RUGBY PARKWAY:

A feasibility study into a new station to serve the Rugby Radio Station Sustainable Urban Extension

30 April 2015

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1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

1.1.1 SCOPE AND PURPOSE OF REPORT

SLC, as rail advisors to Warwickshire County Council (WCC), was asked to undertake a high-level study into the feasibility of a new parkway station to the east of Rugby. The study will fulfil the requirements of the Guide to Railway Investment Projects (GRIP), Network Rail’s project management process, stage 1 (output definition).

The primary purpose of the new station would be to serve a substantial proposed Sustainable Urban Extension (SUE) housing development south of Rugby, and to serve suppressed rail demand within the town and its hinterland, through the provision of a strategic park and ride facility. The SUE, consisting sizeable (473 hectares) residential and employment development, essentially a new mini-town, is located on the former Rugby Radio Station site between the A5 trunk road and the West Coast Main Line (WCML) rail route between London, Rugby, Birmingham and the north. The station also has potential to improve sustainable access to the expanding DIRFT rail logistics terminal nearby.

The station itself is proposed to be located on the Northampton Loop, a pair of lines serving Northampton and London that diverges from the main WCML. Any proposed station site must also allow for the possibility of passive provision for future expansion to the main West Coast Main Line (WCML) pair of tracks, should that be desirable at a later stage.

The proposal for a new station is consistent with the Warwickshire Local Transport Plan 2011-2026.

1.1.2 KEY CONCLUSIONS

The key findings of the study were:

- A new station to serve the Sustainable Urban Extension at the Rugby Radio Station site and meet suppressed demand within the town and for strategic park and ride is a credible proposition for WCC;
- Several site options have been assessed and a preferred site has been identified;
- Capital cost of construction is likely to be in the region of £9.3m;
- It is feasible to call at least two, potentially three trains per hour at the station, providing a direct service to Birmingham, Northampton and London;
- Forecast future passenger demand at the station is expected to be in the region of 200K trips each year.

1.1.3 OBJECTIVES

The objectives agreed with WCC for this high-level study were to:

- Assess the potential passenger rail demand for the proposed Rugby Radio Station Sustainable Urban Extension development;
- Identify possible site options for locating a new parkway station to serve the new development, potential strategic park and ride from the nearby A5 and existing residential areas to the south of the town, and access to jobs at the expanding DIRFT rail logistics centre;
• Undertake a high-level demand assessment to forecast passenger numbers from a new parkway station, together provide a commentary about the potential for abstraction from other nearby stations;
• Provide a capital cost estimate for shortlisted site options;
• Determine the timetabling feasibility for existing Birmingham – Euston via Northampton trains to call at the new station.

1.1.4 RUGBY RADIO STATION SUSTAINABLE URBAN EXTENSION
The Rugby Radio Station Sustainable Urban Extension is one of a number of interventions proposed in the Rugby Core Strategy (2011) to meet the forecast housing and employment needs of the Borough. The scheme, which is being progressed by the Rugby Radio Station Limited Partnership, was granted outline planning permission on 8 January 2014. Rugby Radio Station Limited Partnership (RRSLP) is a joint venture including BT and Aviva Investors, who are taking forward plans for the development of the SUE.

For the Rugby Radio Station SUE, as set out in the Core Strategy, Rugby Borough Council are seeking proposals that include:

• 5,000 - 6,200 new homes, to support the future housing needs for the Borough up to 2026;
• Up to 31 hectares of employment land (class B1, B2 and units of up to 5,000sqm of B8);
• High quality road and public transport links and a comprehensive cycle network;
• One secondary and three primary schools;
• One district and three local centres.

The Rugby Radio Station SUE is a substantial development that, as recognised by the Core Strategy, will alter the dynamics of Rugby town.

1.2 STATION SITE OPTIONS
Three possible station site options were identified by SLC through both desktop study and site visits, all in the near vicinity of the SUE as shown in Figure 2, below.
The preferred option, 'Site 3', is shown in Figure 2.

Located off Crick Road, the A428 linking Rugby to the A5, the preferred station site option is located on farmland 4.3Km south of Rugby station. The station site is located immediately opposite where an already
proposed highway junction for the SUE is expected to be located, providing easy access to the station site. Ample land is available for car parking, supporting the objective that the new station should provide strategic park and ride to a wider area. The station location also facilitates the addition of platforms on the adjacent West Coast Main Line should this be desirable at a later stage.

Two other options were also considered, but were discounted on the grounds that they failed to fully meet the core objectives of the study, and are less easily delivered and more expensive to construct.

Full analysis of the shortlisted site options can be found in section 4.

1.3 **CAPITAL COST ESTIMATE**

An order of magnitude estimate of the cost of building Rugby Parkway has been calculated, based on the assumption of constructing a two platform station to accommodate eight car trains, connected by a footbridge with lifts, a station building with ticket office, toilets and café, facility for kiss and ride, bus stop/turning, cycle parking and a car park for around 300 vehicles.

The estimated cost for the construction of a station on the favoured site is in the order of £9.3m.

Section 5 provides further detail of the capital cost estimates for the proposed Rugby Parkway station.

1.4 **TIMETABLE FEASIBILITY**

1.4.1 **INITIAL SERVICE**

An analysis was undertaken, based on the December 2013 timetable. There are three London Midland services each hour that pass the site of the proposed station, predominantly operating on through services between Birmingham and London Euston, via Northampton.

The approximate fastest direct journey time from Rugby Parkway to London Euston would be in the order of 1hr24m based on the current timetable. Rugby station would be only four minutes from Rugby Parkway station, providing excellent connectivity between the SUE and the town centre, and it may also be possible to achieve a quicker journey time by connecting at Rugby for faster services that avoid Northampton.

In summary, it is feasible to stop at least two of the three trains per hour at the new station, although there could be a gap of around forty minutes between trains in every hour. The issue with the third train is related to the operational need to attach or detach a portion of the train at Northampton station, an activity that has an amount of time ‘agreed’ with the unions, a time that is substantially in excess of what is actually required for the manoeuvre, or indeed is allowed elsewhere. If this anomaly can be resolved, then a three trains per hour service in both directions at Northampton is operationally achievable.

1.4.2 **POST HS2 SERVICE**

Current capacity constraints on the direct, fast West Coast Main Line to London Euston mean that stops at Rugby Parkway are unlikely to be possible, even if platforms were constructed to serve these lines. However, a recasting of the timetable after HS2 has opened may allow sufficient capacity for some trains to call at Rugby Parkway running direct to Euston, avoiding Northampton.
The location of the station has been chosen to allow possible future additional platforms to be added on the ‘fast’ lines.

Full details of the timetabling analysis undertaken during the preparation of this report can be found in section 6.

1.5 **DEMAND ANALYSIS**

1.5.1 **DEMAND MODELLING**

High-level demand was modelled by SLC using the standard rail industry approach (known as the Passenger Demand Forecasting Handbook, or PDFH) which concluded that demand after a period of ramp up would be in the region of between 150,000 and 220,000 trips per year. The high-level nature of this analysis prevented a number of specific nuances relevant to Rugby Parkway being adequately accounted for; suggesting that the actual demand might be much higher. These include:

- Strategic park and ride, taking into account the proposed stations location close to the strategic road network (A5, M1, A14);
- Local demand between Rugby Parkway and Rugby;
- Access to the 12,000 jobs at the nearby DIRFT rail logistics site once the expansion is complete.

Further detail on the demand modelling can be found in section 7 of the report.

2. **SCOPE AND PURPOSE OF REPORT**

SLC, as rail advisors to Warwickshire County Council (WCC), was asked to undertake a high-level study into the feasibility of a new parkway station to the south of Rugby. The study will fulfil the requirements of the Guide to Railway Investment Projects (GRIP), Network Rail’s project management process, stage 1 (output definition).

The primary purpose of the new station would be to serve a substantial proposed Sustainable Urban Extension (SUE) south of the town of Rugby. The SUE, a 473 hectare residential and employment development, is located on the former Rugby Radio Station site between the A5 trunk road and the West Coast Main Line (WCML) rail route between London, Rugby, Birmingham and the north. The station also has potential to serve existing residential areas to the south of the town located near to the proposed station site, and strategic provide a park and ride facility from the Rugby hinterland, accessed by the nearby A5 trunk road.

The station itself is proposed to be located on a pair of lines that serve Northampton and London, a route that diverges from the main WCML. Ideally, any proposed station site must allow the later addition of platforms to serve the main West Coast Main Line (WCML) pair of tracks, should that be desirable at a later stage.

2.1 **OBJECTIVES**

The objectives agreed with WCC for this high-level study were to:

- Assess the potential passenger rail demand for the proposed Rugby Radio Station Sustainable Urban Extension development;
Identify possible site options for locating a new parkway station to serve the new development, potential strategic park and ride from the nearby A5 and existing residential areas to the south of the town, and access to jobs at the expanding DIRFT rail logistics centre;

• Undertake a high-level demand assessment to forecast passenger numbers from a new parkway station, together provide a commentary about the potential for abstraction from other nearby stations;

• Provide a capital cost estimate for shortlisted site options;

• Determine the timetabling feasibility for existing Birmingham – Euston via Northampton trains to call at the new station.

2.2 REPORT STRUCTURE
The report is presented in the following structure:

• Section 3 provides context for the proposal, including background information about the proposed Rugby Radio Station Sustainable Urban Extension;

• The main body of the report from Section 4 through to Section 7 covers proposed site options, the ‘order of magnitude’ cost estimates, timetable and operational feasibility and passenger demand;

• Section 8 completes the report with conclusions and recommendations.

3. CONTEXT

3.1 WARWICKSHIRE LOCAL TRANSPORT PLAN
The proposal for a new station to serve the SUE is consistent with the Warwickshire Local Transport Plan 2011-2026 (LTP). The LTP East Warwickshire Area Strategy also recognises the long-held aspiration for a new station on the Northampton Loop as a Key Proposal, to fulfil a need for a strategic park and ride facility in the Rugby area, and to serve the expanding DIRFT development nearby.

LTP Policy PTPR5 explicitly supports the development of proposals for new rail stations with the aim of increasing the accessibility of the rail network to both existing and potential rail passengers.

3.2 RUGBY BOROUGH
Rugby Borough, centred on the market town of Rugby is situated in eastern Warwickshire. The Borough has a population of 91,500, of which over 60,000 live in Rugby town. The population of the Borough is expected to increase to approximately 110,000 by 2026. The average household size within the Borough of Rugby is 2.35 persons.

The town is well-served by the strategic road and rail network, being in close proximity to the M1, M6, M45, A5 and A14 motorways and trunk roads. Rugby station is on the West Coast Main Line (WCML) with excellent links to Birmingham, Coventry, Northampton, Milton Keynes and London. There are also direct links to Manchester, Liverpool and Scotland.
3.3 **RUGBY LOCAL DEVELOPMENT FRAMEWORK CORE STRATEGY**

Rugby Borough Council published their current Local Development Framework Core Strategy in June 2011. The document takes into account national and regional planning policy and guidance, and sets out the planning development strategy for the Borough. ‘Key Issues’, or challenges, that face Rugby Borough together with a Spatial Vision for the Borough are also set out in the Core Strategy, of which the Sustainable Growth and Sustainable Transport ‘Key Issues’ are of particular relevance to this study.

3.3.1 **KEY ISSUE - SUSTAINABLE GROWTH**

The Core Strategy states that a key issue for sustainable growth is:

*The town of Rugby will grow by 35% up to 2026. Creating high quality new development, which achieves a range of social, economic and environmental objectives, will require careful design and delivery and the input of a wide range of organisations and communities. Responses to consultation have been clear in the desire to see the improved services that growth can bring alongside the retention of a market town character and the protection of the natural environment.*

It is self-evident that with growth of this magnitude, Rugby is set to see a transformational change in scale that will require significant upgrade to the existing transport networks. Part of this will require better connections to existing and improved local, regional and national rail services, ensuring that the development is not only economically, socially and environmentally viable, but sustainable as well.

3.3.2 **KEY ISSUE - SUSTAINABLE TRANSPORT**

In relation to sustainable transport, the Core Strategy highlights the following as a key issue:

*The Rugby area, focused on the town, has experienced increased levels of car based travel in the last decade with high percentages using private transport to travel to work. Whilst bus and train trips have also consistently increased year on year it has been at a rate less than that of private car trips. Such trends have consequences for congestion, pollution, viability of local services and climate change.*

*Less than 5% of local residents travel to work by public transport whereas Rugby has a good cycle network with 14% travel to work on foot or by bike. The local population identifies further expansion of the cycle network and improvement of public transport as one of the top four priorities for improvement in the Borough.*

Rugby currently only has one railway station; therefore the use of rail for commuting is only useful for trips outside of the Borough. It is clear that the proposed expansion of Rugby will have the potential to create thousands of additional daily trips on transport networks and work needs to be undertaken to ensure that alternatives to the car are available. A new railway station outside of the
Centre of Rugby also has the potential to reduce trips within the town centre, locally improving issues such as air quality and congestion.

3.3.3 Rugby Radio Station Sustainable Urban Extension

The Rugby Radio Station Sustainable Urban Extension is one of a number of interventions proposed in the Rugby Core Strategy to meet the forecast housing and employment needs of the Borough. The scheme, which is being progressed by the Rugby Radio Station Limited Partnership (RRSLP), was granted outline planning permission on 8 January 2014. RRSLP is a joint venture including BT and Aviva Investors, who are taking forward plans for the development of the SUE.

The Rugby Radio Station SUE scheme, as described by RRSLP is expected to deliver:

- 6,200 new homes;
- Three new primary schools and one new secondary school;
- 31 hectares of employment land;
- Nearly 14Km of new footpaths and a substantial cycle network;
- 8 GP surgeries;
- 24 hectares of formal public open spaces and sports facilities, and 205 hectares of informal open space;
- A new district centre, and 3 local centres;
- High-quality road and public transport links.

The Rugby Radio Station SUE is a substantial development that, as recognised by the Core Strategy, will alter the dynamics of Rugby town. The scale of the development is such that a new station is feasible, both to service trips to destinations outside of the Borough, as well as providing an alternative to driving into the centre of Rugby.

Figure 4 to Figure 6 show various maps of the site from both the Core Strategy and RRSLP documents.
3.4 **EXISTING COMMUTING FROM RUGBY**

There is a strong pattern for existing commuting by rail from Rugby, predominantly to London, Birmingham and Coventry. Census data suggests that there may be a suppressed demand for rail travel to other destinations, which are not easily reached by train at the moment.

Table 1 shows the top 10 workplace destinations for commuters travelling from within the Rugby Borough area, grouped by destination Local Authority area. It was also observed that the train is currently only used by 3% of the commuting population of Rugby. It is notable that 51% of commuters both live and work within Rugby Borough, which is currently served by only one station, thus making commuting by rail within Rugby town impossible.

<table>
<thead>
<tr>
<th>All modes – From Rugby Borough to:</th>
<th>Rail Only – From Rugby Borough to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rugby</td>
<td>Birmingham</td>
</tr>
<tr>
<td>Coventry</td>
<td>Westminster, City of London</td>
</tr>
<tr>
<td>Daventry</td>
<td>Coventry</td>
</tr>
<tr>
<td>Warwick</td>
<td>Camden</td>
</tr>
<tr>
<td>Harborough</td>
<td>Rugby</td>
</tr>
<tr>
<td>Stratford-on-Avon</td>
<td>Milton Keynes</td>
</tr>
<tr>
<td>Birmingham</td>
<td>Islington</td>
</tr>
<tr>
<td>Nuneaton and Bedworth</td>
<td>Tower Hamlets</td>
</tr>
<tr>
<td>Northampton</td>
<td>Southwark</td>
</tr>
<tr>
<td>Hinckley and Bosworth</td>
<td>Northampton</td>
</tr>
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</table>

**TABLE 1 COMMUTING FLOW FROM RUGBY BY MODE, ONS CENSUS 2011**

Destinations that could be readily served by the existing service if run from the proposed Rugby Parkway station have been shown in bold. All of the top 10 destinations for commuting by train would be directly accessible using the proposed train service (disregarding travel between London boroughs). Similarly, four of the top 10 destinations for commuting by all modes would be directly accessible using Rugby Parkway station, with others requiring a change of trains at Rugby or Coventry.

3.5 **DIRFT**

The Daventry International Rail Freight Terminal (DIRFT) is a rail-road intermodal freight terminal with an associated warehousing estate. Situated just over the
county border in Northamptonshire, it is located to southeast of the Rugby Radio Station SUE, approximately four miles from Rugby. Since opening in the 1990s the site has seen substantial expansion and is a major employer in the area. A third extension, DIRFT III, will further enlarge the site leading to a total of 12,000 jobs on-site.

Whilst DIRFT is a major employer, most of the jobs based at the site are shift work, which would require a modal change in order to reach the DIRFT site. Whilst recognising that there are challenges in serving such a large employment site by rail, there is substantial potential to transfer a number of DIRFT employees from road to rail/bus access, should a connecting bus service be available. It is expected that a number of new bus services will be introduced to serve the SUE, with potential integration with the proposed Rugby Parkway and DIRFT.

3.6 **RUGBY STATION**

The current station serving Rugby town originally opened in 1885. It is located 82 miles from London Euston station at the centre of two important junctions of the West Coast Main Line (WCML), connecting London to Birmingham and North West England and Scotland. The junction of the Trent Valley Line, to the North-West, and the Birmingham line, linking to Coventry and Birmingham, is a short distance west of the station. To the south east of the station, the Northampton Loop Line diverges at a junction from the direct line to London. The station has now has six platforms following work to remodel the station, completed in 2008 as part of the West Coast Route Modernisation programme.

Rugby station is currently operated by Virgin Trains and is included in the Inter-City West Coast franchise which is scheduled to be refranchised by April 2017. In addition it is served by the London Midland franchise which is to be replaced with a new franchise commencing in June 2017.

3.6.1 **TRAIN SERVICES**

Inter-city train services are operated by Virgin Trains, with off peak services to London and Birmingham New Street and morning peak and evening peak services to/from Holyhead, Glasgow, Manchester, Liverpool, Preston, Carlisle, Wolverhampton, Crewe, Lancaster and Shrewsbury.

London Midland operates frequent services between London Euston, Milton Keynes and Northampton to Birmingham New Street, and services between London Euston to Stafford, Stoke-on-Trent and Crewe (via the Trent Valley Line).

Off peak weekday service in trains per hour (tph) is shown in Table 2 below:
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<tr>
<th>Operator</th>
<th>Service</th>
<th>Frequency</th>
<th>Fastest Journey Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>London Midland</td>
<td><strong>Birmingham New Street, via Coventry</strong></td>
<td>3tph</td>
<td>Coventry 11 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Birmingham New Street 39 minutes</td>
</tr>
<tr>
<td></td>
<td><strong>London Euston, via Northampton</strong></td>
<td>3tph</td>
<td>88 minutes</td>
</tr>
<tr>
<td></td>
<td><strong>London Euston, express service avoiding Northampton</strong></td>
<td>1tph</td>
<td>57 minutes</td>
</tr>
<tr>
<td></td>
<td><strong>Crewe, via Stafford and Stoke-on-Trent</strong></td>
<td>1tph</td>
<td>Stafford 52 minutes</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Stoke on Trent 78 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Crewe 102 minutes</td>
</tr>
<tr>
<td>Virgin Trains</td>
<td><strong>London Euston</strong></td>
<td>1tph</td>
<td>52 minutes (peak)</td>
</tr>
<tr>
<td></td>
<td><strong>Birmingham New Street, via Coventry</strong></td>
<td>1tph</td>
<td>Coventry 10 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Birmingham New Street 36 minutes</td>
</tr>
</tbody>
</table>

**TABLE 2 OFF PEAK SERVICE FREQUENCIES (TPH) FROM RUGBY STATION**

3.7 **MIDLANDS CONNECT**

Midlands Connect is a partnership of Local Enterprise Partnerships (LEPs) and local authorities that seek to develop the case for strategic transport investment in the Midlands. Coventry and Warwickshire LEP and Warwickshire County Council are part of the Midlands Connect partnership, together with other West and East Midlands LEPs and local authorities. The stated strategic priorities of Midlands Connect are to:

- Make the most of HS2;
- Link to international gateway;
- Improve East-West connectivity across the Midlands;
- Strengthen freight corridors;
- Make the strategic transport network more resilient;
- Open up land for commercial and residential development;
- Connect our urban centres, providing capacity for growth.

Whilst the proposal for a new station south of Rugby is on the periphery of the Midlands Connect area, the Rugby Radio Station SUE abuts the traditional boundary (the A5 trunk road) between the East and West Midlands, and is on a rail route to Northampton (in the East Midlands). As such a new Rugby Parkway station enhances connectivity between the two parts of the wider Midlands region, as well as supporting the opening up of land for development. Consequently, a recommendation from this high-level study promotes early engagement with both Coventry and Warwickshire LEP and Midlands Connect.
3.8 **RAIL DEVOLUTION**

A partnership of 14 local authorities, including Warwickshire County Council, is seeking greater influence over local rail services in the West Midlands. Under the banner of West Midlands Rail (WMR), the partners are advocating a locally managed franchise for the region. Under these proposals, the services that are currently operated by London Midland through Rugby will be part of the new West Midlands franchise that will replace London Midland in 2017.

Northampton and Rugby are very much part of the Birmingham Travel to Work area and as such whilst the proposed geography of the West Midlands franchise will extend much further (with extremes of London and Liverpool), rail devolution proposals are relevant to this study. A new strategic park and ride station to service the Rugby Radio Station SUE and surrounding areas would be within the Birmingham Travel to Work area, and would sit on a key radial route from Birmingham that is expected to have significant WMR involvement in franchise specification.

WMR propose to have a Partnership Agreement with the DfT covering the specification and delivery of services that will call at Rugby Parkway. Figure 9 shows the proposed franchises following the dividing of the London Midland contract.

![FIGURE 9 PROPOSED WEST MIDLANDS RAIL FRANCHISE](image-url)
4. **Station Site Options**

SLC has carried out an analysis of an area of land along the Northampton branch of the West Coast Main Line, adjacent to the south-western boundary of the SUE. Figure 10 shows the relationship between the area for the proposed station and the SUE.

4.1 **Overview**

The proposed station will be located close to the divergence of the Northampton branch from the main route of the West Coast Main Line (WCML), however it is currently only planned to provide platforms with the Northampton branch due to existing capacity limitations on the main WCML. Provision for future additional platforms to serve the main WCML will be allowed for on all three sites should additional stops be possible after the release of capacity consequent upon the opening of HS2.

Following research, including site visits, three possible locations were shortlisted that fulfilled the requirements of the brief. Figure 11 shows the proposed location of each station option. The plan also highlights the nearby conservation area, which has been avoided in all three cases. It can be seen that site 1 and site 2 are close to the main WCML, whereas site 3 is more independent, following the divergence of the Northampton branch, although still nearby and facilitating additional platforms.

From the furthest points of sites 1 and 3 is a distance of approximately 1.8 kilometres. All sites are therefore largely going to attract trips from the same local population body. Integration with trips from further afield will rely more heavily on the connections to the local highway network and the availability of car parking.
4.2 TRACK GRADIENT

The track through all three station locations is at a maximum gradient of 1:300. This is greater than recommended by rail industry Group Standards\(^1\) which specifies a maximum gradient of 1:500. However, this should not preclude a station being located on a gradient of greater than 1:500 so long as there are no plans to reverse or terminate trains at the station. There are no plans for these activities at the proposed Rugby Parkway station. Further consideration may need to be given during the next phase of project development to determine whether additional measures to ensure the safety of trains calling at the station are required to mitigate the gradient. It is expected, however, that it is unlikely that any additional measures will be required at this location.

\(^1\) Railway Group Standard GIGN7616, as reproduced in Investment in Stations, A guide for promoters and developers, Network Rail, December 2014
4.3 **SITE 1**

Site 1 is located approximately 3.2 kilometres to the south-east of Rugby station. The site has been split into two, with one to the north-east of the railway line and the other to the south-west.

**4.3.1 SITE 1A**

Site 1a is located on existing Network Rail maintenance access land. At this point the Northampton Branch and main WCML run side-by-side with an area between the two sets of lines, allowing an island platform to be constructed without realignment of the track being required. A pedestrian bridge would need to be installed across the main WCML route in order to access both Northampton branch platforms. Future integration with the WCML would require the construction of only one additional platform; however this would come at the expense of space surrounding the main station structure.

The undeveloped land to the south of the site is currently subject to a planning application for the development of approximately 80 houses, which would be accessed from the same point as the station. This would place a constraint on the physical land available as well as the capacity of the access road and surrounding highway network. The access would also be close to existing properties, potentially raising the issue of noise and other inconvenience during the construction stages.

Only a small amount of parking would be possible within the station site, due to the boundary constraints. This would limit the possibility of strategic park and ride from the site, and limit patronage to those within easy walking and cycling distances.

Moors Lane passes under the railway, close to the proposed access to the site. Due to the restricted width of the underbridge, there are plans to restrict the lane to pedestrians and cyclists. This would, therefore prevent through-traffic between the SUE and the station site, increasing the traffic impact on the existing residential streets around the Hilmorton and Paddox wards. The absence of direct highway access from the SUE is a very significant disadvantage for Site 1a, and essentially discounts further progression of this option. The alternative would be the replacement of the underbridge with a wider structure, although the cost of this could be well be considered to be prohibitive (see section 5.2)

**4.3.2 SITE 1B**

Site 1b is located on existing farmland, adjacent to Moors Lane, opposite site 1a. The site is on an embankment with an approximate gradient of 1:1 on to the adjacent farmland. There are also suspended power cables that run close to the railway line that may need to be diverted. To overcome the change in levels a large station structure would need to be constructed to take passengers to the southbound platform level and additionally over the Northampton lines to an island platform for northbound services. Future integration with the WCML would require an
extension to this structure to cross the main WCML in order to access a platform within the Network Rail maintenance area.

Access to the station would be from Moors Lane, which is currently a rural road that leads from the residential area south-west of the railway line, via an underbridge, to the A428 Crick Road one kilometre to the east. The underbridge has a height restriction of 11’0” and is only wide enough for one vehicle to pass. In order give enough capacity for vehicles accessing the proposed station this would likely require widening, involving the reconstruction of the underbridge. As previously discussed, it is likely that the underbridge will be closed to through-traffic, remaining as a link for pedestrians and cyclists. Access to the station from the Hilmorton and Paddock wards would therefore be severely limited, effectively preventing substantial potential existing demand from gaining access to the station by road.

4.3.3 SITE 1 - SUMMARY AND CONCLUSIONS
Whilst this site benefits from its close proximity to a large number of existing residential properties, the access and level constraints increase the challenges faced, leading to an increased cost for a lower level of provision, particularly in regards to the interface with the SUE and the remainder of the larger Rugby area.

Neither Site 1a nor 1b are deemed to be suitable for the provision of a station to achieve the objectives set out in the Rugby Local Development Framework.

4.4 SITE 2
Site 2 is located to the north west of the A428 Crick Road, approximately 4.3 kilometres south-east of Rugby station. Access to the site from the A428 would require the crossing of the Oxford Canal via the construction of a new bridge. It is likely that a new junction would need to be provided to the east of the existing junction with Moors Lane in order to provide adequate visibility after the bend shown in Figure 13. There has also been a pattern of collisions along this stretch of the A428 (five accidents in the past five years) that the required new access junction may have to recognise and mitigate.

Site 2 benefits from a larger expanse of surrounding, undeveloped, agricultural land allowing a large car park area adjacent to the station, however there is a gradient away from the railway meaning that some terracing may be required. There would also not be an easy access route from the existing residential areas of Rugby, leading to a greater reliance on cars to access the site.

Whilst at this point the alignment of the Northampton Branch has moved further from that of the main WCML, there is a large amount of electrical infrastructure within the central wedge, relating to the overhead line equipment. The northbound platform may therefore have to be offset to the north-west.
4.4.1 SITE 2 - SUMMARY AND CONCLUSIONS
Site 2 is located further away from existing dwellings and is accessed more easily from the A428 Crick Road and is therefore a good compromise between the accessibility for existing residents, minimising construction disruption, and providing a useful location in relation to the SUE.

The overriding factor however is the likely cost of constructing the access route across the Oxford Canal, taking into account the varying levels of the site. Additional work may also be required to the existing electricity infrastructure around the site, related to the overhead line equipment. This is likely to have a high associated cost and may have an impact on the operation of the main WCML.

Whilst Site 2 is adjacent to a quantity of undeveloped land suitable for car parking, its location over the canal, the need for a new road junction and the need to avoid or move railway electric traction equipment increase the anticipated capital costs for this option. Consequently, Site 2 is not recommended as the preferred option.

4.5 SITE 3
Site 3 is located approximately 4.3 kilometres to the south-east of Rugby station, on an area of agricultural land between the Northampton branch line and the A428. The site has a slight gradient away from the railway, despite the line being within a cutting at this point.

At this point along the line, the Northampton branch has moved further away from the alignment of the main WCML, with a gap of around 75 metres. This means construction of the initial phase on the Northampton lines will have a significantly reduced, if not negligible, impact on the operation of the main WCML.

Vehicular access to the site will make use of an already proposed junction with the A428, being constructed as part of the SUE, reducing construction costs and ensuring good integration with the SUE. This location is also the closest to the DIRFT site and will provide the best links to potential bus routes serving the site, with access directly off the A428, the road that links Rugby town centre to DIRFT.

The topology of the site allows the main station structure and vehicular approach to be on a similar level to that of the pedestrian footbridge, with station users going down to platform level. This also has the potential to reduce the visual impact of the station with the footbridge lower in relation to
the surrounding land. There is some variance in levels along this section of line that means that the station will likely occupy part cutting and part embankment. It is likely that earthworks will be required in order to provide space for the proposed platforms within the cutting, however due to the variance in levels it is expected that only a minimal amount of material will have to be exported off-site.

Future integration with the main WCML is possible by providing a pedestrian link between the Northampton branch and the main WCML, a distance of around 75 metres. In this case, two additional platforms and a second over bridge would be required to service both north and sound-bound trains; therefore future capital costs may be higher than for other options. This may be mitigated through the lack of disruption to the WCML during the construction of the first phase on the Northampton branch.

4.5.1 Site 3 - Summary and Conclusions
Site 3 provides the best option for meeting all WCC objectives. The site is ideally located for integration with the SUE, being constructed on existing farmland away from properties thus minimising disruption to existing neighbourhoods. The site benefits from the availability of adequate farmland for construction of the station itself and associated car parking which will keep the inconvenience of a major construction operation to a minimum. Its proximity to the SUE and the infrastructure work being carried out there will allow the site to be easily connected to the main road network. It also avoids construction adjacent to the WCML main lines where suitable access might be more difficult to obtain. Furthermore, the capital cost estimate for this site, as highlighted in the next section, is the lowest of the three sites.

Based on the assessment of the three sites outlined in this section, Site 3 has been identified as the most suitable for the location of a new parkway station to serve the SUE and provide a strategic park and ride facility for the Rugby hinterland.
5. CAPITAL COST ESTIMATE

An order of magnitude estimate of the cost of building Rugby Parkway has been calculated. This is a high-level assessment that is based on current prices.

5.1 STATION REQUIREMENTS

The following cost estimates have been made using the requirements and assumptions set out below:

- A northbound and southbound platform, each to accommodate eight 23 metre vehicles, giving an approximate total length of 200 metres, 3 metres wide;
- The platforms are to be connected by a footbridge with lifts to enable equal access;
- A car park with capacity for 300 vehicles, sustainably drained;
- A facility for kiss-and-ride, bus stops and cycle parking within close proximity to the main station building/entrance;
- A canopy and shelter to accommodate around 50 passengers on each platform;
- A station building to include:
  - two-window ticket office
  - café
  - staff toilets
  - customer toilets
- CCTV and customer information systems.

5.2 COST ESTIMATES

Capital Cost estimates for each site option have been produced using current industry benchmarked cost data, gathered from a variety of similar projects throughout the United Kingdom. The costs are dated as of 4th Quarter, 2014 and are consistent with Network Rail’s Governance for Railway Investment Projects (GRIP) practices and would be categorised as a GRIP 1 level estimate according to the information currently available.

It is important to take into account all of the costs given for the site options, with the Minimum representing the best case scenario (where typical risks do not all materialise), the Maximum representing the worst case scenario (where the majority of typical industry risks materialise) and the Median being the most probable cost at this stage of project development.

All costed items have been separately itemised within the cost estimate, with accompanying notes and assumptions listed for reference.

The key assumptions made across all of the estimate options include the following:

- Land will be purchased at typical commercial rates;
- There is a very low risk of encountering hazardous materials at time of excavation;
- Reasonable possessions of the railway will be available at the time of construction;
- Possession costs will be reasonably low due to conducive programming of the works;
- Permanent Way will only require minimal slewing to facilitate the platform construction and alignment;
• All required utility connections are within reasonable (for example 500 metres) connectivity of the proposed station sites;
• Inflation will remain constant up until construction and has therefore been excluded at this stage of the estimating process;
• Market overheating will not impact upon the project due to the likelihood of this project preceding major projects such as HS2 or the like.

The largest contributors to cost are the imported fill for platforms and the cost of the modification of, or replacement of large structures. The equipment requirement and basic works have been assumed to be constant across all sites in order to enable fair comparison. In reality site conditions may necessitate variations in methodology, such as within areas constrained by existing residential properties.

Opportunities do exist for a reduction in likely capital costs for the proposed projects and these opportunities include the following:-

• The purchase of agricultural land as opposed to ‘brownfield designated’ land;
• Utilisation of innovative platform solutions such as ‘Megatech’ or ‘Stepsafe’ type systems;
• The potential to utilise a ‘cut and fill’ approach to the levels as opposed to mass excavation or importing of fill from off-site.

<table>
<thead>
<tr>
<th>Section / Area</th>
<th>Total Cost</th>
<th>Maximum (+50%)</th>
<th>Minimum (-50%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site 1a</td>
<td>£14,798,865</td>
<td>£18,414,715</td>
<td>£12,666,885</td>
</tr>
<tr>
<td>Site 1b</td>
<td>£15,766,175</td>
<td>£19,623,275</td>
<td>£13,508,570</td>
</tr>
<tr>
<td>Site 2</td>
<td>£11,568,543</td>
<td>£14,349,143</td>
<td>£9,859,188</td>
</tr>
<tr>
<td>Site 3</td>
<td>£9,346,060</td>
<td>£11,601,260</td>
<td>£7,894,405</td>
</tr>
</tbody>
</table>

While the works needed to construct the station buildings and platforms are similar in all three sites, additional costs are borne for sites 1b and 2, in particular, where new infrastructure, or expensive adjustments to existing structures are required to allow access to the sites. Site 3 is expected to benefit from planned integration with the highway network that will be undertaken as part of the SUE. This in effect removes the need to construct a separate junction with the A428.
6. **TIMETABLING FEASIBILITY**

6.1 **TRAIN SERVICE**

The following analysis was first carried out using the December 2013 timetable. No significant changes to the Northampton services have taken effect since this time; therefore the information presented remains valid. The existing service pattern, with the additional Rugby Parkway stop is shown in Figure 17.

![Diagram of train services](image)

**FIGURE 17 EXISTING TRAIN SERVICE SCHEMATIC**

There are three London Midland services each hour that pass the site of the proposed station. These predominantly operate between Birmingham New Street and London Euston, via Northampton. There would therefore be a direct link from the proposed station to London Euston with a journey time of around 1h24m. Alternatively by using connecting services at Rugby Station this journey time can be reduced to just over an hour, assuming a good connection can be made.

6.2 **NORTHBOUND TRAIN SERVICE**

There are regular London Midland train services between London Euston and Birmingham, with two per hour travelling via Northampton. Another London Midland service, originating from Northampton makes up the third train within the hour giving headway of around 20 minutes to Birmingham New Street. This offers a good frequency for ‘turn up and go’ travel, particularly for regional journeys.
### Train Narrative

**XX:13 EUS-BHM**
- Potential for some, but not all of these trains to call at Rugby Parkway
- Only 5 minutes dwell at Northampton, which is often used to detach a unit. Current staff agreements require 9 minutes for this manoeuvre
- If employee relations issues with Drivers remain unresolved, stops at Long Buckby may have to be omitted to allow the detaching move to take place. This would also prevent a call at Rugby Parkway for those trains that detach a unit

**XX:49 EUS-BHM**
- Rugby Parkway call easily accommodated
- Extended dwell at Northampton (approximately 14 minutes)
- Detaching units at Northampton easily accommodated

**XX:37 NMP-BHM**
- Rugby Parkway call easily accommodated
- 3 minute earlier departure from Northampton

**Able to call?**
- Some Trains
- Yes

### Table 4 Northbound Train Services

### 6.3 Southbound Train Service

Similarly there are three services per hour between Birmingham New Street and London Euston, via Northampton. These also have an even distribution, with headway of approximately 20-minutes. Due to similar timetabling constraints, linked to the attaching and detaching of units at Northampton, one of the services that passes the proposed station site may not be able to call under the current arrangement with Drivers. This would again result in a 40-minute gap in services, reducing the attractiveness of ‘turn-up-and-go’ travel.

### Table 5 Southbound Train Services
6.4 **Train Service Conclusions**

Of the three trains per hour, stops at Rugby Parkway can readily be accommodated in two, given the current timetabling constraints. This would provide a two train per hour service, however the long, 40-minute, gap between two of the services would make the station less attractive from a ‘turn-up-and-go’ approach.

A London Midland agreement with Drivers allows nine minutes for attaching or detaching units at Northampton. Prior to December 2012 the majority of London Midland services from Crewe, travelled via Northampton and would attach to the services from Birmingham New Street before travelling onwards to London Euston as a single unit. Since December 2012, services from Crewe now travel directly along the main WCML, avoiding Northampton. There is therefore less of a requirement for the buffer period at Northampton.

As part of the creation of the new West Midlands franchise, it is likely that it will be necessary to review the terms and conditions for Drivers for a number of productivity issues, including attaching and detaching units at Northampton. This, if successful, may enable a third train per hour to serve the proposed station, as well as maintaining stops at Long Buckby.

6.5 **HS2**

The proposal to construct a high speed line, HS2, between London, the West Midlands and the north is largely predicated on the need to relieve congestion and free up capacity on the WCML. Phase 1, between London and the West Midlands is anticipated to open in 2026. Current capacity utilisation on the main lines passed the proposed Rugby Parkway new station site is such that it is unlikely that additional stops in trains at the station could be accommodated.

However, after the opening of HS2 Phase 1 in 2026, it is possible that sufficient capacity will be created to allow trains to stop at new platforms on the main lines. This would allow the potential for substantially quicker journey times to London, potentially as little as 48 minutes on a non-stop 125mph tilting train.

The future, post-HS2 WCML timetable is not yet fully developed by Network Rail. WCC should consider lobbying for the provision of paths to allow for fast services to call at the proposed new station.
7. **Demand Analysis**

7.1 **Demand Modelling Approach**

A high-level demand modelling exercise has been carried out using the industry-standard Passenger Demand Forecasting Handbook (PDFH) approach.

In order to calculate the likely demand, it is necessary to approximate the number of residents within the PDFH standard radii of the station. These isochrones, set at 800m and 2Km, have been shown in Figure 19 below.

It is then necessary to identify the type of station, out of four possible standard PDFH options ('Village areas', 'Prime commuter', 'Built-up areas' and 'Free-standing town'). Given the characteristics of the proposed SUE, together with the regular direct rail service to both London and Birmingham, ‘Prime commuter’ has been deemed to be the most suitable to assess the proposed Rugby Parkway station.

![FIGURE 19 800M AND 2KM ISOCRONES](image)

A simple demand calculator has been used by SLC to determine high level demand for Rugby Parkway station. For the ‘Prime Commuter’ category, the model assumes that the number of trips each day per thousand resident population:

- Within 800m of the station - 100 trips
- From 800m – 2Km of the station - 10 trips
- Beyond 2Km – 1% of the total of local demand
The trip rate assumptions for ‘Prime Commuter’ and the other categories of station are shown in Table 6.

<table>
<thead>
<tr>
<th>PDFH Standard Trip Rates</th>
<th>Prime Commuter</th>
<th>Village Areas</th>
<th>Built Up Areas</th>
<th>Free Standing Town</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 800m</td>
<td>100</td>
<td>25</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>800m - 2km</td>
<td>10</td>
<td>6</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>2km +</td>
<td>1%</td>
<td>20%</td>
<td>10%</td>
<td>40%</td>
</tr>
</tbody>
</table>

**TABLE 6 PDFH TRIP RATE ASSUMPTIONS**

Applying these calculations to Site 3 provides the results shown below:

<table>
<thead>
<tr>
<th>Isochrone</th>
<th>Population</th>
<th>PDFH Trips</th>
<th>Trips per day</th>
<th>Annual Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 800m</td>
<td>3,248</td>
<td>100</td>
<td>325</td>
<td>101,338</td>
</tr>
<tr>
<td>800m - 2km</td>
<td>15,036</td>
<td>10</td>
<td>150</td>
<td>46,912</td>
</tr>
<tr>
<td>2km +</td>
<td>-</td>
<td>0.01</td>
<td>5</td>
<td>1,482</td>
</tr>
</tbody>
</table>

**TABLE 7 RUGBY PARKWAY SITE 3 ‘PRIME COMMUTER’ DEMAND**

However, one of the key objectives for Rugby Parkway is to serve the Rugby hinterland as a strategic park and ride facility. Consequently assuming this demand to be 1% of primary demand beyond 2Km in accordance with PDFH standard assumptions does not seem satisfactory. Free standing town assumes 40%, which is likely to be closer to reality. By comparison, an April 2014 survey at the newly opened Stratford Parkway station found that 55% of people lived more than 10 minutes from the station. This suggests that the 1% PDFH calculation is inadequate for this application. The table below shows daily and annual trips for park and ride trips of 10% - 60%.

<table>
<thead>
<tr>
<th>Park and ride percentage of primary demand</th>
<th>Trips per day</th>
<th>Annual trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>523</td>
<td>163,075</td>
</tr>
<tr>
<td>20%</td>
<td>570</td>
<td>177,900</td>
</tr>
<tr>
<td>30%</td>
<td>618</td>
<td>192,725</td>
</tr>
<tr>
<td>40%</td>
<td>665</td>
<td>207,550</td>
</tr>
<tr>
<td>50%</td>
<td>713</td>
<td>222,375</td>
</tr>
<tr>
<td>60%</td>
<td>760</td>
<td>237,200</td>
</tr>
</tbody>
</table>

**TABLE 8 STATION DEMAND MODELLING**
7.2 **DEMAND FORECAST ASSUMPTIONS**
A number of assumptions have been made to determine the high-level demand forecast in this study, and these are detailed below.

7.2.1 **HOUSING DENSITY**
The calculations have made the assumption that the housing density of the SUE will be the same as the density of the existing nearby residential areas and an average dwelling occupancy of 2.35 people has been used.

7.2.2 **EXISTING POPULATION ASSUMPTIONS**
The forecast population of the SUE was determined using the equation shown in the box below:

\[
\text{No. of residential properties} \times \text{average Rugby dwelling occupancy}
\]

\[
6,200 \times 2.35 = 14,570
\]

EQUATION 1 SUE POPULATION FORECAST

The approximate split of dwellings between 0 – 800m and 800m – 2,000m isochrones was assumed to be:

<table>
<thead>
<tr>
<th>Isochrone</th>
<th>Percentage Split</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 800m</td>
<td>20%</td>
</tr>
<tr>
<td>800 – 2,000m</td>
<td>80%</td>
</tr>
</tbody>
</table>

TABLE 9 SPLIT OF DWELLINGS BETWEEN ISOCHRONES

For the purpose of this high level assessment, it has been assumed that all of the SUE residential properties fall within 2Km of the proposed station site.

Existing residential populations were determined based on the isochrones shown in Figure 19 by the Warwickshire Observatory.

Population assumptions for both the existing residential population and the SUE are shown in Table 10 below:

<table>
<thead>
<tr>
<th></th>
<th>0-800m</th>
<th>800m - 2,000m</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing</td>
<td>334</td>
<td>3,380</td>
<td>3,714</td>
</tr>
<tr>
<td>SUE</td>
<td>2,914</td>
<td>11,656</td>
<td>14,570</td>
</tr>
<tr>
<td>Total</td>
<td>3,248</td>
<td>15,036</td>
<td>18,284</td>
</tr>
</tbody>
</table>

TABLE 10 POPULATION ASSUMPTIONS

7.2.3 **DAYS OF THE WEEK**
The model assumes 6 days of demand each week, which includes weekends calculated at 50% of weekday demand for each day.
7.3 **OTHER DEMAND FACTORS**

The demand analysis undertaken for this feasibility study are, necessarily, a very high level view. Accordingly, there are a number of relevant factors that have not adequately been taken into consideration. Such factors include:

- **Strategic park and ride** – As previously suggested, the standard PDFH assumption used for the purposes of this feasibility study does not adequately take account of the likely potential of this site for strategic park and ride. The proposed station is located exceptionally well for access from the strategic road network, in particular the A5 and M1. Furthermore, the congested A14 junction with the M1 is being substantially upgraded opening up access from southern Leicestershire and other areas of Northamptonshire.

- **Local journeys** – The demand assessment does not take account of local trips. A regular direct rail service from the SUE to Rugby Station is likely to generate a not insubstantial number of journeys for both commuting and shopping/leisure.

- **DIRFT** – As highlighted previously, the nearby rail logistics park continues to expand and DIRFT III will provide c9,000 jobs when it is complete. The demand analysis undertaken for this feasibility study does not take full account of ‘attracting’ demand – trips that are generated to the new station, rather than from it. With suitable, effective interchange onto road transport from Rugby Parkway to DIRFT, it should be feasible to transfer some of the commuting journeys to DIRFT from road to rail/bus. If just 50 of the 9,000 (0.6%) new employees on the site were to travel by rail, this would equate to 25K additional trips each year.

A subsequent business case demand study should take full cognisance of these nuances.

7.4 **DEMAND ANALYSIS SUMMARY AND CONCLUSIONS**

From the high-level demand analysis undertaken for this study, it can be concluded that there will be a demand of between 150,000 and 220,000 from Rugby Parkway station. The variance depends largely on the level demand generated by the station being used as a strategic park and ride facility for the Rugby hinterland, and will require further, more sophisticated modelling to inform a formal business case in the next stage of project development.

7.5 **DEMAND COMPARATORS**

7.5.1 **AYLESBURY VALE PARKWAY**

Aylesbury Vale Parkway is a similar station to that being proposed at Rugby Parkway, being located adjacent to a new housing development, albeit a smaller scale than that proposed for the Rugby SUE. The development around Aylesbury is for approximately 3,000 dwellings, built over a number of years. The full demand is expected to be in the region of 225,000-250,000 trips per annum.

The station has a two train per hour service with a journey time to London of 1h05m. The station is an extension to the line that serves the main Aylesbury station, which is less than four kilometres from Aylesbury Vale Parkway. The station is therefore a good comparator to Rugby Parkway in order to test the demand forecasts.
At peak demand Aylesbury Vale Parkway has 530 two-way trips per day from a development of 3,000 dwellings. Applying the same ratio, with an 80% penetration adjustment, Rugby Parkway would be expected to have 840 two-way trips per day. Applying this to 250 weekdays of operation, this equates to approximately 210,000 trips per year. This is in line with the output of the PDFH calculations, and suggests that the estimates of station demand forecast in section 7.1 is credible and reliable.

7.6 **Car Parking**

A high-level assessment of likely parking demand has been carried out using the number of trips calculated above. If it is assumed that 70% of the 840 two-way trips using the station arrive by car, factoring in average vehicle occupancy of 1.2 people per car, this gives a parking requirement of 245 spaces.

The proposed 300 space car park should therefore be sufficient to cope with early-years demand, particularly given the phased approach to the construction of the SUE, however consideration should be given for future car park expansion from an early stage in order to ‘future-proof’ the station.

7.7 **Abstraction – Rugby**

Rugby station has adequate parking provision with approximately 720 spaces, including a new 263-space multi-storey car park, which opened in 2009. Parking costs are £7 per day; however there are also off-peak and shorter duration discounts.

Access to the station from the south of the town is congested and requires the use of narrow, residential streets. Residents from the SUE travelling to Rugby station would travel via Clifton-on-Dunsmore, with an associated increase in traffic and localised congestion. A direct link road from the SUE that will serve Rugby Station has been proposed.

Rugby Parkway may abstract some passengers from Rugby station, particularly from the south of the town, however additional services and faster journey times to London and the northwest should ensure the retention of its core business. As the SUE will create substantial new demand, enough to
support a new station, any abstraction effect of the new station would be more than adequately balanced by those passengers living in the SUE that will prefer to use faster services from Rugby.

7.8 **ABSTRACTION – LONG BUCKBY**

Long Buckby station has a lower level of car parking provision with only 90 spaces. The parking is free and is often oversubscribed resulting with overflow vehicles parking on local roads. The station is located approximately eight miles from the SUE and is accessed only via the A5. There is no motorway access via the M1. The station is also situated on the Northampton branch, therefore would offer the same level of services as Rugby Parkway.

Long Buckby is therefore unlikely to attract passengers from the SUE due to the limited availability of parking and poor highway access, making it a less attractive option than Rugby or Rugby Parkway. Conversely Rugby Parkway may abstract a small number trips from Long Buckby if it offers a better service and more plentiful car parking, especially those users who park at the station from the Rugby direction, or who are travelling north on the train, so would not be heading in the ‘wrong’ direction.
8. SUMMARY AND CONCLUSIONS

This report has considered the potential for a new station to serve the Rugby Radio Station Sustainable Urban Extension, an ambition of Warwickshire County Council. The scope of this report included a high-level assessment of demand within the context of the Local Development Framework.

Four sites were considered within a study area along a corridor adjacent to the Northampton branch of the West Coast Mainline. This resulted in a recommendation for a preferred site based on factors, such as accessibility, land available for parking and estimated cost of construction.

Additionally a review of existing timetabling along the Northampton branch was carried out in order to consider the feasibility of calling trains at Rugby Parkway with limited impact on the railway network. This concluded that two out of three existing services per hour would easily be able to call at Rugby Parkway by reducing the dwell time at Northampton, with the third only being possible if Train Driver terms and conditions were amended to reduce the minimum time needed for attaching and detaching units at Northampton.

A demand model was used to predict the number of annual trips that would make use of Rugby Parkway. This involved classifying the station given its surrounding characteristics of population and density. Comparisons with other similar stations were used to verify the figures from the model. From this the required car parking provision was calculated and compared with that of Rugby and Long Buckby stations.

8.1 PRIMARY CONCLUSIONS

From the analysis carried out, it has been found that a new station to serve the SUE at the Rugby Radio Mast site is a credible proposition for Warwickshire County Council. The site selection exercise identified a preferred site on land between the A428 Crick Road and the Northampton branch of the West Coast Main Line. The estimated capital costs of providing such a station would be in the region of £9.3 million. The modelling exercise suggested that the station could expect in the region of 150,000 – 220,000 two-way trips per year.

8.2 RECOMMENDATIONS

Recognising the key finding of this study, that the proposal for a parkway station south of Rugby is a credible proposition, the primary recommendation is that a further study is undertaken by WCC to develop:

- A full demand assessment;
- Detailed feasibility assessment for the preferred site option;
- DfT five stage business case.

Formal engagement with the rail industry, Network Rail and the train operator London Midland, is the second recommendation in order to gain support for the project.

Within the report a number of other stakeholders have been identified. These, in particular, include the Midlands Connect group and Rugby Radio Station Limited Partnership. Both of these groups
would benefit from early contact in order to ensure the proposed Rugby Parkway station is brought forward in line with wider aspirations and masterplans.