivery of the scheme. The table below sets out the key stages in the GRIP process.

**Figure 9.1 Network Rail GRIP Process**

9.3 The study carried out here already contains aspects of GRIP Stages 1 to 3, however there is a need to carry out significantly more detailed work particularly relating to the engineering feasibility...
and cost aspects of the scheme. It is suggested that the next level of feasibility work should be a combined GRIP 3 & 4 level study. This would confirm the scope of the scheme and provide more detailed estimates of costs; it would also allow the demand forecasts and economic benefits to be examined in greater detail.

9.4 Prior to taking the scheme through the GRIP process it would be prudent to meet with Network Rail to seek their views and advice before committing resources to a further study. While there are no immediately obvious reasons for Network Rail to object to the reopening of the station it is important to ensure that they are supportive in principal of the station, as they would ultimately have to deliver the scheme and would be the owner of the station on completion.

9.5 It is also suggested that discussions be held with Northern Rail, the current operator of services on the line. While they may not be the operator of services by the time the station is reopened, they are likely to provide useful views on the operation and viability of the station.

9.6 In addition to Northern Rail and Network Rail it would be useful to inform and consult the Rail North body, currently developing the Long Term Rail Strategy for the North of England. While this body is presently dealing with high level strategic issues it is likely to become an important part of the delivery of rail services in the north irrespective of whether control of local rail services are devolved or not.

9.7 While support from these organisations would not in itself help to deliver the station directly, it would help to improve the overall viability of the scheme, as without the high level backing of the infrastructure provider, operator and lead policy makers the scheme will be unlikely to succeed.

**Funding Mechanisms**

9.8 Of importance to both the development of further feasibility studies and the development of the scheme itself are sources of funding. The work completed in this study has identified that while a strong case exists for developing the station, much of the case is based on the economic impacts of newly generated tourism brought to the area, rather than the pure transport benefits of the scheme. The impact of this is that the scheme is likely to be more attractive to economic development, regeneration and tourism related sources than sources of conventional transport funding, although some sort of joint funding package between transport and economic development sources might well be feasible.

9.9 The location of the station on the boundary of two local authorities is also a potential advantage, potentially bringing double the level of lobbying power as well as the ability to share funding and staff resources for the development of the scheme. The boundary also provides access to two Local Enterprise Partnerships (LEPs), one covering the North East the other Cumbria. These bodies are a partnership between local authorities and business, and are tasked with determining local economic priorities, and lead economic growth and job creation in their areas.

9.10 The timing of this present examination of the viability of Gilsland station is fortuitous as the government has presented a useful opportunity for raising the profile of the station and identifying potential sources of funding. In the Comprehensive Spending Review in July 2013 the Chancellor set out the Single Local Growth Fund which is a combined funding pot, to be controlled by the LEPs which pools housing, skills and transport funding. Schemes such as Gilsland, which deliver both economic and transport benefits are likely to be relatively attractive to such a source of funding. As part of this funding stream each LEP is required to prepare a Strategic Economic Plan, this is likely to form the evidence base on which to decide which schemes to pursue. Gilsland
Station would seem to be an appropriate scheme to identify for inclusion as an aspiration within the Strategic Economic Plan. While there are two LEPs close to Gilsland, the Cumbrian LEP and its Strategic Economic Plan would seem to be the most appropriate as this LEP covers the Cumbria area only, and the issues that the schemes addresses are more closely linked to the economic issues affecting Cumbria. In contrast the North East LEP covers, in addition to Northumberland, County Durham, and the Tyne & Wear authorities. By its nature this LEP is more dominated by issues of urban rather than rural regeneration, and the size of the area covered means that there are likely to be many schemes to address. This is not to say that the North East LEP should not also be approached, however it is likely that the Cumbria LEP would provide a better fit for the scheme. It is possible that the LEPs might be in a position to help with the costs of the development of the scheme including the next GRIP study.

9.11 In addition to the Single Local Growth Fund, a number of European Union funding streams are to be delivered through LEPs from 2014. This includes the European Regional Development Fund (ERDF), the European Social Fund (ESF) and the European Agricultural Fund for Rural Development (EAFRD). These funds are to be streamlined into a single European Structural & Investment Fund. While this fund would be unable to provide 100% funding for either the GRIP study or the full station scheme it would be able to provide match funding up to 50% of the cost. The European Funding Streams have a variety of themes and objectives and it could be argued that the Gilsland proposal addresses a number of these relating to sustainable transport and economic growth in rural areas.

9.12 The LEPs should not be seen as the only source of potential funding. The joint transport, economic development and environmental sustainability aspects of the scheme, along with its relatively low cost (for a capital scheme) make the station ideal for a package approach to funding. It may be possible that partial funding could be obtained from a number of government departments including the Department for Transport, DEFRA, and DCLG. In addition it may be possible that the Northumberland National Park Authority could access funding or the status of Hadrian’s Wall as a World Heritage Site could attract funding from other sources. A package approach which maximises the number of partners and therefore lowers the average contribution might well help to resolve the challenge of obtaining a single large chunk of funding, although there would be some complexity in coordinating the different funding sources at the relevant times.

Summary

9.13 Following on from this feasibility study there are a number of steps to be taken to develop the scheme further. The list below summarises these next steps:

1. Engage with Network Rail, Northern Rail and Rail North to establish if they support the development of the station in principal, and in the case of Network Rail establish if there are any engineering issues that would prevent development of the station on the preferred site.

2. Approach the economic development officers of both Cumbria and Northumberland County Councils to inform them of the benefits of the scheme, both in transport and economic terms.

3. Lobby both the Cumbria and North East LEPs for inclusion of Gilsland Station within each LEPs Strategic Economic Plan (SEP). This task should be completed as soon as possible given that SEPs have to be completed by Spring 2014.

4. Investigate, in cooperation with both local authorities, and other potential funding bodies such as the Northumberland National Park the possibilities for funding the GRIP3/4 study.
5. Use the combination of lobbying work to gain support from relevant bodies, and the outcomes of the GRIP3/4 report as a catalyst for funding applications, likely to be through a package approach of different organisations.

9.14 From the above it can be seen that there are a number of stages to pass through, the early stages of which involve lobbying and awareness raising to ensure that the station is identified as a potential scheme for development. Some of the early stages need to be carried out with some urgency to align with the development of economic strategies and also to make use of any momentum brought about by the completion of the feasibility study.
10 Conclusions

10.1 The report has attempted to estimate both the benefits and costs of reopening the station at Gilsland on the Tyne Valley Line. From this an appraisal has been completed that forms a preliminary business case.

10.2 It has been shown that the station represents medium value for money based on the Department for Transport criteria, with a Benefit Cost Ratio of 1.78. Given the location of the station and the potential catchment this is a very positive result. In addition to this the scheme brings approximately £300,000 per year of additional benefit to the visitor economy of the area.

10.3 The demand for the station has been estimated at approximately 25,000 trips per year. Of these approximately 10,000 trips are related to the local resident population. This figure replicates the number of trips forecast in the 2005 Tyne Valley Rail Study report. However it is felt that improved services and increases in demand over the intervening period improve significantly the probability of the station delivering the estimated number of passengers. The station will also generate around 15,000 tourism trips per annum. Of these around 1/3 will be existing road based tourism trips that will transfer to rail as a result of the significantly improved public transport access to the central section of Hadrian’s Wall that the station will bring. The remaining 2/3 will be newly generated trips that will also be attracted by the improved access to the area, notably from the Tyne & Wear conurbation, as well as further afield. The results of the demand forecasting exercise have been validated against an existing station, Horton-in-Ribblesdale, which has similar characteristics to the Gilsland area.

10.4 The location of the station site is such that there are no significant deliverability issues, with no footbridge required to access the platforms. There may however be issues relating to land ownership, particularly in relation to the eastbound platform where land may need to be purchased from the owners of the station house. The location of the car park area adjacent to the westbound platform may also pose land ownership issues as it is unclear if the area is part of the adopted highway or owned by the adjacent properties.

10.5 The estimated costs of the station are £1.8M excluding Optimism Bias and £2.5M including Optimism Bias. This assumes that two 50m platforms are provided along with shelters, access ramps, lighting and a car park. In addition some highways works will be required to provide pedestrian access under the B6318 underbridge, the costs of which have been included.

10.6 While the station only provides medium value for money in transport terms there is a strong case for the development of the station on the basis of the wider economic impacts of the station. These benefits are strongly positive for the area served.

10.7 The impact of this is that while the station may be less attractive to potential funders through conventional transport funding streams the station could represent an attractive scheme to other funding streams more orientated towards economic growth or rural regeneration. Based on the surveys carried out by the Tyne Valley Rail User’s Group the station appears to have strong support, and even allowing for response bias within the results of the surveys the station would appear to have a strong demand base.
10.8 Going forward, there are a number of clear steps that can be taken to advance the case for development of the scheme, involving lobbying consultation and awareness raising, which should in turn lead to more detailed design work, hopefully culminating in the opening of the station.
Site Illustrations
Site Illustrations

Figure A.1 Station Site looking west

Figure A.2 Station Site looking east
Figure A.3  Proposed station car park and westbound platform site

Figure A.4  B6318 Underbridge – note limited clearance and poor pedestrian facilities
Figure A.5 Access to eastbound platform via Rose Hill

Figure A.6 Point of access to eastbound platform to left of garage
Figure A.7 Subway ramp at west end of westbound platform site

Figure A.8 South side of subway looking north
Figure A.9 Potential secondary access to eastbound platform via subway