MetroWest Phase 1

Portishead Station Options Appraisal Report

June 2014

MetroWest

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MetroWest Phase 1 - Portishead Station Options Appraisal Report

1. Background

Project Overview

1.1 The re-opening of the Portishead rail line for passenger train services is part of the MetroWest Phase 1 project, which includes enhancing the local train service for the Severn Beach line and Bath to Bristol line. The project is being jointly promoted by the four West of England councils; North Somerset, Bath & North East Somerset, Bristol City and South Gloucestershire Councils. North Somerset Council is leading the project on behalf the councils. The MetroWest Phase 1 project includes:

Half hourly train services for the Severn Beach line, local stations between Bristol Temple Meads, Bath Sap and Weston-super-Mare (Bedminster and Parson Street) and the re-opened Portishead line including stations at Portishead and Pill.

1.2 All the works to deliver the train services are within the existing operational railway, with the exception of works to the line from Portishead to Portbury Dock Junction (nr Pill) which is a dis-used line. The Portishead branch originally opened in 1867 and operated passenger train services until 1964 when the line was closed as part of the Beaching cuts. Part of the line, between Bristol and Royal Portbury Dock, was re-opened in 2002 for freight trains. Since the closure of the Portishead line and stations in 1964, there has been considerable development in Portishead, particularly new housing. As a result the population has increased from 6,440 in the 1961 census to 27,048 in 2012 from the North Somerset Council mid year estimate (based on 2011 census plus subsequent house completions).

1.3 The project proposes to re-open the remaining 3 miles of dis-used line between Portishead and Portbury Dock junction, with stations at Portishead and Pill. The project is defined as a Nationally Significant Infrastructure Project under the 2008 Planning Act, which means the dis-used line will require a Development Consent Order (DCO). The remaining works can be done using Network Rail's permitted development rights, since they are within the curtailment of the existing operational railway. The DCO process requires considerable evidence base, and is front loaded as the requirements for submission and acceptance of a DCO application are considerable. The DCO process is overseen by the Planning Inspectorate. Upon conclusion of a successful DCO application, an Order is issued, giving the promoter powers to build and operate and if necessary to compulsory purchase of property. The final part of the process is the dis-charging of the Order by the local planning authority.

1.4 The project is to be funded from Department for Transport (DfT) devolved major scheme funding and from the council's resources, subject to acceptance of a robust business case, statutory processes, confirmation of powers to build and operate and procurement. The WoE Joint Transport Board, which oversees decision making on DfT devolved funding, determined in 2013 that MetroWest Phase 1 is their number one priority for allocation of funding. Further rail projects are planned as part of the MetroWest programme, these include MetroWest Phase 2 which proposes to re-open the Henbury line to passenger trains and enhance the train service between Yate and Bristol Temple Meads. MetroWest Phase 1 is being taken forward working with Network Rail through the Governance for Railway Investment Projects (GRIP) project governance framework. GRIP stage 1-2 has been commissioned and is due to be completed by June 2014.

Portishead Rail Station

1.5 The location of Portishead rail station in 1964 prior to the closure of the line was on land currently owned by Waitrose, on Harbour Road. In February /March 2013 North Somerset Council through the Sites and Policies Plan (Consultation Draft) consulted on this location, plus two other possible station sites. However, there are some deliverability challenges with these sites which renders the need for wider examination of site options to determine the most appropriate and deliverable site for the station. This work has been undertaken through a Site Options Appraisal and is reported in this document.

2. Planning and Transport Policy

Policy Context

2.1 The National Planning Policy Framework (NPPF) provides the overarching land use policy context for all development in England. The foremost principle of the NPPF is a *presumption in favour of sustainable development.*

2.2 The North Somerset Replacement Local Plan 2007 (policy T/3) safeguarded a site for Portishead station at the rear of Waitrose, close to the former station site in 1964, this is known as site option 1A. Policy T/3 remains a saved Replacement Local Plan and site option 1A is currently the only safeguarded site for the station. The railway alignment has been safeguarded from development by local plan policies for many years and this has largely been successful in preserving the integrity of rail alignment for future re-opening. However, a new highway was built across the rail alignment in 2004 (Quays Avenue), on the presumption that a rail level crossing would be acceptable and deliverable, should the re-opening the rail line be taken forward. Since Quays Avenue was built the design standards for railways have evolved and the formal position of the Office of the Rail Regulation (ORR) is that it does not support the implementation of new level crossings. The ORR is in fact working with Network Rail on a programme to reduce the total number of level crossings in operation on the national rail network, as a result of concerns about the number of accidents and fatalities, each year.

2.3 Consequently, this complicates determining the most appropriate site for Portishead rail station, which also needs to be a deliverable site. There are both land use policy and transport policy considerations to take account of, in assessing the station site options. Furthermore the environmental and social impacts of each site also need to be considered. While land use policy informs spatial planning, the deliverability of the station site will also be informed by transport policy particularly in terms of the acceptability of impacts on the local highways network, and the acceptability of the environmental and social impacts. Given the need to reconcile policy objectives and environmental / social impacts, we have undertaken an Options Appraisal consider and assess site options in order to determine the most appropriate and viable site for the station.

2.4 Pill rail station is however more straight forward in terms of policy and deliverability. Feasibility work undertaken by Network Rail has identified that the only viable location for the station is to re-use the former westbound platform, in both directions (as the line here is single track). The former Pill station is located within the existing operational railway on the Portbury freight line. The works to re-open Pill station are relatively modest and in summary include a new pedestrian access ramp, appropriate passenger facilities and car parking provision.

Local Planning and Transport Policy

2.5 The North Somerset Core Strategy 2013 is the principle strategic planning document framing the context for all development in North Somerset. The North Somerset Core Strategy was formally adopted on 12th April 2012, however the High Court ruled that the part of the document relating to the number of new dwellings required up to 2026, had to be re-examined. The Core Strategy re-examination took place 18th to 20th March 2014. The Inspectors Report determined that additional housing allocation is needed. Therefore the North Somerset Sites & Policies Development Plan Document is undergoing revision and will be subject to public consultation, in due course before being formally adopted. Consequently, the North

Somerset Core Strategy 2012 and saved policies from the North Somerset Replacement Local Plan 2007, comprise the current planning policies for regulatory purposes.

2.6 The North Somerset Core Strategy sets out seven vision statements, vision five relates specifically to Portishead,as follows.

> ***Vision 5 Portishead Vision***
> *By 2026 Portishead will have undertaken an extensive period of consolidation and become an increasingly popular location for new business as well as providing opportunities for existing local businesses to expand and grow. There will be increased opportunities for residents to work locally, reducing an overreliance on commuting to Bristol and its north fringe.*
>
> *Access by public transport within Portishead and between the other towns will be improved. A passenger rail or rapid transit link into central Bristol will have been reinstated, providing a real alternative to residents commuting into Bristol for work.*
>
> *Portishead will continue to be a popular place to live while retaining the existing distinctive character and village atmosphere of the High Street. The new and old communities in Portishead will be integrated and share a joint sense of place and pride in the town. The newly extended High Street will be a thriving and popular place to shop and spend time.*
>
> *Strong maritime links will continue to provide important focus. The marina and surrounding coastal area will continue to attract visitors. The unique setting of the Gordano Valley will be protected with opportunities to enjoy surrounding countryside, and views enhanced around the new development.*

2.7 The North Somerset Replacement Local Plan 2007 policy T/3 narrative states:

> *The importance of the station as a principal gateway to the town – forming first impressions – should not be under-estimated. The character, quality and local distinctiveness of the town needs to be reflected in the design of the station and it's approaches.*

2.8 The proposed development is essentially re-opening a dis-used rail corridor between Portishead and Pill (approximately 3 miles), where it is to connect to existing operational railway at Pill and associated rail station development at both Portishead and Pill. The development is class B2 General Industrial.

2.9 The Core Strategy policies relevant to the proposed development are:

- CS1 Addressing climate change and carbon reduction
- CS3 Environmental impacts and flood risk management
- CS10 Transport and movement
- CS20 Supporting a successful economy
- CS26 Supporting healthy living and the provision of health care facilities
- CS31 Clevedon, Nailsea and Portishead

2.10 The Replacement Local Plan policies relevant to the proposed development are:

- GDP/1 Preferred locations for development
- GDP/2 Environmental and public protection
- E/4 Proposals for new business development with towns and defined settlements
- T/1 Existing and proposed railway lines
- T/3 Proposed railway stations
- T/10 Safety, traffic and the provision of infrastructure associated with development
- RT/1 Strategy for revitalising the town and district centres

2.11 In respect of the transport policy context the principal document is the West of England Joint Local Transport Plan (JLTP) 2011 to 2026. The document was produced and formally endorsed by the Bath & North East Somerset, Bristol City, North Somerset and South Gloucestershire Councils. It sets out the overarching transport policies for the sub-region and sets out priorities, interventions and specific proposals for all modes of transport, including heavy rail. The JLTP contains five key policy themes to; reduce carbon emissions, support economic growth, promote accessibility, contribute to better safety, security and health and improve quality of life and a healthy natural environment. The JLTP provides the policy framework for investing in our strategic rail corridors to improve accessibility to and service provision of the local rail network. Both the Portishead rail corridor and the Greater Bristol Metro projects (which have since been merged into MetroWest Phase 1 and Phase 2) are supported for early delivery.

<u>Highways Development Management Policy</u>

2.12 NPPF states that development must not have an unacceptable impact on the highway network. Policy T/10 of the RLP states:

> *Development giving rise to a significant number of travel movements will only be permitted if it: i) is not likely to lead to an unacceptable degree of traffic congestion or generate traffic that cannot be accommodated without seriously affecting the character of the surrounding area and can readily be integrated with public transport, cycleway and footpath links and bridleways where appropriate.*

2.13 Policy T/10 is relevant to the proposed development in terms of consideration of the sites options for Portishead station. Quays Avenue (which as referred to above is a relatively new road which crosses the rail alignment) is one of two roads feeding onto Phoenix Way. Phoenix Way serves a new development (Portishead Vale) of approximately 1,000 dwellings and population of over 2,500. Harbour Road connects Phoenix Way to Portishead town centre via Cabstand. Quays Avenue connects Phoenix Way to Wyndham Way, which forms part of external facing A369 corridor. The road route enables the residents of Portishead Vale to access the A369 without having to travel via the Cabstand junction in the town centre. Maintaining both the western (Harbour Road) and southern (Quays Avenue) highway link with Phoenix Way is necessary for efficient access and egress for local residents. Furthermore maintaining both links is necessary to maintain efficient traffic circulation both into the town centre and for outbound trips.

2.14 Closing Quays Avenue either side of the rail alignment, without other interventions, such that the only way into Phoenix Way would be via Harbour Road and Cabstand, would not be feasible. This would effectively create a huge cul-de-sac causing severance problems for residents. It would also have an adverse impact on local traffic distribution and increase traffic queuing on Harbour Road and through Cab Stand, resulting an unacceptable severe highway impact. Consequently all the options assessed in the Site Options Appraisal involve maintaining two road routes to and from Phoenix Way.

3. Project Objectives & Timescales

Objectives

3.1 The JLTP policies are translated into delivery, through developing projects and interventions with objectives that are well aligned to JLTP policy. The principal objectives of the Metro Phase 1 project are:

- To support economic growth, through enhancing the transport links to the TQEZ and into and across Bristol City Centre, from the Portishead, Bath & Avonmouth /Severn Beach arterial corridors.
- To deliver a more resilient transport offer, providing more attractive and guaranteed (future proofed) journey times for commuters, business and residents into and across Bristol, through better utilisation of strategic heavy rail corridors from Portishead, Bath & Avonmouth /Severn Beach.
- To improve accessibility to the rail network with new and re-opened rail stations and reduce the cost (generalised cost) of travel for commuters, business and residents.
- To make a positive contribution to social well being, life opportunities and improving quality of life, across the three arterial corridors.

3.2 In addition are the following supporting objectives:

- To contribute to reducing traffic congestion on the Portishead, Bath & Avonmouth /Severn Beach arterial corridors.
- To contribute to enhancing the capacity of the local rail network, in terms of seats per hour in the AM and PM peak.
- To contribute to reducing the overall environmental impact of the transport network.

Timescales

3.3 The indicative timescales for the project are:

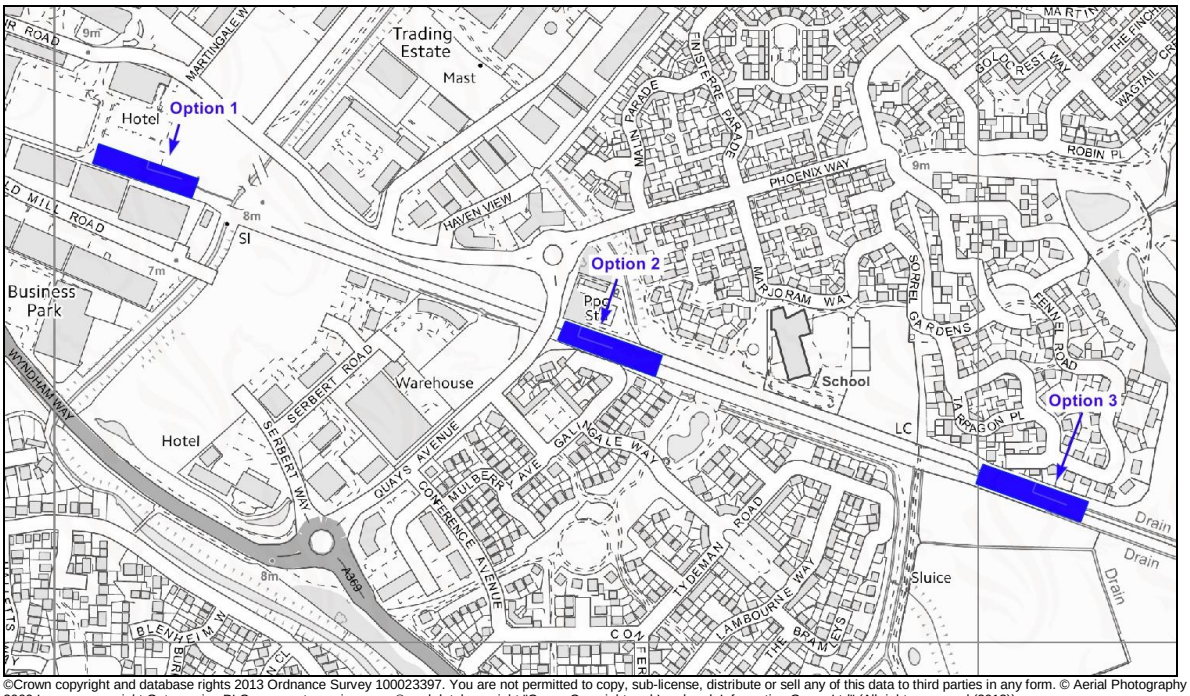
- Preliminary Business case submitted to WoE Joint Transport Board Sept 2014
- Outline Business case submitted to WoE Joint Transport Board Oct 2015
- Full Business case submitted to WoE Joint Transport Board Oct 2017
- Construction commencing Nov 2017
- Project Opens and passenger train services commence May 2019

4. Portishead Station Site Consultation – February/March 2013

NSC Sites & Policies Development Plan Document (Consultation Version)

4.1 In February 2013, North Somerset Council undertook public consultation on its Sites & Policies Development Plan Document (Consultation Version). As part of the consultation the council published an evidence paper: Re-opening Portishead Railway Line and Options for the Location of Portishead Railway Station, see appendix 1. The evidence paper sets out the project background and included three potential station location sites, together with qualitative summary tables for each option.

4.2 The three station sites were:
Option 1 – Town Centre location on Harbour Road
Option 2 – Peripheral Town Centre location on Quays Avenue
Option 3 – Edge of Town location on land north of Moor Farm



Shading indicates station footprint only without car parking for ease of illustration only.

Consultation Feedback

4.3 An on-line consultation was undertaken together with staffed exhibitions held in Portishead. A total of 147 consultation responses were received. In summary there was both support and objections for option 1 and option 2, while for option 3 there was no support and 25 objections. Furthermore there were suggestions for the council to consider other station sites options.

4.4 In respect of option 3, the qualitative summary set out in the evidence paper showed that this option had more dis-advantages than the other options and would not fully meet all the project objectives. The consultation responses highlighted local environmental impact concerns and concerns about opening up development in the green belt.

4.5 In respect of options 1 and 2, the consultation responses gave a mixed picture, with both receiving both support and objections. While option 1 received the greatest support, it has considerable deliverability challenges. Since the consultation was

undertaken, the council wrote to the Office of the Rail Regulation (ORR) to seek support for a level crossing on Quays Avenue. The response from the ORR was there is no special case for a level crossing. Consequently option 1 would be predicated on the construction of a road over rail bridge. A concept design for a bridge has been undertaken, see appendix 2a & 2b. There is not sufficient space for a standard bridge, therefore some departures from design standards would be necessary in order to fit a bridge into the available space. The design of the bridge has a number of wider implications, including highway impacts, environmental impacts and cost.

4.6 Option 2 had both support and objections and requires minimal infrastructure to implement. However, some consultation responses were concerned about localised environmental impacts and were concerned about commercial development (the station) within very close proximity to existing residential properties.

Initial Conclusions

4.7 Having considered the consultation responses and a number of significant delivery challenges with some of the three station sites options, there was a clear need to take a wider examination of potential sites including examining other potential station sites. This wider examination of options has now been undertaken through a Site Options Appraisal and the findings are reported in this document.

5. Site Options Appraisal Approach

Overview

5.1 As outlined in chapter 2, the purpose of the Site Options Appraisal is to assess site options in order to determine the most appropriate and viable site for Portishead station, taking account of relevant policy objectives, project objectives, environmental and social impacts and deliverability considerations. The methodology employed for the Site Options Appraisal is set out below, it essentially comprises of an assessment of site policy fit, an assessment of environmental / social impact and an assessment of site deliverability, resulting in an overall site viability ranking.

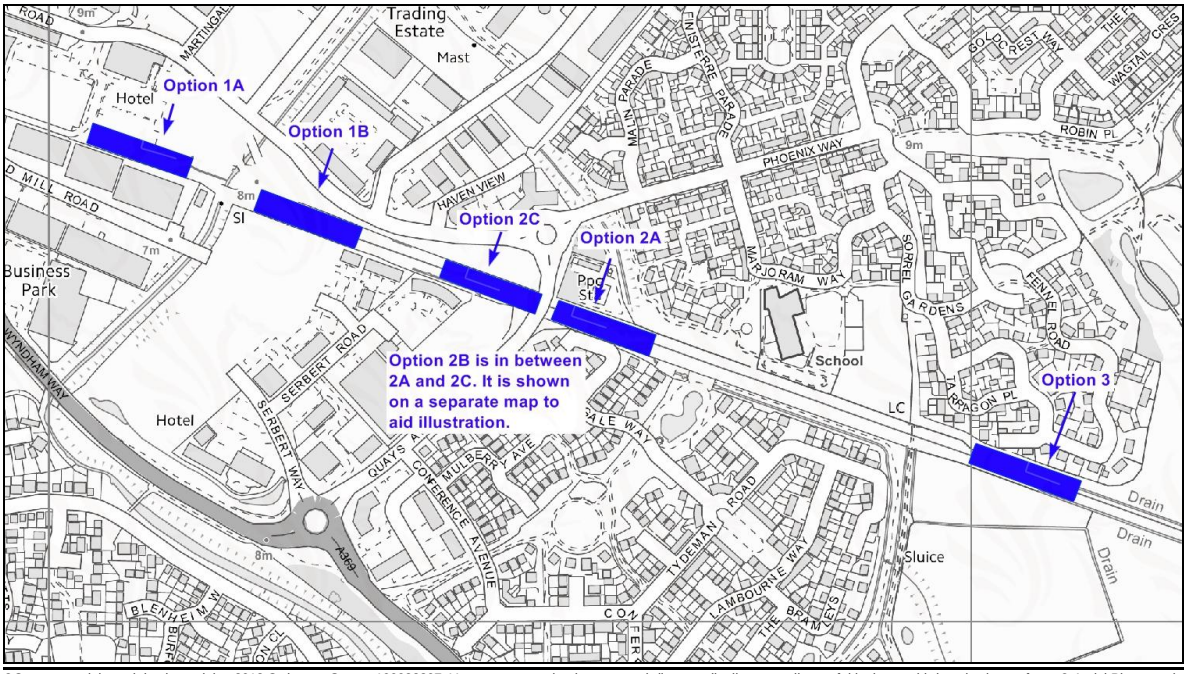
Area of Search

5.2 The safeguarded dis-used railway alignment between Portishead to Portbury Dock Junction (nr Pill) provides the only practical alignment for re-connecting Portishead to the national rail network. The alignment width varies through Portishead but is generally 15 to 20 metres wide. The land either side of the alignment has been developed over recent years, mainly as residential, with some commercial development closer to the town centre.

5.3 The area of search included in the Site Options Appraisal includes the three station sites previously consulted on, plus thee new sites options, giving a total of six site options:

- Site Option 1A - previously labelled option 1
- Site Option 1B - additional option immediately east of option 1A
- Site Option 2A - previously labelled option 2
- Site Option 2B - additional option immediately west of option 2A
- Site Option 2C - additional option immediately west of option 2B
- Site Option 3 - as previously labelled option 3

Plan of Site Options Considered in Site Options Appraisal



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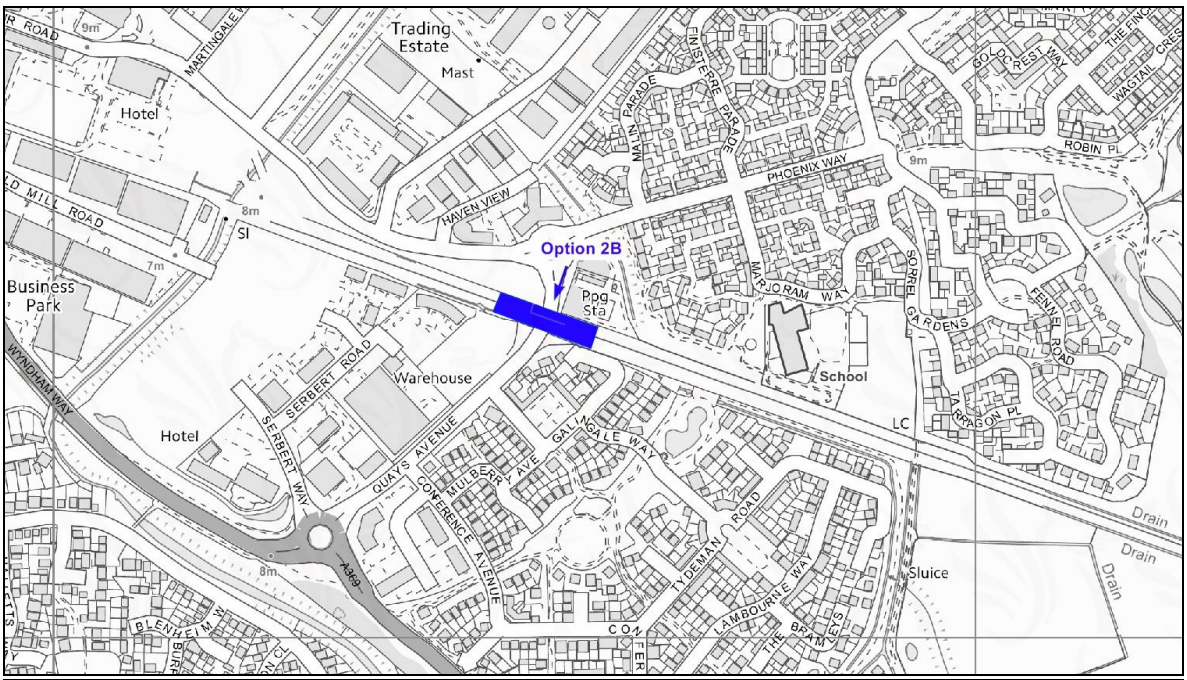

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Feasibility of a Level Crossing at Quays Avenue

5.4 Office of Rail Regulation (ORR) policy position on level crossings is set out in the following documents: "Guide To Level Crossing Order Submissions January 2008", "Level Crossings: A Guide for Managers, Designers and Operators December 2011" and "Strategy for Regulation of Health & Safety Risks - Level Crossings January 2014". In respect of new level crossings, paragraph 2.3 of the January 2008 document is states "HM Railway Inspectorate [now subsumed into the Office of the Rail Regulation] **DOES NOT,** in principle, support the creation of any new level crossings, of any type."

5.5 In 2013 North Somerset Council requested a view from the ORR about the possibility of a new level crossing at Quays Avenue. The ORRs' response was that it did not support a level crossing stating that "Level crossings are the greatest source of risk on the rail network, primarily in terms of risk to individual pedestrians or vehicle users, but also to passengers in trains colliding with vehicles and then derailing." Furthermore in relation to the volume of traffic using Quays Avenue the regulator stated "…the risk arising from a new level crossing would be high, even at the train speeds prevailing 450 metres from the terminal. ORR would not authorise a new crossing at this point."

5.6 Given the clarity provided by the ORR's policy position, the specific response from the ORR regarding a level crossing at Quays Avenue and the wider activity by the industry to reduce the number of existing level crossings, it is clear there is no practical mandate for pursuing a level crossing. We have therefore concluded this Site Options Appraisal and all considerations of station sites, is undertaken on the basis that a level crossing at Quays Avenue is not viable.

Highway Considerations

5.7 All the station sites were identified on the basis of the highway development management policy context (see para 2.12 – 2.14) and the following specific considerations:

- Maintaining both a western and southern highway link with Phoenix Way is necessary for efficient access and egress for local residents of Portishead Vale (with a population of over 2,500). The western highway link (Harbour Road) provides access to the town centre, while the southern highway link (Quays Avenue) provides direct outbound access without having to travel via the busy Cabstand junction. In essence, the station site must not have a severe highway impact.
- Sufficient highway access must be provided to the station and sufficient space must be available for a car park providing at least 150 car parking spaces.
- Safe and accessible pedestrian routes to the station must be provided.

Committed and Planned Development

5.8 There are a number of development sites within close proximity of Portishead town centre and the railway alignment. Some of these sites either have full planning consent or are under construction, including the remaining residential units at Portishead Quays (Newfoundland Way) and Sainsbury's supermarket on Serbert Way. There are also a range of other commercial planning consents for Serbert Way and Harbour Road. Furthermore the Old Mill Lane industrial estate, has been zoned for a mixed use redevelopment. These development sites are close to some

of the station site options, however they have particular bearing on site option 1B because of the difficulty in forming an alternative highway link, due the need to stop up Quays Avenue.

Proposed Footbridge Adjacent to Trinity Primary School

5.9 Trinity Anglican Methodist Primary School is located adjacent to the rail line at an approximate distance of 1km from the town centre (from Cabstand) equidistant between station location option 2A and 3. There are two pedestrian crossings of the rail line here, one permissive crossing and one informal crossing. It will be necessary to close these pedestrian crossings and fence the boundary of the rail line in order to meet rail design standards and safety requirements. To accommodate the existing pedestrian movements to and from the school, the project is proposing to provide a fully accessible footbridge. While the footbridge would not form part of the rail station facilities, it would be located within close proximity to some of the station locations options. Therefore it is appropriate that considerations on the footbridge are made together with considerations on the station location.

5.10 In project engineering feasibility work undertaken in 2010, three options were examined for retaining pedestrian access between Trinity School north of the line (the Village Quarter) and housing south of the line (the Vale), these options were known as:

- Western Route (Quays Avenue) – provide footpaths parallel to the railway linking to Quays Avenue to provide an indirect pedestrian route
- Middle Route (Galingale Way) – footbridge option
- Eastern Route (Moor Lane) – footbridge option

5.11 Since the school was opened in 2008 a permissive pedestrian crossing over the dis-used line was constructed, to accommodate access and egress between the Vale and the Village Quarter (Middle Route). There is sufficient space at this local for a fully accessible footbridge and pedestrian counts undertaken show that this crossing has a higher pedestrian footfall of the two crossings linking to the Primary School. A footbridge at this location would have a visual impact and the design of the bridge would need to be undertaken in consultation with neighbouring property owners to minimise its impact. We refer to this path as Trinity Primary School Middle Route permissive crossing.

Trinity Primary School Middle Route permissive crossing

5.12 In addition to this permissive crossing, there is an informal crossing further east at the eastern most boundary with Trinity Primary School (Eastern Route). This informal crossing is on the site of a former highway access road (Moor Lane) that used to provide access to a municipal landfill site, via a level crossing over the rail line. The access road has long since been closed (circa 1960's) and part of it now forms an informal path bounded by vegetation. We refer to this path as Trinity Primary School Eastern Route informal crossing.

Trinity Primary School Eastern Route informal crossing

5.13 In the February/March 2013 consultation undertaken by the Council, a footbridge was proposed to be located at Trinity Primary School Eastern Route informal crossing. This location was based on project engineering feasibility work undertaken in 2010. The Eastern Route crossing is not surfaced, is not fully accessible and appears to be mainly used by dog walkers. Since the project engineering feasibility work in 2010, new housing (Tarragon Place) has been constructed close to the railway boundary and this has meant that there is insufficient space available to install a fully accessible DDA compliant footbridge at this location. Consequently the only viable location for a footbridge is at the Middle Route crossing. We have shown the indicative location for the footbridge on the station concept designs in appendices 3a, 3b & 3c. Should a footbridge not be acceptable to the local community or not achieve planning consent, the alternative would be to deliver the Western Route footpaths parallel to the railway linking to Quays Avenue. However this would result in reduced accessibility as the pedestrian route from housing in the Vale to Trinity Primary School in the Village Quarter, would be longer and indirect.

Description of Site Options

5.14 A summary description of the six site options together with the infrastructure required and other factors is set out in Table 1 below. The population figures shown were calculated using 2011 census data.

Table 1. Overview of Assessed Site Options

Option	Location & Population Catchment	New Highway Infrastructure Required	Wider Context
Option 1A	Rear of Travelodge Harbour Road Location is 300 metres from Cabstand Population within 1km radius is 15,991	Road over railway bridge at Quays Avenue. A footbridge near to Trinity Primary School. A further 50 space car park, in addition to 100 spaces already secured. Bus stops/lay-bys.	The Office of Rail Regulation has confirmed that a level crossing at Quays Avenue will not be permitted. Consequently this option requires a road over rail bridge. There is not sufficient room for a standard road bridge. The bridge design requires a steeper gradient and this causes reduced line of sight, which means the junction would have to be signal controlled. The overall environmental impact of the bridge is significant due to the highway being raised over 5 metres above the existing highway level, very close to existing residential / commercial property. The cost of the bridge is not within the funding envelope and would compromise the project business case.
Option 1B	Opposite Pure Offices Harbour Road Location is 400 metres from Cabstand Population within 1km radius is 15,927	This option requires substantial highway modifications to form a new highway link between Harbour Road and Wyndham Way, as an alternative route to Quays Avenue, which would be stopped up. Alternatively this option would require the road over rail bridge at Quays Avenue (as option 1A). A footbridge near to Trinity Primary School and enhanced footpath links. A 150 space car park. Bus stops/lay-bys.	Requires significant third party land /property, causing impact to commercial business. Requires closure of Quays Avenue (to through traffic) and a new highway link from Harbour Road to Wyndham Way, but this new link be an indirect route and would have a severe highway impact as it would increase pressure on key junctions, causing delays and longer journey times. It is unlikely these highway modifications would be acceptable to North Somerset Council as the highway authority.
Option 2C	Between Serbert Road and Harbour Road Location is 550 metres from Cabstand Population within 1km radius is 14,402	Some highway modifications to form a new highway link connecting Harbour Road to Serbert Road as an alternative route to Quays Avenue, which would be stopped up. A westbound pedestrian and cycle link. A pedestrian crossing at Serbert Road. A footbridge near to Trinity Primary School and enhanced footpath links. A 150 space car park. Bus stops/lay-bys.	Requires some third party land /property, including partial demolition of commercial property. Requires some highway modifications to form a new highway link connecting Harbour Road to Serbert Road, as a result of closing Quays Avenue to through traffic. Highway modifications cause some traffic impacts. Car park is located across the road from the station.
Option 2B	Across Quays Avenue Location is 600 metres from Cabstand Population within 1km radius is 13,889	Some highway modifications to re-align Quays Avenue and form a new roundabout junction with Haven View, with some modifications to Phoenix Way. A westbound pedestrian and cycle link. A pedestrian crossing at Quays Avenue. A footbridge near to Trinity Primary School and enhanced footpath links. A 100 space main car park and 50 space overflow car park. Bus stops/lay-bys.	Requires some third party land/ property. Requires some highway modifications to re-align Quays Avenue and create a new junction at Haven View.
Option 2A	East of Quays Avenue 700 metres from Cabstand Population within 1km radius is 12,990	No highway modifications. A westbound pedestrian and cycle link. A pedestrian crossing at Quays Avenue. A footbridge near to Trinity Primary School and enhanced footpath links. A 150 space car park. Bus stops/lay-bys.	No highway modifications. Location is close to existing residential property and would cause some localised environmental impacts. More limited space for station forecourt / facilities. Car park is located across the road from the station.
Option 3	North of Moor Farm Sheepway Location is 1.3km from Cabstand Population within 1km radius is 6,975	This location requires a new highway link road 300 metres in length with a new junction at Sheepway. A westbound pedestrian and cycle link. A pedestrian crossing at Quays Avenue. A 150 space car park. Bus stops/lay-bys.	This location is not within easy walking distance of the town centre and has a much lower catchment of households within 1 kilometre. This location requires a new highway link and junction. Location is close to some existing residential property and is in the green belt, however overall has a more limited localised environmental impact.

Site Options Appraisal Methodology

5.15 The Site Options Appraisal methodology encompasses three main elements, assessment of site policy fit, assessment of environmental / social impact and assessment of site deliverability. The methodology is based on the Department for Transport's 'Early Assessment and Sifting Tool (East)', which is a multi-criteria assessment approach. Each element for each station site has been assessed qualitatively and this has resulted in a performance ranking. The results of the three elements were then combined and given equal weighting, to produce an overall site viability ranking for each station site.

5.16 The site policy fit assessment entailed a high level review of each site against a range of policy objectives. The policy objectives assessed included, strategic land use policies, strategic transport policies, highways development management policies, as summarised in chapter 2. Furthermore the policy assessment included consideration of Equalities Impact Assessment legislation and fit with project objectives.

5.17 The environmental and social impact of each station site has been assessed using the following headings: Carbon emissions, Socio-distributional impacts and the regions, Local environment and Well being. Within each heading are various sub-headings, and each of which were assessed. Further details of the assessment is set out in chapter 6.

5.18 The site deliverability assessment entailed a high level review of each site against the transport business case (five case model). The transport five case model is the default approach used by and recommended by the Department for Transport for the development and implementation of major transport projects. The approach is based on the following five cases: the Strategic Case, the Economic Case, the Management Case, the Financial Case and the Commercial Case. Each case is developed in accordance with technical guidance, proportionate to the stage of the project. At key stages the business case (comprising the five cases) is submitted to the local funding body (WoE Joint Transport Board) for consideration and endorsement.

6. Site Options Appraisal Assessment

6.1 Qualitative Assessment

Table 2 sets out the qualitative site policy fit assessment.
Table 3 sets out the qualitative environmental / social impact assessment.
Table 4 sets out the qualitative deliverability assessment.

Concept engineering design drawings have been produced for site option 2A, 2B and 2C, and indicative layout plans have been produced for options, 1A, 1B and 3, see appendix 3.

Table 2. Site Options Appraisal – Policy Fit Assessment

Policy	Option 1A	Option 1B	Option 2C	Option 2B	Option 2A	Option 3
Planning & Land Use Policies North Somerset Council Core Strategy and applicable elements of the Replacement Local Plan. Refer to section 2 for list of policies.	Site is in an area zoned as commercial and the use is commercial. Site is located close to the town centre assisting the vitality of the town centre. Good / excellent policy fit.	Site is in an area zoned as commercial and the use is commercial. Site is located fairly close to the town centre assisting the vitality of the town centre. Good / excellent policy fit.	Site is in an area zoned as commercial and the use is commercial. Site is more peripheral to the town centre but pedestrian/cycle promenade link to would provide strong link to the town centre. Good policy fit.	Site is in an area zoned as commercial and the use is commercial. Site is more peripheral to the town centre but pedestrian/cycle promenade link to would provide strong link to the town centre. Good policy fit.	Site is in an area zoned as residential. As the use is commercial and close to existing residential properties, there are policy implications. Site is peripheral to the town but pedestrian/cycle promenade link to would provide strong link to the town centre. Moderate / good policy fit.	Site is in an area zoned as Green Belt and is close to a number of residential properties. Poor policy fit.
WoE Joint Local Transport Plan Relevant policies include 'Support economic growth' and 'Promote Accessibility' etc	300m from the town centre and ample space for station forecourt / facilities. Good / excellent policy fit.	400m from the town centre and ample space for station forecourt / facilities. Good / excellent policy fit.	550m from town centre, ample space for station forecourt / facilities and corner (prominent) site. Good policy fit.	600m from town centre, ample space for station forecourt / facilities and corner (prominent) site. Good policy fit.	700m from town centre, limited space for station forecourt / facilities. Moderate / good policy fit.	1.3km from town centre, space for station forecourt / facilities. Poor policy fit.
Highway Development Management Policy Replacement Local Plan policy T/10 Safety, traffic and the provision of infrastructure associated with development	Quays Avenue link maintained via road over rail bridge, with signalised T junction. Gradient and derogation of design standards causes some issues for some highway users. Overall provides a poor / moderate fit with policy.	Stopping up of Quays Avenue and providing alterative in-direct highway route from Harbour Road to Wyndham Way would cause significant highway impacts resulting in, impacts on key junctions and longer journey times. Overall provides very poor policy fit.	New highway connection from Serbert Road to Harbour Road replaces Quays Avenue link (which is stopped up). New route is reasonably direct, but has narrower carriageway and more junctions. Pedestrian crossing to connect car park with station. Overall provides moderate policy fit.	Re-alignment of Quays Avenue and form a new roundabout junction with Haven View, with some modifications to Phoenix Way. Main station car park is within station grounds. Overall provides a good policy fit.	Quays Avenue link maintained as current arrangement, except a pedestrian crossing is required to link the car park with the rail station. Overall provides a moderate / good policy fit.	A new highway link is needed with new junction from Sheepway. A pedestrian crossing is needed at Quays Avenue. Highway implications are minor. Overall provides a good policy fit.
Equalities Impact Assessment Requirements include race, gender, disability equality, sexual orientation, religion or belief and age	The road over railway bridge would mean the road and pavements would entail gradients that some people may find more difficult. The footbridge near Trinity School would be fully accessible, likewise the station car park and station platform would meet all accessibility standards. Overall poor / moderate policy fit.	The required highway modifications would accord with statutory accessibility standards. The footbridge near Trinity School would be fully accessible, likewise the station car park and station platform would meet all accessibility standards. Overall good policy fit.	The required highway modifications would accord with statutory accessibility standards. The footbridge near Trinity School would be fully accessible, likewise the station car park and station platform would meet all accessibility standards. Overall good policy fit.	The required highway modifications would accord with statutory accessibility standards. The footbridge near Trinity School would be fully accessible, likewise the station car park and station platform would meet all accessibility standards. Overall good policy fit.	No changes are needed to the highway, except new access for the station car park. The footbridge near Trinity School would be fully accessible, likewise the station car park and station platform would meet all accessibility standards. Overall good policy fit.	The required highway modifications would accord with statutory accessibility standards. The station car park and station platform would meet all accessibility standards. Overall good policy fit.
Project Objectives • support economic growth • deliver a more resilient transport offer • improve accessibility to the rail network • make a positive contribution to social well being • contribute to reducing traffic congestion • contribute to enhancing the capacity of the local rail network • contribute to reducing the overall environmental impact of the transport network	• excellent policy fit • excellent policy fit • good policy fit • good policy fit • good policy fit • good policy fit • moderate policy fit	• good policy fit • moderate/good policy fit • moderate/good policy fit • good policy fit • moderate policy fit • good policy fit • good policy fit	• excellent policy fit • excellent policy fit • excellent policy fit • excellent policy fit • good policy fit • good policy fit • excellent policy fit	• excellent policy fit • excellent policy fit • excellent policy fit • excellent policy fit • good policy fit • good policy fit • excellent policy fit	• excellent policy fit • excellent policy fit • excellent policy fit • good policy fit • good policy fit • good policy fit • good policy fit	• moderate/good policy fit • moderate/good policy fit • moderate/good policy fit • moderate/good policy fit • moderate/good policy fit • good fit with policy • good fit with policy
Summary Overall policy fit	Overall weaker policy fit. Policy fit ranking 4th best.	Overall weak policy fit. Policy fit ranking 5th best.	Overall strong policy fit. Policy fit ranking 2nd best.	Overall very strong policy fit. Policy fit ranking 1st best.	Overall good policy fit. Policy fit ranking 3rd best.	Overall very weak policy fit. Policy fit ranking 6th best.

Table 3. Site Options Appraisal – Environmental & Social Impact Assessment

Environmental & Social Impact	Option 1A	Option 1B	Option 2C	Option 2B	Option 2A	Option 3
Carbon emissions • Change in total vehicle kilometres • Impact on carbon emissions, for construction and when operational • Total fuel used and fuel efficiency	Central location close to the town centre, results in attractive and competitive travel option, resulting in a high level of passenger demand and modal switch. However, the construction of the road bridge requires a large volume of concrete, resulting in carbon emissions.	Central location close to the town centre, results in attractive and competitive travel option, resulting in a high level of passenger demand and modal switch.	While the site is more peripheral to the town centre, it provides an attractive and competitive travel option, resulting in a comparatively high level of passenger demand and modal switch.	While the site is more peripheral to the town centre, it provides an attractive and competitive travel option, resulting in a comparatively high level of passenger demand and modal switch.	While the site is more peripheral to the town centre, it provides an attractive and competitive travel option, resulting in a comparatively high level of passenger demand and modal switch.	The out of town station site means the station is more akin to a park & ride than a conventional station. The limited walking catchment for trip origins and for visitors to Portishead, the lack of easy walking distance to the town centre, results in lower passenger demand and modal switch.
Soicio-distributional impacts and the regions **Socio-distribution** Impacts on specific groups and equalities considerations, including impacts from changes to: ▪ Local environment ▪ Well being ▪ User benefits ▪ Personal affordability **Regeneration** • Impact on targeted regeneration **Regional Imbalance** • Impact on competitiveness of local economy	The road bridge causes accessibility problems for some people. The road bridge causes environmental impacts for some residents. The impacts are particularly felt by residents with limited mobility and residents close to road bridge.	The highway modifications result in longer and indirect routes particularly between the Village Quarter Wyndham Way resulting in some severance issues. The highway modifications result in some environmental impacts and the traffic impacts could have a long term negative impact on the local economy. Residents of the Village Quarter are particularly affected.	The highway modifications are relatively minor, but some on-street parking will be displaced. Serbert Road and Serbert Way (a commercial area) becomes a through route, however this would increase the prominence of the businesses and as a result would possibly be beneficial to them.	The highway modifications are relatively minor, but would result in some localised environmental impacts.	No changes are needed to the highway, except new access for the station car park. The station site is close to residential properties and causes some localised environmental impacts.	The out of town station site means that most people would need access to a car to use the station. This has a particular impact on young people and older people who generally have more limited access to a car. The station site is close to some residential properties and causes some localised environmental impacts.
Local environment • Air quality • Noise • Natural environment*, heritage and landscape • Streetscape and urban environment	The road bridge causes a range of negative environmental impacts for some people.	The highway modifications cause traffic impacts (causing delays and longer journey times), resulting in environmental impacts.	The highway modifications enable the station to be located west of the residential housing. Much of the existing traffic on Quays Avenue would transfer onto Serbert Road and Serbert Way.	The re-alignment of Quays Avenue enables the station to be located west of some the residential housing and provides space for an area of public open space and environmental mitigation.	The proximity of the station to residential properties causes some localised environmental impacts.	The out of town station site reduces the total number of properties close to the station and the rail line, resulting in reduced environmental impact overall. However, there are a small number of properties close to station, resulting in some localised environmental impacts.
Well being • Physical activity • Injury or deaths • Crime • Terrorism • Accessibility • Severance	Moderately good accessibility for active modes (walking and cycling), buses and taxis.	Moderately good accessibility for active modes (walking and cycling), buses and taxis, but severance issues due to indirect highway route	Very good accessibility for active modes (walking and cycling), buses and taxis	Very good accessibility for active modes (walking and cycling), buses and taxis	Moderately good accessibility for active modes (walking and cycling), buses and taxis	More limited accessibility for active modes (walking and cycling), buses and taxis but reduced severance issues compared with some options.
Summary Overall environmental & social Impact	6th best	5th best	Joint 1st best	Joint 1st best	Joint 3rd best	Joint 3rd best

* includes ecology, biodiversity, habitats, soils, geology, hydrology / drainage and vibration

Table 4. Sites Options Appraisal – Deliverability Assessment

Business Case Section	Option 1A	Option 1B	Option 2C	Option 2B	Option 2A	Option 3
Strategic Case	Compelling case & fit with policy objectives. Positive impact on business case.	Case less clearly made and some policy objectives not adequately addressed. Moderately positive impact on business case.	Compelling case & fit with policy objectives. Positive impact on business case.	Compelling case & fit with policy objectives. Positive impact on business case.	Compelling case but some policy objectives slightly less fully addressed. Positive impact on business case.	Case less clearly made and some policy objectives not adequately addressed. Neutral impact on business case.
Economic Case	Substantial additional costs (road bridge) reduces BCR. Estimated cost is approx £8m more than option 2A. Project value for money is marginal (BCR estimated at 1.5 to 2.0). Some localised environmental impacts. Negative impact on business case.	Substantial additional costs (highway and property) reduces BCR. Estimated cost is approx £5m more than option 2A. Project value for money is marginal (BCR estimated at 1.5 to 2.0). More limited environmental impacts. Negative impact on business case.	Moderate additional costs (highway & property) but this doesn't have a significant impact on achieving a good BCR. Project value for money is good (BCR estimated at 2.0 to 2.5). More limited environmental impacts. Moderately positive impact on business case.	Some additional costs (highway & property) but this doesn't have any significant impact on achieving a good BCR. Project value for money is good (BCR estimated at 2.0 to 2.5). More limited environmental impacts. Moderately positive impact on business case.	Low cost option enables good BCR. Project value for money is good (BCR estimated at 2.0 to 2.5). Some localised environmental impacts. Moderately positive impact on business case.	Low cost option enables good BCR. Project value for money is good (BCR estimated at 2.0 to 2.5). More limited localised environmental impacts. Moderately positive impact on business case.
Management Case	Substantial delivery challenges. Predicated on road over rail bridge which is a very tight fit in the available space and has significant environmental impacts. Negative impact on business case.	Substantial delivery challenges. Predicated on significant take of third party land, additional supporting infrastructure and impacts on commercial businesses. Negative impact on business case.	Moderate delivery challenges. Predicated on obtaining part of a third party property (which has full planning consent for conversion from commercial to residential use) and partial demolition. Negative impact on business case.	Some delivery challenges. Predicated on obtaining third party property (commercial). Slightly negative impact on business case.	Some delivery challenges. Predicated on gaining planning approval for the station site which adjoins a residential area. Slightly negative impact on business case.	Some delivery challenges. Predicated on gaining planning approval for the station site which adjoins a residential area and is in the green belt. Slightly negative impact on business case.
Financial Case	Cost is above the available funding envelope. There are major affordability issues with this option. Negative impact on business case.	Cost is above the available funding envelope. There are major affordability issues with this option. Negative impact on business case.	Higher cost than some options but is within the available funding envelope. Slightly negative impact on business case.	Higher cost than some options but is within the available funding envelope. Slightly negative impact on business case.	Cost is within the available funding envelope. Positive impact on business case.	Cost is within the available funding envelope. Positive impact on business case.
Commercial Case	Strong case with some potential for saleability / innovation by train operator. Positive impact on business case.	Strong case with some potential for saleability / innovation by train operator. Positive impact on business case.	Strong case with some potential for saleability / innovation by train operator. Positive impact on business case.	Strong case with some potential for saleability / innovation by train operator. Positive impact on business case.	Strong case with some potential for saleability / innovation by train operator. Positive impact on business case.	Case less certain but due to lower passenger demand because of station site. Neutral impact on business case.
Summary Overall business case viability	Overall business case is not sufficiently robust to take forward to delivery. Deliverability ranking – 5th best.	Overall business case is not sufficiently robust to take forward to delivery. Deliverability ranking – 6th best.	Overall marginal business case, requiring property acquisition and partial demolition of a building. Deliverability ranking – 4th best.	Overall sound business case, but requires some property acquisition. Deliverability ranking – 2nd best.	Overall sound business case, with some localised environmental issues. Deliverability ranking – 1st best	Overall sound business case to take forward to delivery. Deliverability ranking – 3rd best.

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Overall Assessment Ranking

6.2 The overall assessment combining the policy fit, environmental / social impact and deliverability assessment, using an equal weighting to produce an aggregate site option performance ranking, is shown in the table below.

Table 5. Overall Assessment Ranking Results

	Option 1A	**Option 1B**	**Option 2C**	**Option 2B**	**Option 2A**	**Option 3**
Policy fit Ranking	4th	5th	2nd	1st	3rd	6th
Environmental & Social Impact ranking	6th	5th	1st	1st	3rd	3rd
Deliverability Ranking	5th	6th	4th	2nd	1st	3rd
Average ranking Score	**5.00**	**5.33**	**2.33**	**1.33**	**2.33**	**4.00**
Aggregate ranking	**5th best**	**6th best**	**Joint 2nd best**	**1st best**	**Joint 2nd best**	**4th best**

7. Conclusions

Summary of Results

7.1 Chapter 6 para 6.1 shows the outcome of the overall assessment combining the policy fit, environmental / social impact and deliverability assessment. In summary site 2B, has the best policy fit ranking, followed by site 2C and 2A, each having a good, strong or very strong policy fit. Site options 1A, 1B and 3 have either a weaker, weak or very weak policy fit. In respect of the Environmental / Social Impact assessment, site 2C and 2B are the joint best performing options, with 2A and 3, joint 3rd best. Site options 1B and 1A have the greatest Environmental / Social Impact and are ranked 5th and 6th. In respect of the deliverability assessment, site 2A has the best deliverability ranking, followed by 2B and 3 with all three having a sound business case. The business case for option 2C is marginal, while the business case for site options, 1A and 1B is not sufficiently robust to take forward. The best overall performing options are 2A, 2B and 2C and these are the only options to achieve at least one ranking of 1st in the assessment.

Site Option 2A photograph taken west of the station site, looking east

Site Option 2B photograph taken north of the station site, looking south east

Site Option 2C photograph taken north of the station site, looking south east

Recommendations

7.2 The three overall best performing options 2B, 2A and 2C, should be taken forward for further consideration. The three site options bound each other and comprise a total linear length of approximately 250 metres (excluding car parks), spanning the railway alignment either side of Quays Avenue. Based on the body of evidence set out in this document, consideration should be given to safeguarding site options 2B, 2A and 2C in the North Somerset Sites & Policies Development Plan Document, as an area of search spanning approximately 250 metres, plus space for car parks . As the technical work for MetroWest Phase 1 progresses (project consultation, engineering design, business case development etc), a preferred station site within this relatively contained area of search can be identified to take through a major planning application process (Development Consent Order) and ultimately to construction and opening.

Appendices