

MetroWest

Portishead Branch Line (MetroWest Phase 1)

TR040011
Applicant: North Somerset District Council

5.1 Consultation Report and Appendices
Appendices I1 to I6: Reports to accompany formal and informal consultation stages

Planning Act 2008: Sections 37(3)

Author: North Somerset District Council
Date: November 2019

NetworkRail · West of England Local Enterprise Partnership · West of England Combined Authority · HM Government · Bath & North East Somerset Council · Bristol City Council · North Somerset Council · South Gloucestershire Council · travelwest

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TR040011
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5.1 – Consultation Report and Appendices
Appendix I1: Technical Assessment of the case for exceptional circumstances for a new level crossing (Quays Avenue)

Planning Act 2008: Sections 37(3)

Author: North Somerset District Council
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Technical Assessment of the Case for Exceptional Circumstances for a New Level Crossing

MetroWest Phase 1

9th January 2015

MetroWest

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Background Documents

Portishead Station Options Appraisal Report - visit:
www.travelwest.info/projects/metrowest/phase1/options appraisal

Portishead Station Location Consultation Leaflet June - July 2014 - visit:
www.travelwest.info/projects/metrowest/phase1/Portishead Consultation.pdf

Portishead Station Location Consultation Report – September 2014 - visit:
www.travelwest.info/projects/metrowest/phase1/Portishead Station Consultation Report.pdf

MetroWest Phase 1 Preliminary Business Case - visit:
www.travelwest.info/mw/p1/pbc

Introduction

This document is submitted to the Office of Rail Regulation (ORR) in response to further consideration by the MetroWest Phase 1 project team of the feasibility of a new level crossing at Quays Avenue, Portishead. The document has been compiled in accordance with the criteria provided by the ORR which it uses in considering the case for exceptional circumstances for a new level crossing, as set out a letter of 31st July 2014 (attached in appendix 1). Further detail and supporting information is provided in appendices and background documents. The MetroWest Phase 1 project team, request a formal response from the ORR on whether or not it would be minded to support the authorisation of a new level crossing at Quays Avenue.

The MetroWest Phase 1 project proposes to deliver half hourly train services for the Severn Beach line to Avonmouth (hourly beyond Avonmouth), half hourly train services for local stations between Bristol Temple Meads and Bath Spa and half hourly train services for a re-opened Portishead line with stations at Portishead and Pill. The project is being promoted by the four West of England councils; Bath & North East Somerset, Bristol City, North Somerset and South Gloucestershire. The project forms part of a wider MetroWest programme to deliver strategic enhancements to the local rail network over the next 10 years during Control Period 5 and 6. MetroWest Phase 1 is being led by North Somerset Council on behalf of the four councils. In respect of infrastructure, the MetroWest Phase 1 project in summary comprises rebuilding the 5km dis-used section of railway between Portishead and Pill, upgrading the Portbury freight line, partial reinstatement of the Down Relief line near Bedminster station, minor signalling works at Avonmouth and a crossover and signalling at Bathampton.

It is acknowledged that the formal process for seeking authorisation for a new level crossing is undertaken through the Transport & Works Act Order (TWAO) process or the Development Consent Order (DCO) process, depending on the context. It has been confirmed that the MetroWest Phase 1 is a nationally significant infrastructure project (NSIP) because it includes more than 2km of railway build outside the existing operational railway. The Planning Act 2008 requires NSIPs to be subject to the DCO process for planning powers to build and operate the proposed development. Post completion of the construction works, the Portishead rail line will return back into the national rail network and all the rail infrastructure will be owned and operated by Network Rail.

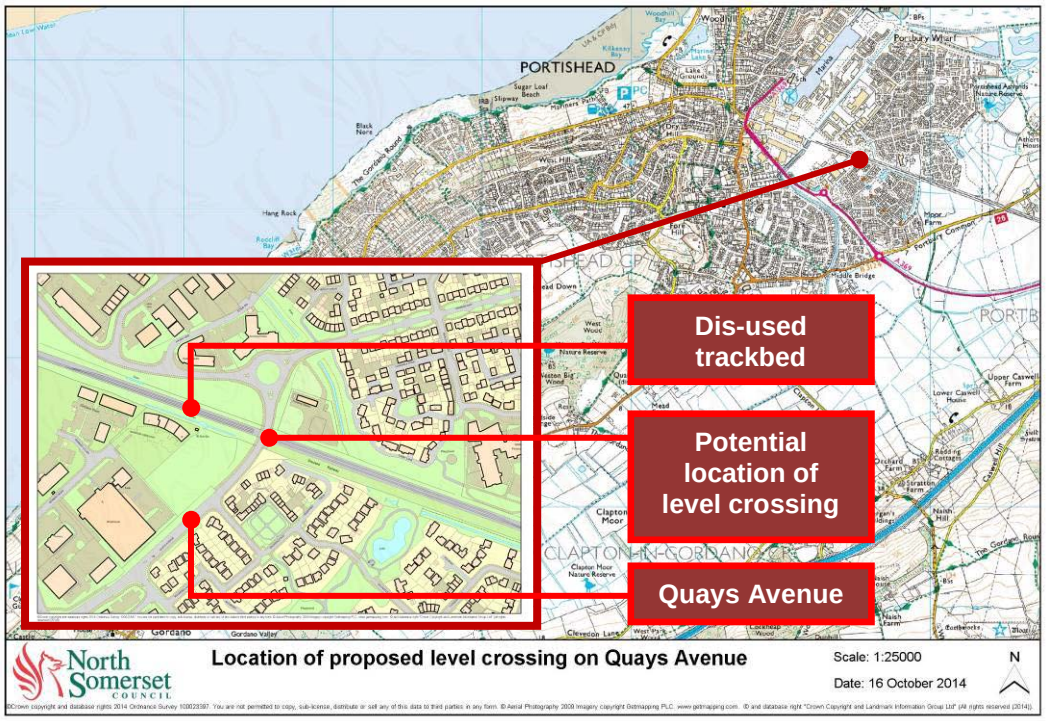
The DCO process is a six stage process taking up to three years. The planning consent granted through a DCO relates specifically to the infrastructure design set out in the DCO application. Unlike the TWAO process, the DCO process does not entail limits of deviation, which allows infrastructure engineering design to be amended within a specified geographic area. Consequently, it is necessary for the MetroWest Phase 1 project to seek clarification from the ORR now, on whether or not it would support a new level crossing at Quays Avenue, in order to inform the project infrastructure design to be included in the DCO application (the pre-application stage). The pre-application stage entails a considerable investment in resources and time, given the technical requirements including; GRIP design / project development stages, Environmental Impact Assessment, an Environmental Statement and formal consultation processes.

All blue italic text in this document is extracted from the ORR letter of 31st July 2014. The ten criteria have number numbered 1 to 10 for ease of reference.

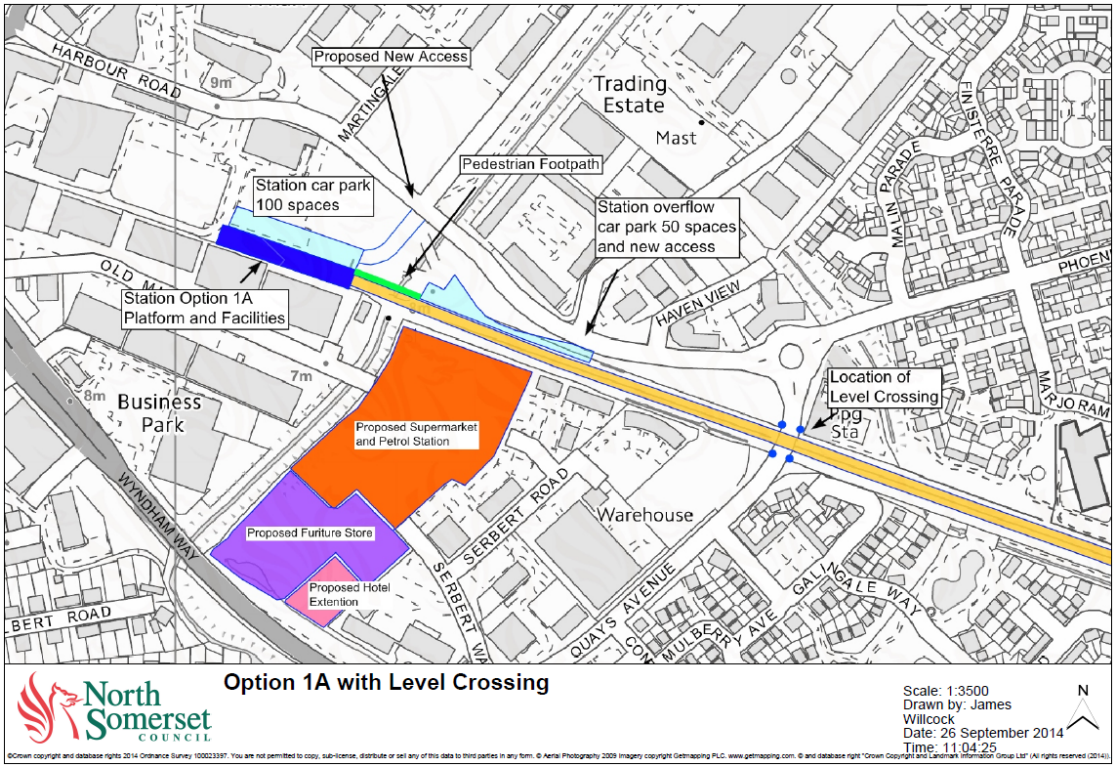
The applicant would need to submit:

1. the location of the proposed crossing including photographs and diagrams;

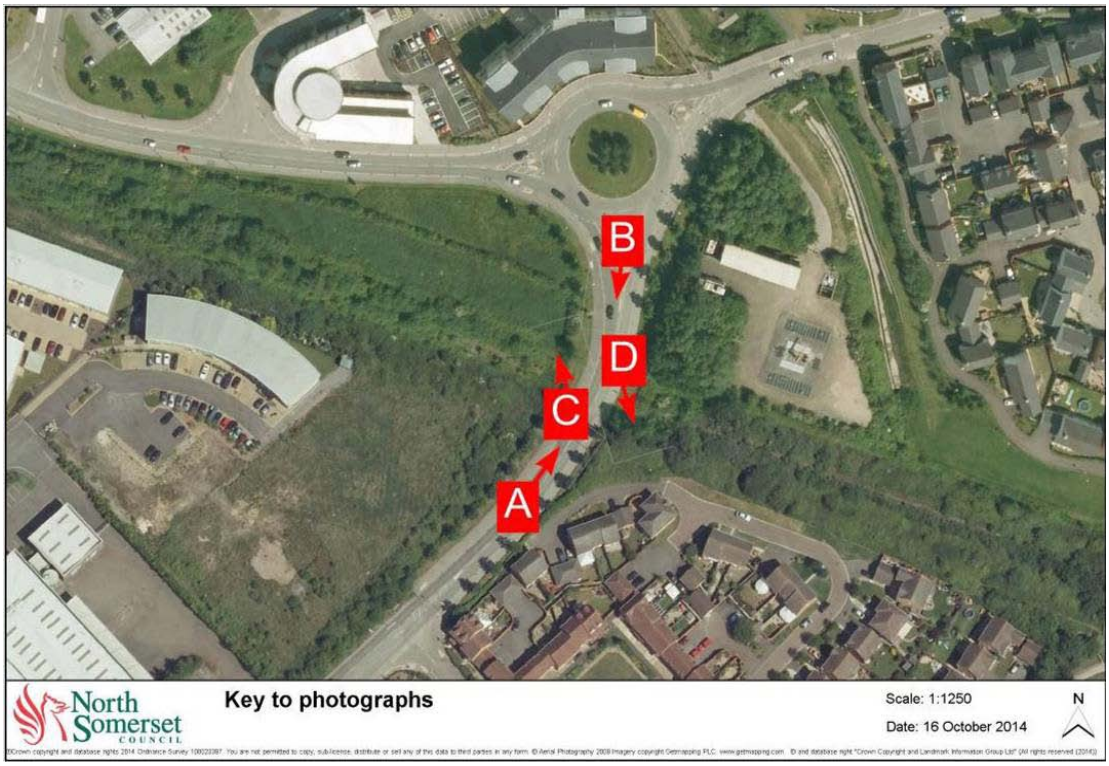
Location map



Plan of possible station site with level crossing in place



Direction of Photographs



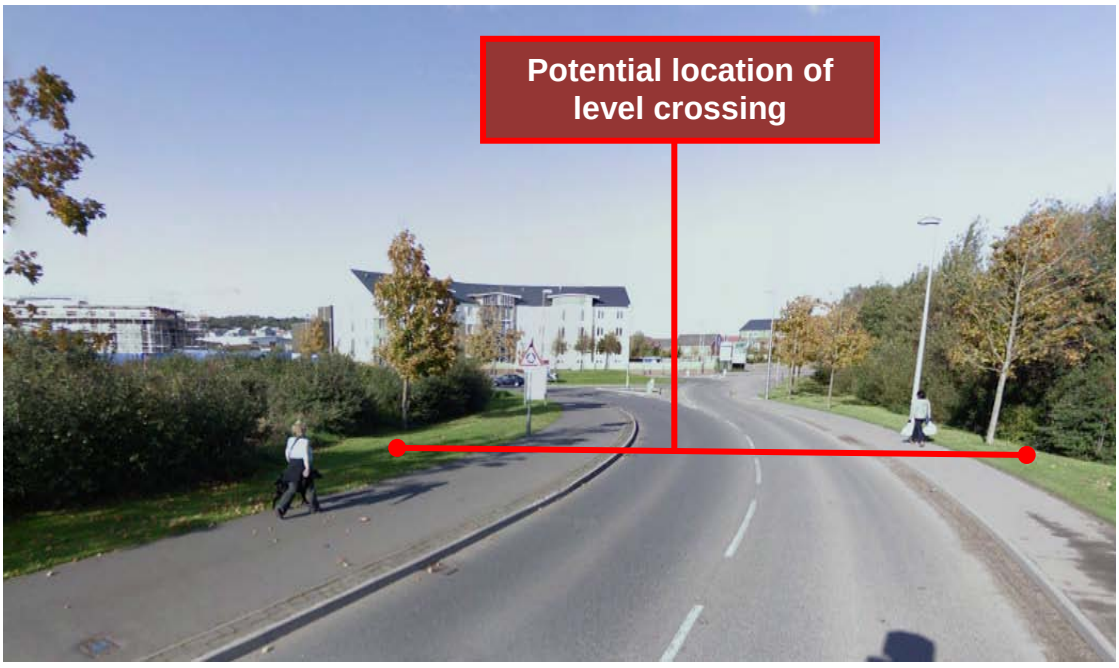
Photograph A. Quays Avenue looking north



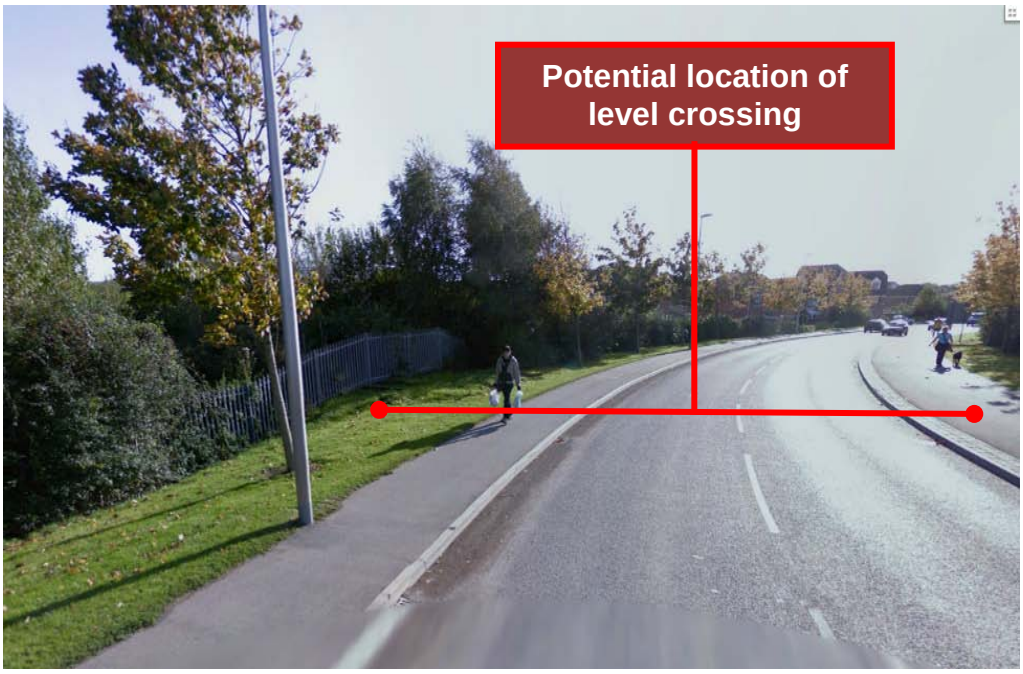
Photograph B. Quays Avenue looking south



Photograph C. Approach from the south looking westwards



Photograph D. Approach from the north looking eastwards



2. information about the proposer of the scheme/applicant for a new crossing and the proposed crossing operator;

The MetroWest Phase 1 project is being promoted by the four West of England unitary councils, Bath & North East Somerset, Bristol City, North Somerset and South Gloucestershire. MetroWest Phase 1 is being led by North Somerset Council on behalf of the four councils. The operator of the level crossing would potentially be Network Rail as the Portishead rail line will return back into the national rail network. However the project is at an early stage of development having recently completed GRIP stages 1 & 2. Should the outcome of this submission be that the ORR determine there are exceptional circumstances for a level crossing, it would be necessary to undertake more detailed work including; engineering design / GRIP requirements, wider operational and safety case considerations and consideration of the likelihood of whether a network change would ultimately be authorised by Network Rail.

3. proposed timescales for any new crossing;

Any new level crossing at Quays Avenue would need to be delivered as part of the MetroWest Phase 1 project. The project timescales in summary are to commence construction in late 2017 and open with passenger train services operating from May 2019.

To achieve this, there are numerous technical processes which the project has to undertake, including the six stage DCO process, the Network Rail GRIP process, the business case development process, statutory consultation processes, procurement of the infrastructure works and train operator, various legal and contractual processes and governance / funding endorsements. The project is being developed in four key stages. Stage 1 'Feasibility' was completed in summer 2014. Stage 2 'Option development and scheme case' is underway and is due to be completed by March 2016, with the submission of a DCO planning application. The overall timescales are shown the following table.

Project Stage	Stage Description	Indicative Timescale
Stage 1	Feasibility (including GRIP 1-2)	April 2013 to September 2014
Stage 2	Option development and scheme case (including GRIP 3-4)	October 2014 to March 2016
Stage 3	Planning powers and procurement (including GRIP 5)	April 2016 to Nov 2017
Stage 4	Construction and opening (including GRIP 6-8)	December 2017 to April 2019 Train services commence May 2019

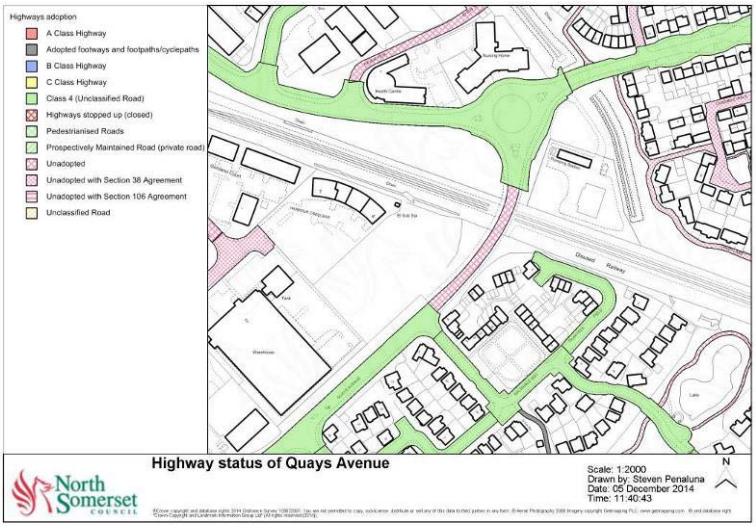
This is a challenging timescale given the requirement for substantial statutory processes including the DCO process. In order for the project to remain 'on programme', the project team request the ORR provide an early response on this matter. The funding and delivery risks of the project are being met by the West of England councils, and the cost of delay (for whatever the reason) falls on the councils.

4. confirmation that there is a right of way, and whether any relevant authorisations/Orders need to be sought through the Transport at Work Act procedures;

Quays Avenue was a developer funded highway link, providing a southern highway connection between the Portishead Vale housing development and the A369 Wyndham Way, and opened in 2000 south of the railway, then later extended over the dis-railway connecting to Harbour Road and Phoenix Way. Most of Quays Avenue is adopted public highway, however the section crossing the dis-used Portishead rail line is un-adopted public highway, see map below. Further information about un-adopted public highways is available from www.parliament.uk/briefing-papers/sn00402.pdf.

As set out in the introduction, the project requires a Development Consent Order for planning powers to build the infrastructure and operate the train service. The planning powers to be acquired relate to the re-building of the 5km of dis-used railway between Portishead and Pill and upgrade works to the existing Portbury freight line. The powers also include consent for associated infrastructure such as new stations, provision to stop up historic easements over the railway and if necessary compulsory purchase of land.

Plan Showing Highway Status of Quays Avenue



5. details of any liaison that has already taken place with other Departments and agencies such as the Department for Transport, Highways Agency or local highway authority, planning authorities and other local bodies and interested stakeholders, including a summary of the responses/views received;

Liaison and correspondence has been ongoing with various government departments and agencies. In addition various consultations have been undertaken with local business and stakeholder groups and the public. A summary is set out in the table below:

Department / agency	Liaison summary	Date(s)
Office of Rail Regulation	Initial approach made from NSC asking whether ORR would be likely to support the delivery of a new level crossing.	17 May 2013
	Response from Paul Wilkinson, ORR Senior Executive Customer Correspondence Team stating "the ORR would not authorise a new crossing at this point."	12 July 2013
	Response from Richard Price, ORR Chief Executive, to Liam Fox MP advising the project of the criteria the ORR use to consider exceptional circumstances for a new level crossing.	31 July 2014
Department for Transport	Liam Fox MP, writes to Patrick McLoughlin MP, asking for enquiring about a new level crossing at Quays Avenue.	12 June 2014
	Response to Liam Fox MP, from Patrick McLoughlin MP advising that "the decision to reject or approve new level crossings remains with ORR as the independent railway safety regulator and Ministers have no locus to intervene". Advises further liaison with the ORR	14 July 2014
	Portishead Town Council write to Patrick McLoughlin MP, asking for assistance in securing a level crossing.	16 July 2014
	Claire Perry MP, responds to Portishead Town Council (on behalf of Patrick McLoughlin MP) stating why level crossings are only allowed in exceptional circumstances, that ministers cannot intervene, and encourages responding to the MetroWest consultation	20 August 2014
North Somerset Council	Initial approach made to Development Management in relation to draft pre-app programme for the DCO	10 February 2014
	Development Management advised of Portishead Station public consultation launch	23 June 2014
	Development Management advised of Preliminary Business Case submission and requested a meeting to discuss both the planning and the highway implications of the project	8 September 2014
	Road Safety Audit commissioned on station site options and at the location of possible level crossing on Quays Avenue	26 September 2014

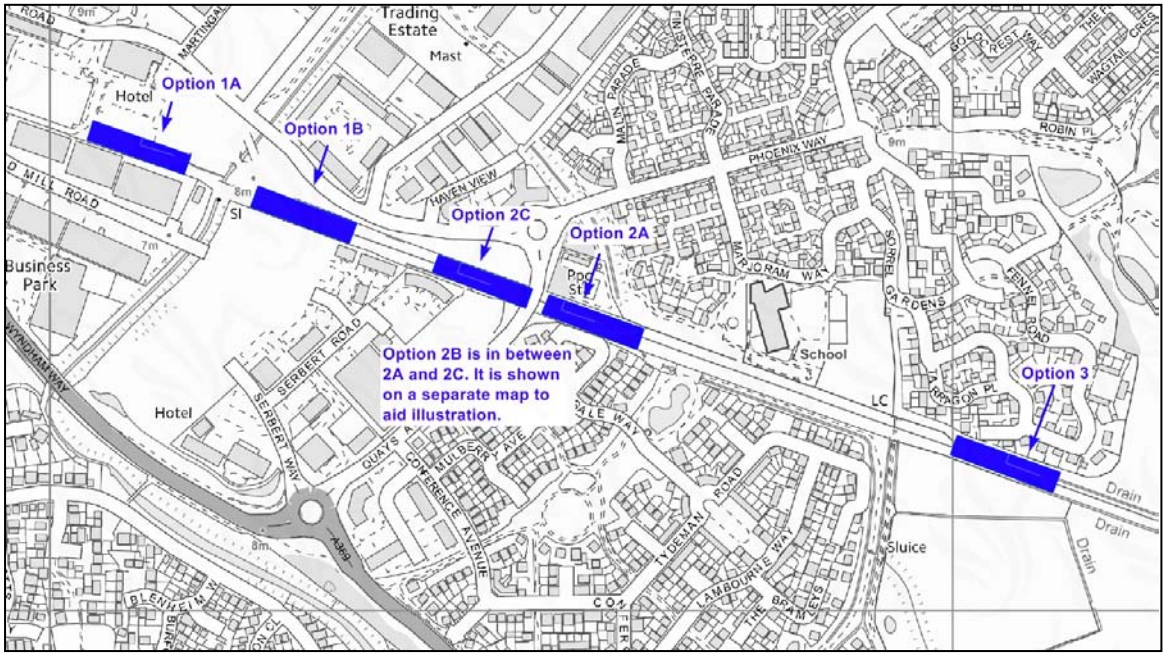
Public consultation / stakeholder engagement	NSC Sites & Policies Development Plan Document Consultation: • Proposed three options for the location of Portishead rail station, a town centre option, an option on Quays Avenue and an edge of town option, • 15 representations were received relating to the general rail policy for North Somerset. 5 supporting the policy and 10 additional comments, • 144 representations received specifically for the Portishead rail link. Strong level of support for the line to re-open, while a small number of respondents raised some concerns, • The town centre option which requires a road bridge or a level crossing is the most popular, • The option on Quays Avenue, without the need for a level crossing was raised 20 times as being the most pragmatic solution given the issues for the town centre option, • Requests that the location for Portishead station should avoid adding to congestion, inconvenience, disturbance, and assess risks to child safety, • Thoughts that the sites that don't require a level crossing (except the out of town option) are too constrained, with inadequate parking, • Varying concerns over possible closure of foot crossings; intrusive impact of a road bridge instead of a level crossing at Quays Avenue; negative impact on congestion; and an adverse impact on local residents, • Support for lobbying to allow a level crossing at Quays Avenue.	February 2013
	Portishead Station Options Appraisal report: • Six station location options appraised taking account of policy fit, environmental & social impact and deliverability • Appraisal shortlisted three viable sites (2A, 2B and 2C) and concluded that three site options were not sufficiently robust to take forward (1A, 1B and 3). Option 1A required a road over rail bridge or a level crossing. Option 1B required stopping up Quays Avenue to all traffic and alterations to the highway network. Option 3 entailed an edge of town site in the green belt, • Options Appraisal Report posted on West of England Travelwest website under 'MetroWest' pages.	June 2014
	Portishead Station location consultation: • Consultation based on the three sites identified in the Options Appraisal Report, • Series of public exhibitions held and consultation material produced and distributed, • Overwhelming support for the reopening of the	June / July 2014

Public consultation / stakeholder engagement	Portishead rail line, • Over 90% would use one of the three station location options, • A small number of respondents including Portishead Town Council expressed a preference for the previous town centre site option 1A with a level crossing at Quays Avenue, rather than a road bridge. • Public Consultation Report published on West of England Travelwest website in October 2014.	
	MetroWest stakeholder events: • Series of presentations and question and answer sessions with campaign groups, stakeholders and members of the public, • Representatives include the four West of England councils, Network Rail, First Great Western and British Transport Police.	• Oct 2013 • April 2014 • September 2014 • December 2014
	Other engagement as required with: • Local MPs and Councillors • National Government departments • Campaign Groups • Neighbourhood and community groups • Parish and Town Councils • Local media • Relevant local government meetings such as scrutiny and transport forums • Universities • Local businesses • Local landowners • Local schools • Environmental groups such as the Environment Agency and Natural England • Bristol Airport • Bristol Port Company • Business groups such as the Chamber of Commerce • Presentations at regional and national conferences such as the Chartered Institution of Highways & Transport etc	Ongoing

6. a description of what other options have been considered, such as bridges and underpasses, the financial costing, and the reasons why these have been discounted;

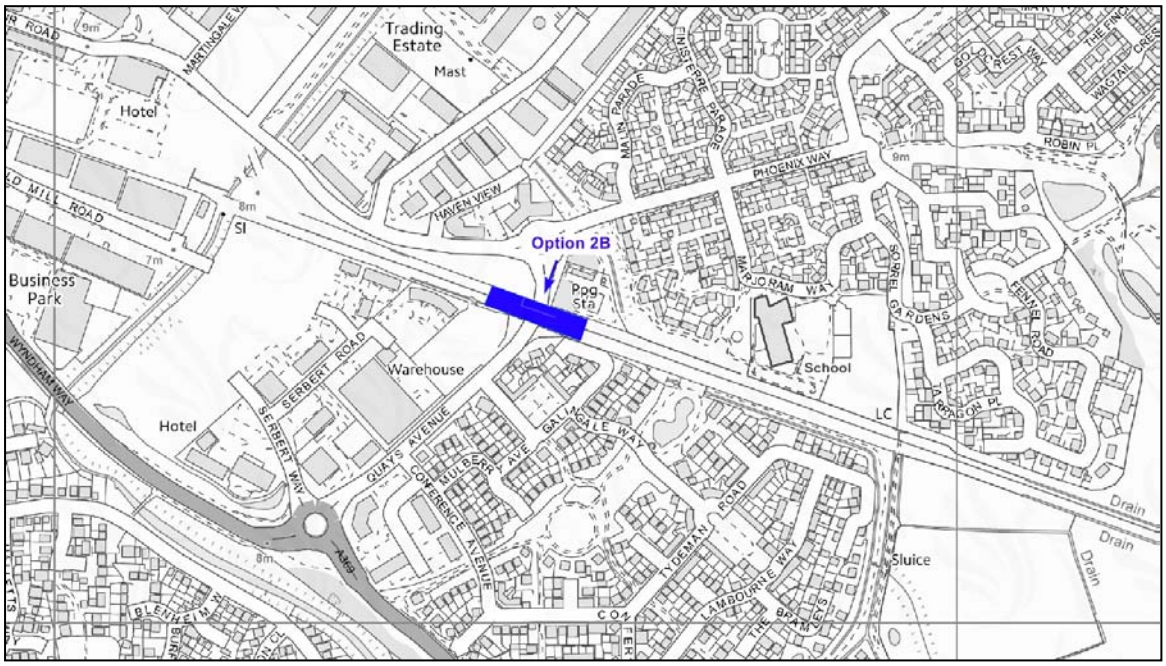
The location of Portishead rail station in 1964 prior to the closure of the line was on land currently owned by Waitrose on Harbour Road. In February /March 2013 North Somerset Council through the Sites and Policies Plan (Consultation Draft) consulted on a town centre site, a site at Quays Avenue and an edge of town site. However, deliverability challenges with these sites resulted in the need for wider assessment of site options to determine the most appropriate and deliverable site for the station. In spring 2014 the MetroWest Phase 1 project team commenced work on this wider assessment and published the Portishead Rail Station Options Appraisal Report in June 2014, online at www.travelwest.info/mw/p1/pbc. The options appraisal considered a total of six station sites, comprising of the three sites previously identified in 2013, plus three further sites, as shown below.

Plan of Site Options Considered in Site Options Appraisal



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



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

The options appraisal assessed the viability of the six station sites in relation to policy fit, environmental & social impact and deliverability, in accordance with technical guidance issued by the Department for Transport.

Site Option 1A – 300 meters from the town centre

The options appraisal discounted a new level crossing on Quays Avenue on the basis of national policy context, the ongoing programme the rail industry has underway to close level crossings and initial liaison with the ORR on the feasibility of a new level crossing. An alternative approach was assessed in the options appraisal which entailed a road over rail bridge at Quays Avenue. A concept design for a bridge was undertaken and is included in the options appraisal report. The space available for a bridge which also has to form a junction between Quays Avenue, Harbour Road and Phoenix Way, is very confined and there is not enough space for a standard road bridge. It therefore would be necessary for the bridge design to have a steep gradient, greater than the maximum allowed under highway design standards. This would also cause issues in respect of compliance with Disability Discrimination Act legislation. Furthermore, the visibility at the brow of the bridge would be very limited and consequently it would be necessary for the elevated junction between Quays Avenue, Harbour Road and Phoenix Way to be predicated on traffic signal control.

The environmental impact of the bridge would be significant given that the Quays Avenue, Harbour Road and Phoenix Way junction would have to be elevated five meters above existing road level. There are residential and commercial properties within a few meters of the highway that would be significantly impacted. The steep gradient of the bridge would also have wider social impacts on specific groups in the community, particularly on people with mobility impairments. Given all issues in relation to design standards, environmental and social impact of the bridge and the cost of the bridge, the overall assessment of the options appraisal was that option 1A was not sufficiently robust to take forward.

Other alternatives such as tunnelling / cuttings were considered by the project team at project inception, for station site option 1A. A range of options were identified including:

- Tunnelling or cutting the railway under Quays Avenue,
- Partial cutting of the railway under Quays Avenue and low level road bridge over Quays Avenue,
- Tunnelling or cutting Quays Avenue under the railway, and
- Partial cutting Quays Avenue under the railway and low level railway bridge over Quays Avenue

All the tunnelling / cutting options would require very substantial engineering interventions. The gradient tolerances of railways mean that in order to lower the railway below the existing road level at Quays Avenue, the railway alignment would require lowering for several hundred metres either side. The lowered track would need to be supported with retaining walls on both sides for the entire length. The cost of this extensive structural engineering would be into the tens of millions and would be beyond the available funding envelope of the project. The option of partial cutting the railway, combined with a low level road bridge would increase the scope of the structural engineering required and hence would be likely increase costs further. Tunnelling or cutting Quays Avenue under the railway is not viable because there is insufficient space north of the railway for a road tunnel to traverse the existing highway level at the junction of Quays Avenue, Harbour Road and Phoenix Way. In addition to all these issues, the water table in Portishead is high and this would potentially increase the flood risk and the amount of engineering required, consequently increasing the cost of any tunnelling option. The increased cost of any tunnelling option would also have a detrimental impact of the project business case, given the appraisal period is 60 years. This would result in a lower project benefit to cost ratio and would increase the risks to the councils in promoting and delivering the project. In conclusion, with added costs of tens of millions, no available funding, environmental impacts and a weakened business case, the project team discounted the all tunnelling options at an early stage.

Site Option 1B – 400 meters from the town centre

This option would require stopping-up Quays Avenue to all traffic and alterations to the local highway network. The loss of a north to south highway connection between Phoenix Way (the Village Quarter area) and Wyndham Way A369 (strategic route to J19 of the M5) would have the effect of routing all traffic via Cabstand (town centre). The town centre already suffers from congestion and has seen some high profile alterations to the Cabstand junction. Option 1B is an attempt to provide an alternative route to Quays Avenue however the route options are very limited and as a result only a very indirect alternative route could be provided. A plan of option 1B is included in the Options Appraisal Report. The lack of a direct north south highway connection would result in a severe traffic impact, as it would increase pressure on key junctions, result in longer journeys times and congestion, direct more traffic into the town centre and reduce the resilience of the highway network. This option would also require significant third party land. The options appraisal assessment found that Option 1B was not sufficiently robust to take forward.

Site Option 2C – 550 meters from the town centre

Option 2C would require partial demolition of an office building and third party land, stopping up Quays Avenue and highway alterations to link Serbert Road to Harbour Road (as an alternative route to Quays Avenue). The width of Serbert Road is narrower than Quays Avenue and this would necessitate the introduction of parking restrictions. The station car park would be located across the road from the station, this would require a new pedestrian crossing on Serbert Road. This option has sufficient space to provide basic interchange facilities with other modes. The options appraisal assessment found that Option 2C was a potentially viable option and recommended it be shortlisted for further consideration. A concept design of option 2C is shown in appendix 2.

Site Option 2B – 600 meters from the town centre

Option 2B would require highway alterations to re-align Quays Avenue, a new junction between Quays Avenue, Harbour Road and Phoenix Way and acquisition of third party land. This option has the main station car park located on the station site and a similar sized overflow car park located on the other side of Quays Avenue. A new pedestrian crossing would be provided on Quays Avenue. This option has sufficient space to provide more comprehensive interchange facilities with other modes. The options appraisal assessment found that Option 2B was a potentially viable option and recommended it be shortlisted for further consideration. A concept design of option 2B is shown in appendix 3.

Site Option 2A – 700 meters from the town centre

This option requires no highway modifications other than a new access for the station car park. The station car park would be located across the road from the station, this would require a new pedestrian crossing on Quays Avenue. This option has sufficient space to provide basic interchange facilities with other modes. The close proximity of this option to existing residential housing would cause some localised environmental impacts, particularly in respect of amenity. The options appraisal assessment found that Option 2A was a potentially viable option and recommended it be shortlisted for further consideration. A concept design of option 2A is shown in appendix 4.

Site Option 3 – 1.3 km from the town centre

This edge of town option is not within easy walking distance of the town centre, is located in the green belt and has a considerably lower population catchment within a 1 km radius. A new highway access road, car park and acquisition of third party land would be needed. This option would necessitate the vast majority of Portishead residents to access the station by car or where practical by bus, taxis, cycle with a relatively limited number of people walking. This would result in a number of undesirable social inclusiveness and social distributional impacts, particularly in respect of the younger and older age groups of the population. Furthermore, the site would not be

convenient for visitors to Portishead, given the requirement for modal inter-change. Consequently the station would be more akin to a park and ride facility than a conventional local rail station. The options appraisal assessment found that Option 3 was not sufficiently robust to take forward.

Options Appraisal Assessment Summary

The following table (Table 6.1 extracted from the Options Appraisal Report), provides an overview of the six options. The full options appraisal report is available at: www.travelwest.info/projects/metrowest/phase1/options appraisal

Overview of Assessed Site Options (Extracted from the Options Appraisal Report)

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 would 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.

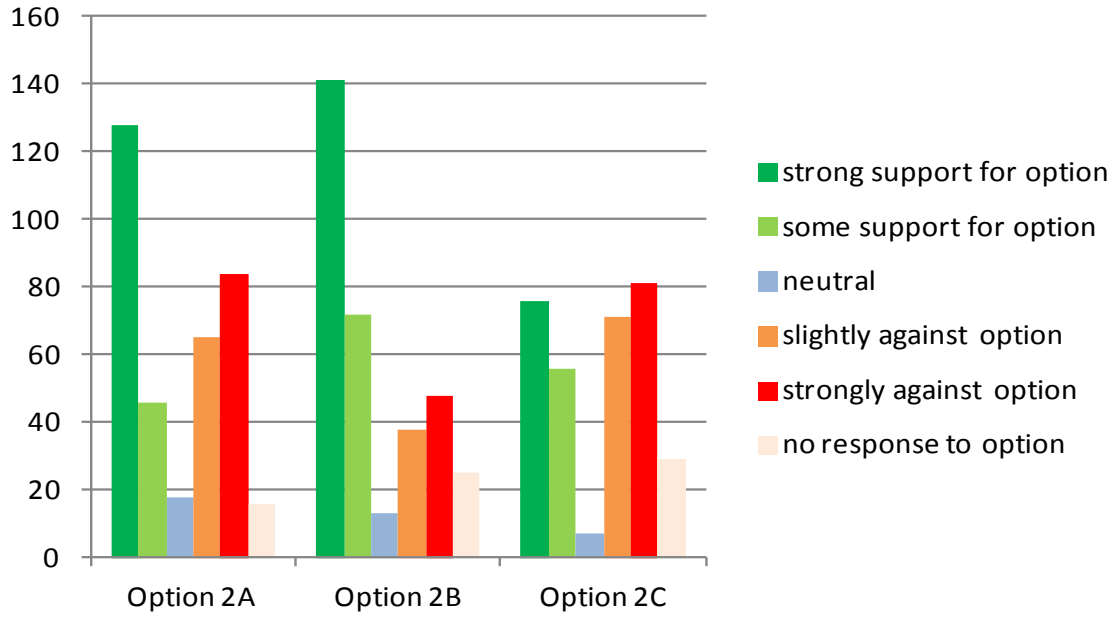
Public Consultation June – July 2014

On the basis of the findings of the options appraisal assessment, the project team undertook a public consultation on the three shortlisted station sites: option 2A, 2B and 2C. The public consultation opened on 16th June for a six week period and closed on 28th July. The consultation included:

- distribution of consultation postcards to every property within 400 metres either side of the station location options,
- distribution of consultation leaflets setting out details on the three station sites with a feedback questionnaire,
- a press release issued to local media before the consultation period began, summarising why the consultation was happening, how to get more
- briefings with local councillors about the consultation proposals
- an online dedicated web page was set up for the consultation period on the TravelWest site at www.travelwest.info/mw/portishead.
- social media - the Twitter accounts of MetroWest, MetroBus, North Somerset Council, AskBristol and Bristol City Council were used to promote the consultation, which was subsequently retweeted by a significant number of accounts.
- a Newsletter about scheme development was also provided through the West of England's quarterly transport newsletter, available as hard copies and via the TravelWest website.
- two public consultation exhibitions were held at Portishead Methodist Church, where stakeholders were able to meet the Project Team. The exhibition took place on Tuesday 24 June (2pm – 6.30pm) and Saturday 28 June (10am – 2pm).
- a programme of public and stakeholder engagement was undertaken. Presentations were made to community and business groups about the consultation proposals and groups were signed posted to how they could provide their feedback.

A total of 407 responses were received to the consultation. The responses gave overwhelming support for the reopening of the Portishead rail line. All three options had a similar number of comments and levels of support. Option 2B was the most popular with the highest number of people supporting and the least against. Option 2A also had more people supporting than against. The response to option 2C was more mixed with a similar number of people supporting and against. See bar chart below, which is extracted from the Portishead Rail Station Location Scheme Consultation Report summarising the consultation process and responses, published on the West of England Travelwest website in September 2014, visit:
www.travelwest.info/projects/metrowest/phase1/Portishead Station Consultation Report.pdf

Bar Chart Summarising Responses to Portishead Station Consultation (Extracted from the Consultation Report)



The consultation questionnaire also asked respondents "On the basis that one of the three station locations is selected, would you use the station" Yes or No? Of the 374 responses to the question, 340 answered "Yes" which is 91%.

A small number of respondents including Portishead Town Council expressed concerns about the three options and gave preference for the previous town centre site option 1A with a level crossing at Quays Avenue, rather than a road bridge.

In light of the interest in the feasibility of a level crossing and the further clarification by the ORR on the criteria used to determine exceptional circumstances for a new level crossing, the project team agreed to undertake further technical assessment. This technical assessment is set out in this document and awaits a response from the ORR.

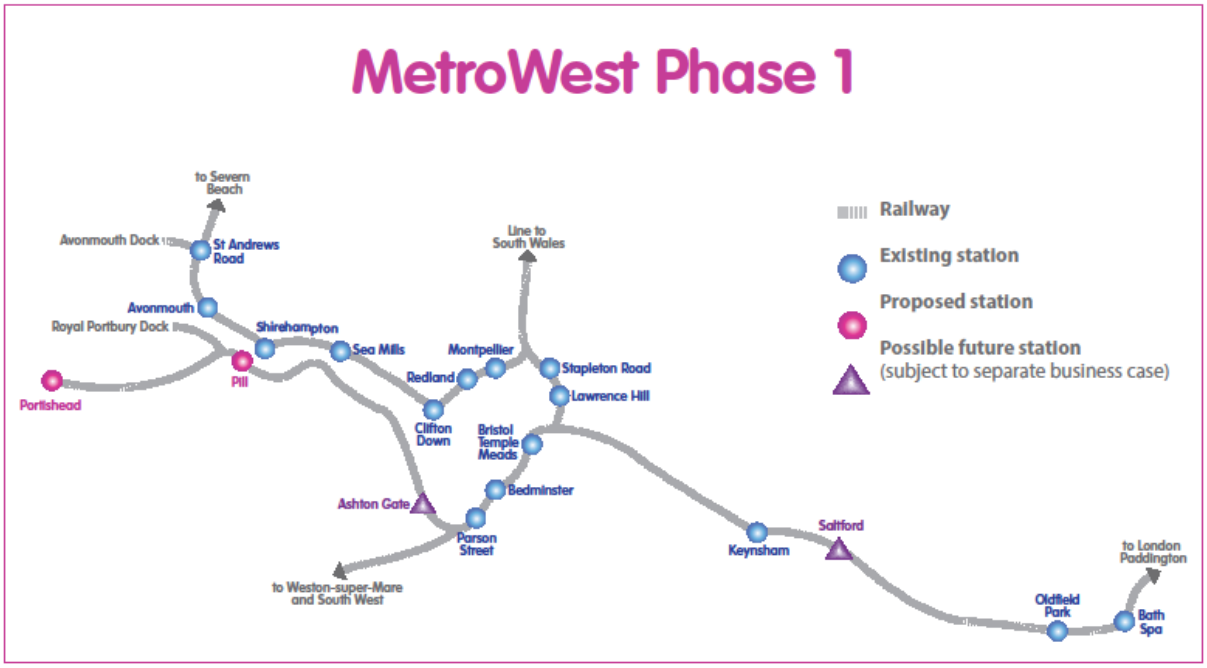
At this stage no decisions have been made regarding a preferred option for the location of Portishead station. The consultation responses as summarised in the consultation report, as well as the ORR's response to the technical assessment for a level crossing will be used to inform decision making.

7. information about the road and rail traffic at any proposed crossing including the results of censuses;

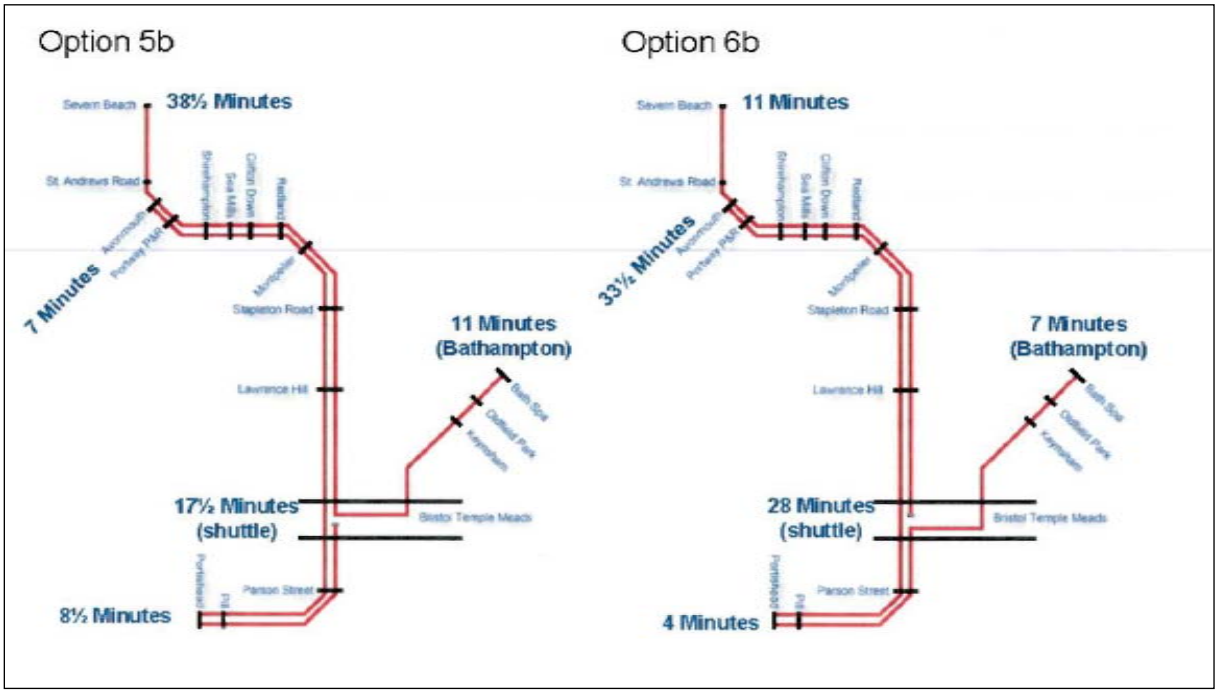
Proposed Rail Traffic

GRIP stage 2 was completed in July 2014, setting out the feasibility of the MetroWest Phase 1 project. The following information is taken from the GRIP 2 deliverables.

Rail Line and Train Service	**Details**
Line configuration	The Portishead line will be a single track line to Pill station, where it will converge with the Portbury freight line at a new junction (Pill Junction) west of Pill tunnel. South of Clifton tunnel no 1 the existing single line will be double tracked through to Ashton Gate. Parson Street junction will be upgraded to form a double track connection with the main line. Other minor works are required elsewhere to facilitate train service enhancements on the Severn Beach line and the Bristol to Bath line, as reported in GRIP 2.
Line speeds	Line speed from Portishead to Pill will be 75 mph, reducing to 25 mph approaching Portishead station, and reducing further approaching the buffer stop.
Train service routes	Two options are being scoped known as option 5B and 6B. Option 5B - links the Portishead line through to the Severn Beach line (to Avonmouth) and provides a Portishead to Bristol Temple Meads shuttle. The Severn Beach line is also linked through to Bath. Option 6B - links the Portishead line through to the Severn Beach line (to Avonmouth) and links the Portishead line through to Bath.
Train service frequency	Both option 5B and 6B entail the provision of a clock-face half hourly passenger train service for; the Portishead line, the Severn Beach line (hourly for St.Andrews Road and Severn Beach) and local stations between Bristol Temple Meads and Bath.
Rolling stock and formations	The passenger train service will be operated using either class 16x or class 15x trains, initially in either 2 car or 3 car formations and in the medium term 4 car formations.
Train operator	The train operator is yet to be confirmed, however discussions are progressing with the incumbent operator First Great Western, who support the MetroWest Phase 1 proposals.
Train capacity (Railsys) modelling	Initial analysis of train pathing and infrastructure constraints has been undertaken through Railsys modelling. This has been reported as part of the GRIP 2 deliverables; Analysis and Forecasting Interim Report November 2013 and Capability Analysis Addendum Report July 2014 (see appendix 5).



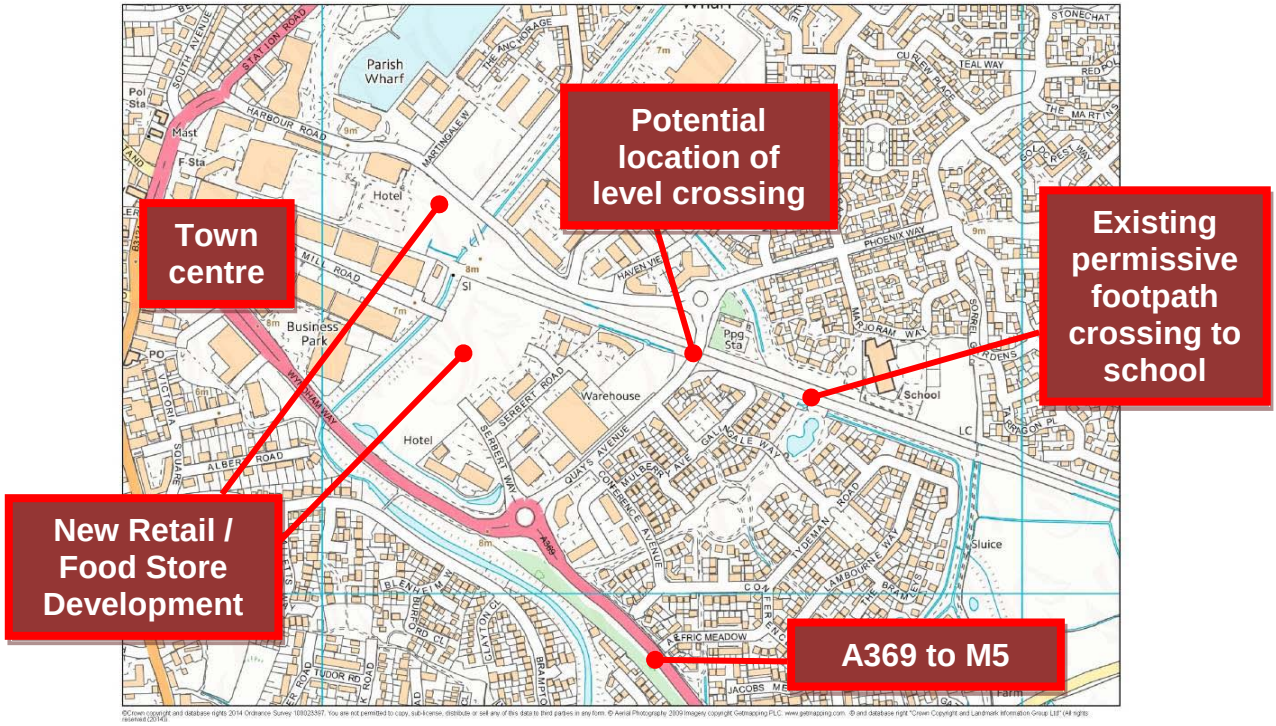
As described above there are two train service route options 5B and 6B, these are shown in the diagram below. Each red line indicates one train per hour. Note the one train per hour shown for the Bristol to Bath line (local service) is to be overlaid with the existing one train per hour. The minutes shown indicate the train turnaround time in accordance with the timetable, which varies for each option due to differences between how the three rail lines are connected together as through routes.



For option 5B trains have a turnaround time of 8½ minutes at Portishead. For option 6B trains have a turnaround time of 4 minutes. For further information about the configuration of the train service refer to appendix 5 Capability Analysis Addendum Report, which reports the findings of Railsys modelling and implications for train service performance.

Road Traffic Context

Site Description and Existing Conditions



The plan above shows the potential location for the level crossing on Quays Avenue in the context of the local road network. The location of the level crossing is approximately 45 metres south of entrance to Quays Avenue from the junction with Harbour Road/ and Phoenix Way. The existing permissive footpath crossing linking Galingale Way with Trinity Primary School will be closed and a DDA compliant footbridge and or enhanced footpath links is proposed. Note this permissive footpath link is not a public right of way and is provided at the discretion of the landowner North Somerset Council.

The information set out in the following pages in respect of road traffic conditions and traffic impact with and without a level crossing is based on available data to date. A more detailed traffic impact assessment will be undertaken to support the project Outline Business Case (November 2015) and the submission of a DCO planning application (March 2016).

Existing Road Traffic Conditions

A full classified traffic turning count was undertaken on Quays Avenue and the junction with Harbour Road and Phoenix Way, in late September 2014, and is summarised in the table below. The full traffic count is attached in appendix 6.

Time	No of Vehicles on Quays Avenue northbound direction	No of Vehicles to Quays Avenue southbound direction	No of Vehicles on Quays Avenue Two way flow
7:00-8:00	229	666	895
8:00-9:00	477	594	1071
9:00-10:00	335	386	721
15:00-16:00	529	388	917
16:00-17:00	616	418	1034
17:00-18:00	782	493	1275
18:00-19:00	762	393	1155

The two way flow on Harbour Road for the am peak hour was 934 vehicles and 1017 vehicles for the pm peak hour. The two way flow on Phoenix Way for the am peak hour was 803 vehicles and 843 vehicles for the pm peak hour.

Quays Avenue is an increasingly busy local distributor road linking directly onto the primary route Wyndway Way (A369) which leads to the national trunk road network, two miles to the east at junction 19 of the M5. The speed limit on Quays Avenue is 30 mph. In the am peak hour there is a flow of 666 vehicles southbound on Quays Avenue heading to Wyndham Way. This equates to 11 vehicles per minute (or one vehicle every 5½ seconds). In the pm peak hour there is a flow of 782 vehicles southbound on Quays Avenue heading to junction of Harbour Road and Phoenix Way. This equates to 13 vehicles per minute (or one vehicle every 4½ seconds). This results in localised traffic congestion southbound on Quays Avenue approaching the junction with Wyndham Way. Queue lengths in the am peak were observed extending back 225 metres, 80 metres short of the site for level crossing.

Phoenix Way is the only road access to a new housing development (known as the village quarter) with a population exceeding 1,500. All the side roads in the village quarter area feed onto Phoenix Way which means Phoenix Way is effectively a large cul-de-sac. Harbour Road is an increasing important local distributor road forming a key route with Quays Avenue to Wyndham Way and serving an area of substantial ongoing residential, commercial and retail development.

Forecast Rail Passenger Demand

MetroWest Phase 1 will result in modal switch, particularly from car to rail. It will also change trip patterns on key roads in Portishead. For example, many residents living close to Portishead station who currently drive a car to Bristol and beyond, will walk to the station and use the train. Residents living further from the station (beyond easy walking distance) will largely drive to the station or be dropped off at the station. This will result in changes in traffic patterns as car trips from residential areas across Portishead via Wyndham Way and Portbury Hundred (A369) to external destinations such as Bristol and beyond, are replaced with shorter trips to Portishead station.

Transport modelling work to date (based a suite of models including the G-BATS3 multimodal modal, a direct demand model and the rail industry MORIA model) has resulted in forecast passenger demand for MetroWest Phase 1. The forecasts passenger demand for Portishead station is 464,778 single passenger trips in the opening year 2019-20. This equates to approximately 1,526 single trips per weekday or approximately 763 return trips per weekday (i.e. 763 rail passengers per week day). Approx 65% of weekday trips will be undertaken in the am and pm peaks (7am to 9am and 4pm to 6pm), with the remaining 35% of trips undertaken in the off peak. The forecast am peak, off peak and pm peak passenger flows to and from Portishead station are:

Time of Day	**Direction of Travel**	**Number of Trips**
AM peak	To Portishead station	496 trips
Off peak	To Portishead station	267 trips
Off peak	From Portishead station	267 trips
PM peak	From Portishead station	496 trips
Total	**Both directions**	**1526 trips**

The modal share for trips originating in Portishead (ie originating from dwellings across Portishead and surrounding villages) to Portishead station is set out in the table below. The table is extracted from MetroWest Phase 1 Forecasting Report appended to the MetroWest Phase 1 Preliminary Business Case, visit www.travelwest.info/mw/p1/pbc.

Rail Users Accessing Portishead Station by Origin Catchment and Access Mode

Catchment	Walk	Bus	Car parked	Car Drop-off	Bicycle	Taxi	ALL
Less than 1 km	150	2	29	9	10	1	200
from 1 to 2 km	209	4	87	47	12	10	369
from 2 to 3 km	10	-	25	16	3	9	62
from 3 to 4 km	-	6	29	14	3	-	52
from 4 to 5 km	-	2	10	12	2	-	25
from 5 to 10 km	-	-	36	7	1	-	44
More than 10 km	-	-	10	1	-	-	11
TOTAL	368	14	225	106	31	19	763
Percentages	48%	2%	29%	14%	4%	3%	

2020 figures (Scenarios 5B enhanced & 6B enhanced – 2 trains per hour all day) *numbers have been rounded*

The table shows that 225 cars will enter the car park and 225 cars will exit the station car park in per weekday. With peak trips accounting for 65% of all trips this equates to approximately 146 cars entering the station car park in the am peak and 146 cars exiting in the pm peak. Similarly there will be 106 car trips to drop people off at the station, which comprises of 69 trips in both the am and pm peaks. Therefore the total car trips to the station in the am peak will be 215 trips and likewise 215 trips in the pm peak.

The traffic impact assessment has been undertaken based on two scenarios. Scenario 1 is the forecast traffic impact with a level crossing at Quays Avenue, based on station option 1A. Scenario 2 is the forecast traffic impact without a level crossing at Quays Avenue, based on station option 2A, 2B and 2C. The analysis for each scenario is set out in detail as follows.

Scenario 1. Forecast Traffic Impact – with a Level Crossing at Quays Avenue

In this scenario Portishead station is option 1A. Portishead station would be a significant trip attractor resulting in changes to trip patterns in both the am and pm peak. In the am peak the following changes to trip patterns are forecast. The number of vehicles exiting Phoenix Way onto Quays Avenue heading southbound, would reduce as some car trips are replaced by walking trips to Portishead station. Likewise the number vehicles exiting Harbour Road onto Quays Avenue heading southbound, would reduce as some car trips are replaced by walking trips to Portishead station. However, this reduction in vehicles would be off-set by an increase in traffic arising from the completion of the Port Marine development, adding several hundred additional dwellings accessed from Newfoundland Way and further development planned in the town centre. Furthermore additional traffic will be generated from development such as the newly opened Sainsburys supermarket which is accessed off the Serbert Way Avenue and Wyndham Way junction. The traffic impact of Sainsburys is not included in the traffic count data shown above, this is because the traffic count was undertaken in September 2014 and Sainsbury opened in October 2014. Several other smaller retail stores are due to be opened on Harbour Road within the next six months.

Of the 368 people walking to Portishead station, each day, some of these trips would replace existing car trips which take the primary route out of Portishead, being Wynhdam Way (A369), rather than via Quays Avenue. The overall position is the number of southbound vehicles on Quays Avenue is expected to remain in the region of 666 in the am peak hour. In the northbound direction traffic on Quays Avenue would increase in the am peak hour as a result of existing car trips via Wyndham Way and Portbury Hundred (A369) to external destinations such as Bristol and beyond, being replaced by shorter trips to Portishead station. This would entail an estimated 215 vehicle trips to Portishead station, accessing the station from the west via Harbour Road and the east via Quays Avenue. The distribution of these trips would be split approximately evenly between Harbour Road and Quays Avenue. The result of this is an additional 107 vehicles northbound on Quays Avenue in the am peak, an increase from 477 to 584 vehicles. Likewise southbound in the pm peak, traffic increases from 493 to 600 vehicles.

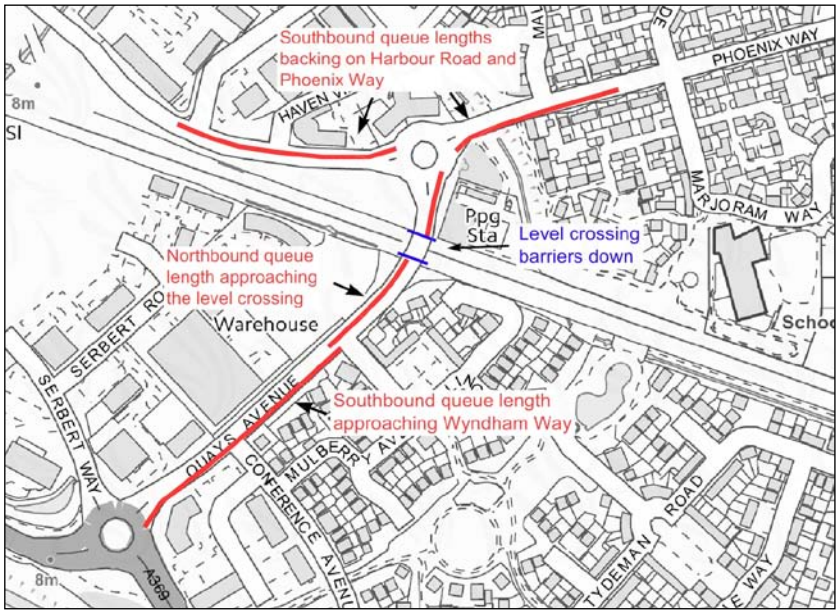
Level Crossing Barrier Down Time

The minimum average barrier down time (during which Quays Avenue would be closed to road and pedestrian traffic) for a controlled full barrier level crossing is 3 minutes. Based on the proposed half hourly train service frequency, this equates to four cycles of the level crossing per hour and a total of sixty cycles per day, six days a week and twenty cycles on a Sunday. With four cycles for the level crossing each being 3 minutes, the barrier down time on Quays Avenue would be a minimum of 12 minutes per hour. This would mean Quays Avenue would be closed to through traffic for 20% of each hour, representing a considerable loss for highway capacity. However if the level crossing sequence required train driver activation, the barrier down time would increase to approximately 16 minutes per hour, equating to a 26% loss of highway capacity of each hour, see page 34 & 35. Furthermore there is a possibility that two long cycles of the level crossing could be needed (rather than four shorter cycles), where the crossing would remain closed for between 10½ to 15 minutes per cycle, see page 34 & 35. This would arise if trains had to clear Portishead station and the level crossing before the level crossing barriers could be raised. This would be subject to further consideration of design standards and signalling design iterations for the entire Portishead line. In such a case Quays Avenue would be closed for between 21 to 30 minutes per hour and this would equate to between 35% to 50% of each hour, causing a dramatic loss of highway capacity. For the purposes of this traffic impact assessment we have assumed the minimum level crossing barrier down time of 12 minutes per hour. Therefore this assessment sets out the most optimistic position in regard to the traffic impact of a level crossing.

Traffic Impact of a Level Crossing

Due to the proximity of the level crossing at Quays Avenue to the junction with Harbour Road, at peak times it would take approximately 50 seconds of closure for the queue created on Quays Avenue to exit block the junction with Harbour Road and Phoenix Way, southbound. At this point traffic on Phoenix Way travelling westbound would be blocked and would not be able to take the alternative road via Harbour Road and Cabstand (town centre). By the end of the 3 minutes of level crossing cycle time, the queue on Quays Avenue extending back onto Harbour Road and Phoenix Way would have increased in length by approximately 167 metres, which added to the existing queues would result in a combined queue length of over 300 metres, distributed between Harbour Road and Phoenix Way, as shown below.

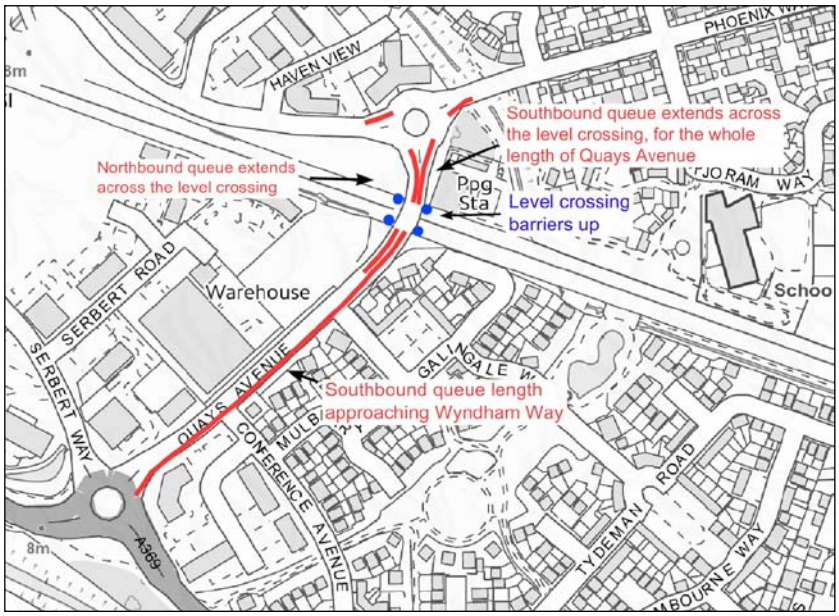
AM Peak Hour - Level Crossing Barriers Down



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When the level crossing barriers are raised the queuing traffic on Quays Avenue would only be able to advance a limited distance southbound due to the remaining queue backing from the junction with Wyndham Way. The effect of this would be a queue extending across the level crossing, towards the Harbour Road / Phoenix Way junction. Traffic queuing across a level crossing would increase the safety risk, particularly in relation to the risk of a vehicle or pedestrian becoming trapped between the barriers. It would also increase the train performance risk, arising from vehicles obstructing the safe operation of the level crossing barriers, resulting in late running of train services. The southbound queue on Quays Avenue would take some time to diminish to a point where traffic no longer queues across the level crossing. However, this would be interrupted by the next cycle of the level crossing, (assuming four cycles of 3 minutes each). This is because two of the cycles occur consecutively within approximately 10 minutes, in order to achieve the required train service pattern.

AM Peak Hour - Level Crossing Barriers Raised



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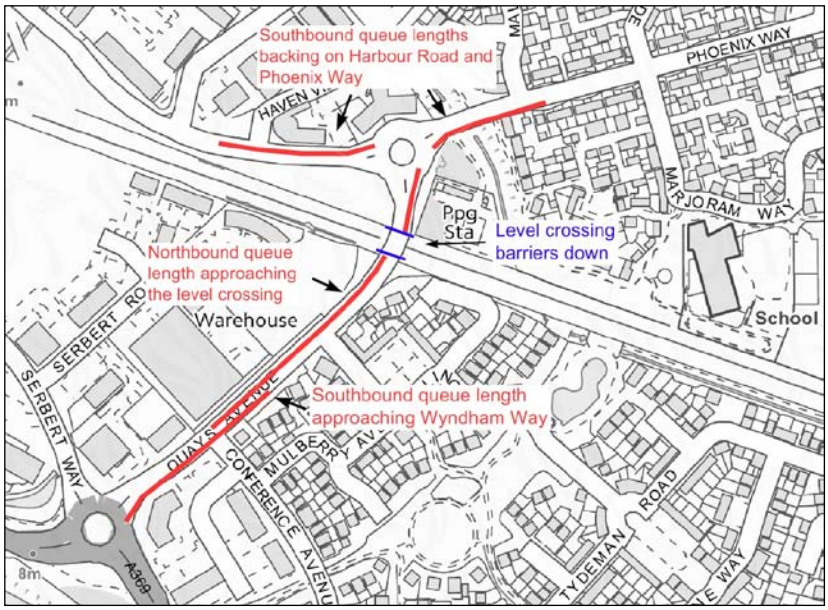
The impact of this would be that Quays Avenue is effectively heavily congested in the southbound direction for extended periods during the morning peak and also results in congestion in the northbound direction. The loss of highway capacity resulting from the level crossing, added to the existing levels of traffic on Quays Avenue, would hamper the restoration of normal traffic conditions. The resulting increased queue lengths would cause wider congestion impacts as a result of exit blocking of key junctions, causing increased journeys time and frustration to all the road users, during the am peak. In the northbound direction traffic would also queue across the level crossing due to the limited distance to the junction with Harbour Road / Phoenix Way. With traffic queuing across the level crossing in both directions in the am peak, this would further increase the safety risks particularly for vehicles and pedestrians, and increase the train performance risk.

At Phoenix Way the traffic impact would result in increased congestion and extended journey times and frustration to all users of this road, who have no other means of access and egress. It would also raise safety concerns and particularly in respect of access and egress for emergency vehicles. A similar situation would arise in respect of traffic on Harbour Road turning onto Quays Avenue. As queue lengths build on Harbour Road, access to the Medical Centre would be affected and queues would extend back towards Newfouland Way (which leads to an area of new residential development of several hundred dwellings). Some traffic would take the alternative route via Cabstand, however this longer route would add more traffic into the existing congested town centre,

adding more traffic pressure to a sensitive area. It would also result in longer journey times and have the effect of reducing the road network level of service for all users.

In the pm peak hour the southbound queue length on Quays Avenue would be slightly shorter than in the am peak, however the northbound queue length would be longer in the pm than in the am peak hour, see below.

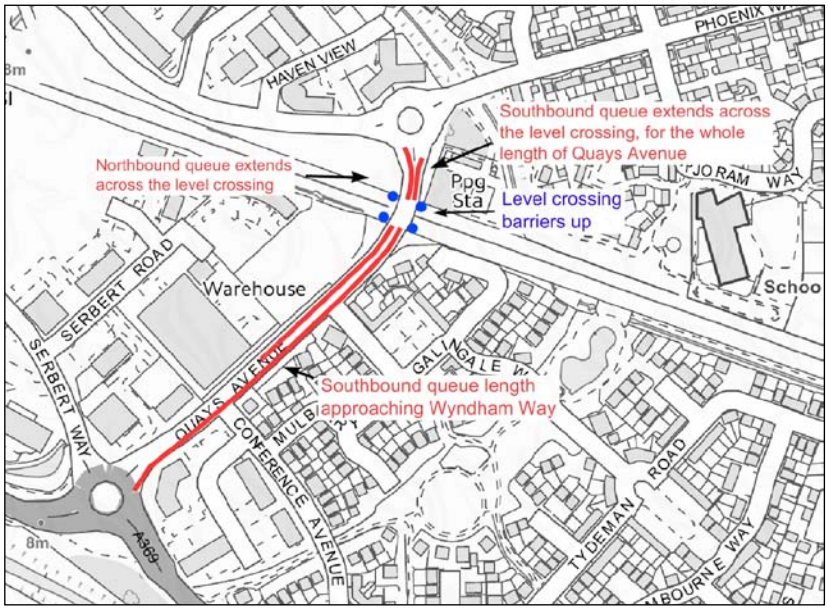
PM Peak Hour - Level Crossing Barriers Down



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As the level crossing barriers are raised the queuing traffic on Quays Avenue would only be able to advance a limited distance southbound due to the remaining queue backing from Wyndham Way. This would result in traffic queuing across the level crossing southbound. In the northbound direction traffic would also queue across the level crossing due to the limited distance to the junction with Harbour Road / Phoenix Way.

PM Peak Hour - Level Crossing Barriers Raised



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With traffic queuing across the level crossing in both directions in the pm peak hour this would further increase the safety risks particularly for vehicles and pedestrians, and increase the train performance risk. The dispersion of traffic queues would be prolonged by further cycles of the level crossing given that two of the four cycles would occur consecutively within 10 minutes. The resulting increased queue lengths would cause wider congestion impacts as a result of exit blocking of key junctions, causing increased journeys time and frustration to all the road users, during the pm peak.

The options for mitigating these highway impacts through road widening and reconfiguration of key junctions are severely limited. This is because there is very limited space available on Phoenix Way, Harbour Road and Quays Avenue to widen the footprint of the highway. Furthermore, road widening on Phoenix Way, Harbour Road and Quays Avenue would not resolve the queuing impacts, it would only have limited benefit through adding additional stacking capacity approaching key junctions. The Quays Avenue/Harbour Road/Phoenix Way junction could potentially be signal controlled with a keep clear box to manage exit blocking of the junction, however this would not address the fundament reduction is highway capacity, the queue lengths and related impacts. The overall traffic impact is primarily the result of a significant loss of highway capacity on a busy local distributor route (Quays Avenue).

A further factor is the underlying traffic growth across the road network between 2014 and 2019-20, the opening year of MetroWest Phase 1. Traffic growth across North Somerset in 2012-13 was 1%. For simplicity the traffic impact analysis set out above has not included provision for future traffic growth, and this will have the effect of marginally understating the traffic impact. Furthermore, the traffic impact analysis set out above does not include provision for potential diversion of existing pedestrian trips to car trips, should for whatever reason a footbridge not be delivered linking Galingale Way with Marjoram Way and Trinity Primary School.

Implications of a Level Crossing for Pedestrians

In addition to the vehicle flows, pedestrians and cyclist flows have been observed on Quays Avenue, as show in the table below. This data was collected over three days in late September 2014. The table below shows the daily average of the three days.

Time	Two-way flow on Quays Avenue			
	Pedestrians	Pushchairs / Wheelchairs	Cyclists	**Total**
06:00 - 07:00	7	0	2	**9**
07:00 - 08:00	16	0	11	**27**
08:00 - 09:00	46	2	18	**66**
09:00 - 10:00	23	3	8	**34**
10:00 - 11:00	15	3	4	**22**
11:00 - 12:00	13	3	5	**21**
12:00 - 13:00	26	2	8	**36**
13:00 - 14:00	32	3	7	**42**
14:00 - 15:00	25	3	5	**33**
15:00 - 16:00	39	4	15	**58**
16:00 - 17:00	29	3	12	**44**
17:00 - 18:00	25	2	22	**49**
18:00 - 19:00	26	2	12	**40**
19:00 - 20:00	21	0	9	**30**
Total	**343**	**30**	**138**	**511**

During the day, the peak hourly flow was 66 pedestrians, pushchairs/wheelchairs and cyclists, equating to 17 pedestrians, pushchairs/wheelchairs and cyclists per 15 minutes or approximately 1 per minute arriving at the level crossing. With a level crossing cycle time of 3 minutes this would mean an average flow of 3 pedestrians, pushchairs/ wheelchairs and cyclists waiting at the level crossing per cycle. A stage 1 road safety audit has been undertaken for station option 1A and is attached in appendix 7. The audit identifies a number of additional safety risks for pedestrians and vehicles. The increased risk to pedestrians is highlighted in the audit with reference to a DfT study that found the risk doubles where a walking trip includes a level crossing compared with a walking trip without a level crossing.

Pedestrian counts were also undertaken of the permissive footpath over-used railway linking Galingale Way with Marjoram Way / Trinity Primary School. The permissive footpath is located 200 meters east of Quays Avenue. It will be necessary to close the permissive footpath permanently in order to re-open the rail line for passenger train services. Pedestrians, pushchairs/wheelchairs and cyclist flows were observed on the permissive footpath over three days in late September 2014, as show in the table below. The data shown is the daily average of the three days.

TIME	Two-way flow on permissive footpath over dis-used railway between Galingale Way and Marjoram Way / Trinity Primary School			
	Pedestrians	Pushchairs / Wheelchairs	Cyclists	**Total**
06:00 – 07:00	4	0	2	**6**
07:00 – 08:00	27	0	6	**33**
08:00 – 09:00	178	3	35	**216**
09:00 – 10:00	15	3	4	**22**
10:00 – 11:00	11	2	5	**18**
11:00 – 12:00	5	0	3	**8**
12:00 – 13:00	11	2	2	**15**
13:00 – 14:00	13	3	3	**19**
14:00 – 15:00	13	3	4	**20**
15:00 – 16:00	142	8	16	**166**
16:00 – 17:00	57	4	7	**68**
17:00 – 18:00	37	1	9	**47**
18:00 – 19:00	30	0	11	**41**
19:00 – 20:00	20	1	8	**29**
Total	**563**	**30**	**115**	**708**

Pedestrians make considerable usage of the permissive footpath link as depicted by the numbers in the table. Much of this is due to the proximity of Trinity Primary School to the housing development either side of the railway line.

The MetroWest Phase 1 project is proposing a fully accessible footbridge with ramps on the site of the permissive crossing. The footbridge would be a relatively large structure within the residential setting and would have some localised environmental impacts particularly in relation to amenity. The delivery of the footbridge is subject to further design, formal public consultation, obtaining planning approval and budget constraints. Therefore, at this stage there is some uncertainty as to whether the footbridge will be

delivered. An alternative to the footbridge is to provide improved footpath links either side of the railway such that pedestrians would be routed a longer (in-direct) route via Quays Avenue. This would mean pedestrians would cross the railway at the level crossing on Quays Avenue. It is estimated that this would increase walking distances by up to 500 metres. As a result some of these pedestrian trips would switch to other modes, however given that the total walking distance would still be less than 1km for most people, the reduction in pedestrian trips would be limited. It is estimated that the longer walking distance would have the effect of reducing the pedestrian trips by around 25%, resulting in approximately 422 pedestrians a day using the level crossing at Quays Avenue (diverted from the permissive footpath). Factoring in the average of 343 daily pedestrian trips observed on Quays Avenue, the total number of pedestrians using the level crossing would be in the region of 765 pedestrians a day.

Scenario 2. Forecast Traffic Impact – without a Level Crossing at Quays Avenue

In this scenario one of the three options at Quays Avenue (option 2A, 2B or 2C) is taken forward for Portishead station. The three stations either adjoin or overlap each other and therefore can be regarded for the purpose of traffic impact assessment, effectively as one option, although option 2C has some differences which are explained below. Portishead station would be a significant trip attractor resulting in changes to trip patterns in both the am and pm peak.

In the am peak the following changes to trip patterns are forecast. The number of vehicles exiting Phoenix Way onto Quays Avenue heading southbound, would reduce as some car trips are replaced by walking trips to Portishead station. Likewise the number vehicles exiting Harbour Road onto Quays Avenue heading southbound, would reduce as some car trips are replaced by walking trips to Portishead station. However, this reduction in vehicles would be off-set by an increase in traffic arising from the completion of the Port Marine development, adding several hundred additional dwellings accessed from Newfoundland Way and further development planned in the town centre. Furthermore additional traffic will be generated from development such as the newly opened Sainsburys supermarket which is accessed off the Serbert Way Avenue and Wyndham Way junction. The traffic impact of Sainsburys is not included in the traffic count data shown above, this is because the traffic count was undertaken in September 2014 and Sainsbury opened in October 2014. Several other smaller retail stores are due to be opened on Harbour Road within the next six months.

Of the 368 people walking to Portishead station, each day, (see page 23), some of these trips would replace existing car trips which take the primary route out of Portishead, being Wynhdam Way (A369), rather than via Quays Avenue. The overall position is the number of southbound vehicles on Quays Avenue is expected to remain in the region of 666 in the am peak hour. In the northbound direction traffic on Quays Avenue would increase in the am peak hour as a result of existing car trips via Wyndham Way and Portbury Hundred (A369) to external destinations such as Bristol and beyond, being replaced by shorter trips to Portishead station. This would entail an estimated 215 vehicle trips to Portishead station, accessing the station from the west via Harbour Road and the east via Quays Avenue. The distribution of these trips would be split approximately evenly between Harbour Road and Quays Avenue. The result of this is an additional 107 vehicles northbound on Quays Avenue in the am peak, an increase from 477 to 584 vehicles. Likewise southbound in the pm peak, traffic increases from 493 to 600 vehicles.

Implications of a Pedestrian Crossing for Pedestrians and Traffic

A pedestrian crossing would be required on Quays Avenue (for option 2C Serbert Road), to cater for the pedestrian flows from the car parks and surrounding pedestrian routes to the station entrance. The crossing would need to be a controlled crossing (i.e. a zebra, puffin, toucan or similar type). A zebra crossing operates on demand and therefore its cycle time will vary. A puffin crossing operates in response to pedestrian activation and its cycle time varies according to pedestrian walking speed, through sensors. A typical

cycle time of around 20 seconds would be expected on average at Quays Avenue, increasing during the peak hour and reducing during the off peak. The pedestrian and cyclists flows at Quays Avenue (for option 2C Serbert Road), would be vary between the three options. For option 2A and 2C where all the car parking provision is separate from the station entrance, all those parking a car would need to cross Quays Avenue. For option 2B, 100 car parking spaces are located on the site of the station, with the remainder across the road, which reduces the number of people crossing the road to 125. A high level assessment has been undertaken on the modal share for trips to Portishead station, using a weighting for the proportion of people likely to use the pedestrian crossing. The assessment is set out in the following table.

Pedestrians Crossing Quays Avenue (Serbert Road Option 2C)	**Option 2A and 2C**		**Option 2B**	
	Weighting	No of People using crossing	Weighting	No of People using crossing
Pedestrians	50%	184	50%	184
Bus passengers	50%	7	50%	7
Car drivers	100%	225	100% Overflow car park	125
Car passengers	50%	53	50%	53
Taxi	50%	10	50%	10
Total		**479**		**379**

The totals in the table cover both the peak and the off peak demand. Therefore the total number of people crossing Quays Avenue or Serbert Road would be 312 (being 65% of 479) for option 2A and 2C, over the two hour am peak period. For option 2B the total number of people crossing Quays Avenue would be 247 (being 65% of 379), over the two hour am peak period. This would equate to 156 people per hour for option 2A and 2C and 124 people per hour for option 2B, then repeated in the pm peak.

Based on one activation of the pedestrian crossing every 3 minutes (or 20 activations per hour), with an average cycle time of 20 seconds, the total delay to traffic would be 6 minutes, 40 seconds per hour, equivalent to 11% red signal time per hour. This is significantly less than the capacity reduction compared to the level crossing and furthermore the short duration of each cycle does not result in any significant queuing problems. It should be noted that in the event that a pedestrian footbridge is not delivered (for whatever reason) at the location of the permissive crossing near Trinity Primary School, this would not result in an increase in the number of pedestrians crossing Quays Avenue. This is because the longer pedestrian route via Quays Avenue (for option 2C Serbert Road) would not require pedestrians to cross the road. A stage 1 road safety audit has been undertaken for all three station options. The audit has not identified any road safety concerns which cannot be adequately addressed through the design iteration process. The road safety audits are attached in appendix 7.

<u>Traffic Impact of options without a Level Crossing at Quays Avenue</u>
For consistency with the scenario 1 assessment, underlying traffic growth up to the project opening year 2019-20, has not been taken into account. Furthermore, the traffic impact analysis set out above does not include provision for potential diversion of existing pedestrian trips to car trips, should for whatever reason a footbridge not be delivered linking Galingale Way with Marjoram Way and Trinity Primary School. For both scenarios this will have the effect of marginally understating the traffic impact.
For option 2C Quays Avenue is replaced by extending Serbert Road through to Harbour Road. The new route would intersect the junction between Sebert Road and Serbert

Way which forms the access to the new Sainsburys store. Should option 2C be taken forward it would be necessary to undertake further traffic impact assessment of the Sebert Road and Serbert Way junction and Sebert Way and Wyndham Way junction.

As set out on page 29, the southbound traffic flow on Quays Avenue in the am peak would be in the region of existing traffic flows and the northbound traffic flow would increase by 107 vehicles. The reduction in road capacity arising from the controlled pedestrian crossing would be significantly less than the level crossing i.e. an 11% reduction of capacity compared with a minimum of 20% reduction in capacity per hour. Crucially the traffic impact on a pedestrian crossing on Quays Avenue would be limited due to the very short cycle times, resulting in short queue lengths which disperse quickly and do not block back to the Phoenix Way and Harbour Road junction.

The additional northbound traffic on Quays Avenue in the am peak could be accommodated with the 11% reduction to existing highway capacity and northbound traffic volume would remain lower than the southbound traffic volume, during the am peak. The overall traffic impact of the option without a level crossing, would be minimal and could be accommodated within slightly reduced highway capacity. However, Option 2C would require further analysis in respect of impact at two specific junctions, should it be taken forward.

Parking – All Options

Parking is not currently an issue in the direct vicinity of the proposed location of the level crossing on Quays Avenue. However site observations have identified a number of parking issues in the local area including parking on Harbour Road around 50-75m (outside the health centre) from the junction with Quays Avenue. Consideration will be needed regarding moving this existing on-street parking provision to a convenient off-street location, irrespective of the location of Portishead station. In addition to the current parking pressures on and around Harbour Road, demand for parking will increase in the future as a result of committed development (development approved but not yet built) and the opening of Portishead rail station. This increased parking demand will be met through a combination of additional off street parking required by the planning process (parking standards), the proposed 225 space Portishead station car park and a further 100 space car park at the rear of Waitrose on Harbour Road, which is partly constructed and will transfer to North Somerset Council when completed.

Development Management

North Somerset Council is a unity authority which means it is both the local planning authority and local highway authority. The Council's Development Management Service is the regulatory body overseeing development in North Somerset. All planning applications are vetted by the Highways & Transport Service in respect of the traffic and transport implications of the proposed development. Planning applications that are found to have a severe traffic or transport impact can be refused, as set out in the national guidance 'National Planning Policy Framework 2012'.

As set out in the introduction, MetroWest Phase 1 requires a Development Consent Order (DCO), for planning powers to build and operate. The DCO will be submitted to the Planning Inspectorate who will determine the application. The project is currently at the pre-application stage and expects to submit the DCO application in 2016. North Somerset Development Management Service is a statutory consultee and as with all planning applications, the views of the Highways & Transport Service (Development Management) are sought for comments on the traffic and transport impacts.

Comments by Highways & Transport (Development Management)

Comments have been requested in relation to a planning proposal which is to be taken forward as a Development Consent Order. In which case the planning application will be determined by the Planning Inspectorate not North Somerset Council, however North Somerset Council is a statutory consultee and these comments are made on this basis.

Quays Avenue performs an important function of distributing traffic between the south east urban area of Portishead and the A369 and M5 corridor. Quays Avenue has become a relatively busy distributor road supporting major residential and commercial development over the last 10 years and this is reflected in the traffic count data provided. Comments are provided for each of the two scenarios set out in the traffic impact assessment in the preceding pages.

Scenario 1. Forecast Traffic Impact – with a Level Crossing at Quays Avenue

Quays Avenue currently experiences some traffic queuing particularly in the southbound direction in the am peak and to a lesser extent in the northbound direction in the pm peak. Scenario 1 results in a 20% reduction in highway capacity and the queue lengths reported are based on this level of capacity reduction. The impact in the morning peak is traffic queuing back the entire length of Quays Avenue over the level crossing and exit blocking Phoenix Way and Harbour Road. This queuing would affect southbound vehicle trips on all three roads, and in particular would block the exit route of Phoenix Way for all trips given this is the only highway route serving this substantial residential area. This would have the effect of severely reducing the highway level of service for local residents and business in the local area. The restoration to normal traffic conditions would be hampered by further cycles of the level crossing during which time queue lengths would increase further. Furthermore there is some uncertainty regarding the level crossing cycle times such that the total barrier down time could be 16 minutes per hour or even more, resulting in a deduction in highway capacity of 26% or more. The reduction in highway capacity and resultant queue lengths would have a detrimental effect on highway network resilience and would result in more traffic routing via Cabstand which is already congested throughout the am and pm peak. In respect of pedestrians, the risks highlighted in the Stage 1 Road Safety Audit in respect of the doubling of risk to pedestrians where a walking trip included a level crossing compared with a trip without a level crossing, is a cause of concern.

Given the lack of available mitigation measures and the resultant traffic queue lengths, reduction in highway level of service and reduced highway network resilience, the resultant traffic impact on the town centre and the increased risks to pedestrians, the highway authority would be minded to recommend an objection to the DCO application due to non compliance with policy T10 of the local plan (retained policy).

Scenario 2. Forecast Traffic Impact – without a Level Crossing at Quays Avenue

Quays Avenue currently experiences some traffic queuing particularly in the southbound direction in the am peak and to a lesser extent in the northbound direction in the pm peak. Scenario 2 results in an 11% reduction in highway capacity, however due to the very short cycle time of the controlled pedestrian crossing, the impact is limited to short queue lengths which disperse quickly and do not exit blocking the Phoenix Way / Harbour Road roundabout. The additional 107 vehicles northbound on Quays Avenue in the am peak and southbound in the pm peak can be accommodated within the existing highway. In respect of the risks to pedestrians, the Stage 1 Road Safety Audit suggests a number of potential mitigation measures. Subject to these pedestrian risks being adequately addressed and subject to more detailed assessment in respect of a full Transport Assessment (required for the DCO planning application), the highway authority at this stage would not be minded to object.

8. details on the features of the proposed crossing and what protective arrangements there would be in place, based on a suitable and sufficient risk assessment;

A high level assessment has been undertaken to identify the most appropriate type of level crossing for the local text at Quays Avenue. The key issues addressed in this assessment are the fundamental implications of a new level crossing. The assessment therefore has kept to high level principles rather than present detailed engineering designs. Essentially the assessment considers the best available level crossing types with the best available protective provisions. Should the ORR support a new level crossing at Quays Avenue, further work would be needed in respect of detailed engineering design and configuration, in order to take the level crossing forward.

The high level assessment has considered the level crossing types set out in the "Level Crossings: A guide for managers, designers and operators, Railway Safety Publication 7", December 2011 by the ORR. The following table is extracted from the ORR guide.

Level crossing types – basic protection and warning arrangements

Figure 1

Protection from train movements	Crossing confirmed clear	Warning arrangements	Full barriers/gates	Half barriers	No barriers	Telephone "protection"
Protected	By signaller or crossing keeper		MCG			
			MCB			
			MCB (CCTV)			
	By obstacle detector		CB-OD			
	By driver			ABCL		
					AOCL	
	By train crew/other		TMO			
Unprotected		Approaching Train		AHB		
					UWC (MSL)	
					FP (MSL)	
		Telephone				UWC (T)
		Line of Sight			OC	
					UWC	
					FP/BW	

MCG: manually controlled gated crossing
MCB: manually controlled barrier crossing
MCB (CCTV): manually controlled barrier crossing with closed circuit television
CB-OD: controlled barrier crossing with obstacle detection
ABCL: automatic barrier crossing locally monitored
AOCL: automatic open crossing locally monitored
TMO: train crew (or other peripatetic railway staff) operated crossing
AHB: automatic half barrier crossing
UWC (MSL): user worked crossing with miniature stop lights
FP (MSL): footpath crossing with miniature stop lights
UWC (T): user worked crossing with telephone
OC: open crossing
UWC: user worked crossing

FP/BW: footpath or bridleway crossing
Protection from train movements ensures that trains are not authorised to pass over the crossing until the crossing is closed and the crossing area has been checked to be clear.

Unprotected crossings depend on a warning being given to crossing users of an approaching train so that they can be clear before the train arrives. It is unlikely that the train can be stopped if the crossing is not clear.

Telephones are fitted to several crossing types for a range of purposes. At a UWC (T) the warning of an approaching train is achieved by contacting the signaller. For this to be effective the user must make the call and the signaller must be able to advise how close the nearest train is.

Office of Rail Regulation | December 2011 | Level crossings: a guide for managers, designers and operators 12 2234207

Given the volume of vehicles and pedestrians that would use the level crossing, a controlled full barrier crossing will be required. The most appropriate type of level crossing for the local context at Quays Avenue would be either:

- CB-OD: controlled barrier crossing with obstacle detection, or
- MCB (CCTV): manually controlled barrier crossing worked remotely with the aid of closed circuit television.

Using the ORR level crossing guidance the following design considerations have been taken into account; the pedestrian category derived from the train pedestrian value (TPV), the traffic volume and traffic speed on Quays Avenue. This has identified the following requirements:

- Road markings for pedestrians over the level crossing,
- Audible warning device,

- Yellow box marked over the level crossing for vehicle drivers
- Double white lines with deflector arrows

As the TPV is less than 150 and the pedestrian category is C, the following optional protective provisions would be considered; pedestrian signals, tactile threshold and guard rails. In respect of the visibility distance of the level crossing road signals on Quays Avenue, it would not be possible to meet the recommended minimum distance of 70 meters (for a 30mph road) in the southbound direction, given the distance between the level crossing and the Harbour Road / Phoenix Way junction is just 45 meters.

CB-OD Level Crossing

A controlled barrier obstacle detection crossing would require the following control systems:

- An additional intermediate signal and axle counters on the approach to the level crossing from the east (for trains travelling to Portishead), and
- An additional intermediate signal and axle counters between Portishead station and the level crossing, to control the activation of the level crossing for trains departing Portishead (this would be subject to meeting design standards, as explained below).
- Obstacle detection systems such as radar linked with the signalling system, where the operation of the level crossing is fully automated.

MCB (CCTV) Level Crossing

A manually controlled barrier crossing with CCTV would require the following control systems:

- An additional intermediate signal and axle counters on the approach to the level crossing from the east (for trains travelling to Portishead), and
- An additional intermediate signal and axle counters between Portishead station and the level crossing, to control the activation of the level crossing for trains departing Portishead (this would be subject to meeting design standards, as explained below).
- Telecommunications to link the CCTV and intermediate signals to the Thames Valley Control Centre, where signal control personnel would active the operation of the level crossing barriers remotely.

Photograph of a Manually Controlled Barrier MCB (CCTV) Level Crossing at Ashton Gate (Ashton Junction)



Configuration of the Level Crossing and Design Standards

In respect of the configuration of the level crossing for trains departing Portishead station, the feasibility of an additional intermediate signal between Portishead station and the level crossing would require further assessment in order to clarify whether such an arrangement would meet current design standards, given the distance between end of Portishead station platform and the level crossing is 350 meters. If such an arrangement were acceptable, it would enable two short cycles of the level crossing, per train arrival and departure. If such an arrangement would not be acceptable, one long cycle of the level crossing rather than two short cycles, per train arrival and departure, would be required. This would have the following implications. When the level crossing sequence is triggered by a train approaching Portishead the following would result; the audible warning starts and the road signals activated, the barriers would be lowered across Quays Avenue and would remain lowered while the train proceeds to Portishead station, passengers alight, the turnaround time in accordance with the timetable is allowed for, the crew undertake turnaround procedures, passengers board the train, the train is despatched and the train clears the intermediate signal (located on the eastern approach).

The result of this would be one long level crossing cycle time of between 10½ and 15 minutes, per train arrival and depature. The cycle time has been calculated as follows:

Level Crossing – sub sequence	**Time**
Standard cycle	3 minutes
Train journey time to Portishead station	1½ minutes
Train turnaround time and crew procedures	4 minutes (for train service option 6B) 8½ minutes (for train service option 5B)
Train is despatched	½ minute
Train journey time to level crossing	1½ minutes
Total	**10½ minutes (for train service option 6B)** **15 minutes (for train service option 5B)**

A variation to the above configuration could be required where the level crossing sequence is activated by the train driver for departures from Portishead station. In this arrangement two short cycles per train arrival and departure would be required and the level crossing sequence would start earlier while the train is at the platform. The barrier down time would increase to approximately 5 minutes (for train departures) to account for the train despatch procedure and train journey time to the level crossing.

Further information about the train turnaround times is set out the appendix 5 Capability Analysis Addendum Report, which reports the findings of Railsys modelling.

In summary the level crossing cycle time is dependent upon a number of factors including design standards and the timetabled turnaround time for the two train service options 5B and 6B, both of which remain in consideration by the project. The overall position in respect of level crossing cycle time and total barrier down time per hour is set out in the following table.

Level Crossing Configuration	Train Service option 6B		Train Service option 5B	
	Level crossing cycle time (barrier down time)	Total barrier down time per hour	Level crossing cycle time (barrier down time)	Total barrier down time per hour
With intermediate signal between Portishead station and level crossing - enabling 4 short cycles of level crossing per hour	3 minutes per cycle	12 minutes per hour	3 minutes per hour	12 minutes per hour
With train driver activation of level crossing sequence enabling 4 cycles of level crossing per hour	3 minutes per cycle - arrivals 5 minutes per cycle - departures	16 minutes per hour	3 minutes per cycle - arrivals 5 minutes per cycle - departures	16 minutes per hour
Without intermediate signal between Portishead station and level crossing - 2 long cycles of level crossing per hour	10½ minutes per cycle	21 minutes per hour	15 minutes per cycle	30 minutes per hour

Train Service Performance Risk Considerations

A level crossing whether an CB-OD or MCB (CCTV) poses a considerable additional train service performance risk, over and above the train performance risks identified in the Capability Analysis Addendum Report (see appendix 5). Train service performance would be directly affected by road driver and pedestrian behaviour irrespective of whether the level crossing is an CB-OD or MCB (CCTV). An CB-OD level crossing uses radar to scan for obstructions such as a stationary car or pedestrian on the level crossing. Where an object is detected the level crossing sequence cannot be triggered and the result is the barriers remain up and the railway signals remain red. An MCB (CCTV) level crossing is activated by signal control personnel at the Thames Valley Control Centre. If signal control personnel can see an object such as a vehicle or a pedestrian on the crossing, he or she cannot activate the level crossing sequence. Consequently the train is locked at a red signal until the obstruction moves.

Given the traffic impact set out in section 7, showing road vehicle queue lengths across the level crossing in both directions and significant volumes of pedestrians, the likelihood of vehicles or pedestrians obstructing the level crossing is high. Note the queue lengths set out in section 7 are based on the most optimistic scenario in relation to barrier down time per hour, i.e. 12 minutes per hour. With protective measures such as a yellow box marked on the level crossing, a traffic order put in place and enforcement implemented etc, the frequency of vehicle or pedestrian obstruction of the level crossing could be reduced, however these measures would not eradicate the occurrences of obstruction.

The impact of delays to trains would not be limited just to the Portishead line, it would cause a ripple effect to the other rail lines which are part of the MetroWest Phase 1 network, which are being explored through the two train service options 5B and 6B. The train service options 5B and 6B are configured based on the availability of train paths across a three railway routes, the available capacity at Bristol Temple Meads and other key junctions such as Bristol East Junction. Delays caused by the behaviour of vehicle drivers or pedestrians of more than a few minutes would have a ripple effect

resulting in late running of trains and cancellation of train services across the MetroWest Phase 1 network.

For information is respect of risk assessment refer to section 10.

9. financing costs and economic case for proposed level crossing, including funding of installation and on-going maintenance;

The capital cost of a full barrier level crossing could potentially be accommodated within the MetroWest Phase 1 budget, pending identification of the capital cost of the additional signalling required to control the level crossing. The project Preliminary Business Case (September 2014) makes provision for Portishead station and associated civil engineering works, within the overall £58.2million capital budget. The project capital cost is to be funded from the DfT devolved major schemes grant, the Local Growth Fund and funding from the four councils. The total operating costs will not be fully met from the forecast train service revenue in the early years, consequently the train service will require public subsidy during the first three years of £1.141m to £1.765m pa. In simple terms the project requires a combination of both capital and revenue investment. The project has a sound economic case, with benefit to cost ratios ranging from 2.28 to 5.99 and net present value ranging from £135m to £237m. The Preliminary Business Case is available at www.travelwest.info/mw/p1/pbc

The capital cost of the signalling control interface for a level crossing would be subject to design iterations of the signalling control for the whole Portishead line at GRIP stages 3, 4 and 5. Consequently, this is a potential additional capital cost risk. The operational costs of a full barrier crossing would also need to be estimated through design iterations at GRIP 3, 4 and 5. The operational costs would need to include the maintenance and inspection costs of the level crossing, the safety systems, telecommunications costs and signal control monitoring costs, including available capacity within Thames Valley Signalling Centre. Consequently, this is a potential additional operating cost risk.

The operating costs of a level crossing would increase the overall costs for operating passenger trains on the Portishead line, compared with the options set out in section 6 which don't require a level crossing. Furthermore, all operating costs are appraised over a 60 year period in the assessment of the business case and the additional operating costs would have the effect of weakening the business case, i.e. the value for money of the project investment would be slightly lower.

10. any other information that the expert panel considers might be relevant or helpful.

High Level Risk Assessment

The project will require either a level crossing at Quays Avenue or a pedestrian crossing (highway crossing) at Quays Avenue/Serbert Road. Therefore a high level risk assessment has been undertaken comparing the likely occurrence of specific risks and the severity of the outcome, in relation to a level crossing vs a pedestrian crossing on Quays Avenue. Risks have been assessed using the risk assessment matrix below:

Likely Occurrence / **Severity**	**Frequent**	**Probable**	**Occasional**	**Remote**
Catastrophic	Very High Risk	High Risk	High Risk	Medium Risk
Critical	High Risk	High Risk	Medium Risk	Medium Risk
Marginal	High Risk	Medium Risk	Medium Risk	Low Risk
Negligible	Medium Risk	Medium Risk	Low Risk	Low Risk

The high level assessment is shown in the table on page 40. In respect of the pedestrian crossing, the table shows that of the five specific risks assessed, all five scored a medium risk rating. In respect of the level crossing, the table shows that of the seven specific risks assessed (including two railway specific risks), five result a high risk rating and two result a medium risk rating. In respect of severity, a comparison of the force (Newtons) arising from a collision with an average sized family car vs a passenger train (diesel multiple unit), is set out in appendix 8.

Wider Risk Context - Level Crossing Compared with Pedestrian Crossing (Highway Crossing)

In addition to the key risks set out in the high level risk assessment, is the wider risk context of both a level crossing compared with a pedestrian crossing (highway crossing). Key factors associated a level crossing that could increase risks to highway users (vehicle drivers / passengers, cyclists and pedestrians), train passengers and train crew, are:

- Traffic queues extended back across the level crossing, occurring in both the southbound and northbound direction on Quays Avenue. Extended traffic queuing will cause frustration to vehicle drivers and this increases the likelihood of risk taking behaviour and contravention of driving rules i.e. driving through a level crossing red light, obstructing the level crossing by not observing a yellow box etc.
- The proximity of the level crossing to Trinity Primary School, resulting in young children being exposed to additional risks when using walking routes along Quays Avenue. The Stage 1 Road Safety Audits (appendix 7) references a DfT study that found the risk to a pedestrian doubles where a walking trip involves a level crossing compared with a trip without a level crossing.
- Pedestrian volumes increasing, in the event that a footbridge is not delivered at the location of the permissive footpath crossing between Galingale Way and Marjoram Way / Trinity School. An increase of pedestrians using the level crossing increases the probability of a accident occurring involving a pedestrian and pedestrians becoming frustrated leading to risk taking behaviour. This is in a context where the severity of an accident is more likely to result in the pedestrian being killed or seriously injured.

- Regular frequency train services and or low speed train services are known to increase risk taking behaviour by vehicle drivers, cyclists and pedestrians (eg proceeding to cross when the level crossing barriers are being lowered etc), arising from a misplaced perception of familiarisation of the level crossing.
- Proximity of level crossing to Portishead station could increase risk taking behaviour by vehicle drivers, cyclist and pedestrians (eg proceeding to cross when the level crossing barriers are being lowered etc) in their haste to arrive at the station in time for their train.

The above wider risk context could not be addressed through the design or extent of protective provisions provided with a level crossing. These are fundamental risks that highway users (motorist, cyclists and pedestrians), train passengers and train crew would be exposed to over the short, medium and long term.

Key factors associated a pedestrian crossing (highway crossing) that could increase risks to highway users (vehicle drivers / passengers, cyclists and pedestrians) are:

- Proximity of level crossing to Portishead station could increase risk taking behaviour by vehicle drivers, cyclist and pedestrians such as not observing the crossing sequence eg a vehicle driver crossing on a red light or a pedestrian crossing without a green light.

The stage 1 road safety audits attached in appendix 7 have not identified any risks that cannot be adequately addressed through the design iteration process. The wider context of controlled pedestrian crossings is they are part and parcel of urban public realm and as a result the general public are highly familiar with there use. There are in fact 223 controlled pedestrian crossings in North Somerset (controlled crossing include zebra, puffin, toucan etc crossing types), recorded in the highway asset database. With the population of North Somerset being 220,000, this equates to approximately to 1 pedestrian crossing per 1,000 population.

Management of Level Crossing Risk

Level crossing risk assessment and inspection is overseen and regulated by the Office of Rail Regulation. Level crossing operational risk is managed by Network Rail using the All Level Crossing Risk Model (ALCRM) and the Level Crossing Risk Management Toolkit (LXRMTK). ALCRM scores level crossings in relation to the 'individual risk' and the 'collective risk'. The 'individual risk' relates to crossing users and it presented as a score A to M where, A is the highest risk and M is the lowest risk. The 'collective risk' considers the overall risk of an accident to people including road vehicle occupants, train staff, train passengers and pedestrians and is presented as a score 1 to13, where 1 is the highest risk and 13 is the lowest risk. The 'collective risk' score is the most important part when prioritising crossings for enhanced controls or decision making for elimination of crossings. LXRMTK is a rail industry tool used to identify human factors, risks and mitigations systematically, to aid the safe operation of level crossings.

Both level crossing risk assessment and risk management is a complex and specialist area. Based on the information provided in this submission, there is sufficient information for the ORR to undertake its own risk assessment and determine whether the risk of a new level crossing at Quays Avenue is acceptable or not.

High Level Risk Assessment of Pedestrian Crossing vs Level Crossing at Quays Avenue

	Pedestrian crossing on Quays Avenue (Highway Crossing)				Level crossing on Quays Avenue (Railway Crossing)			
Risk Type	**Description and potential for mitigation (over and above any educational initiatives)**	**Frequency**	**Severity**	**Risk Factor**	**Description and potential for mitigation (over and above any educational initiatives)**	**Frequency**	**Severity**	**Risk Factor**
Queues from Level Crossing/ pedestrian crossing	Road traffic blocking back to Harbour Road junction. Mitigation - Keep clear line marking.	Occasional	Marginal	Medium	Road traffic blocking back to Harbour Road junction. Mitigation – Yellow box marking over level crossing	Frequent	Marginal	High
Queues from Quays Avenue/ Harbour Road	Road traffic blocking back through pedestrian crossing. Mitigation - junction design could seek to minimise queuing	Occasional	Marginal	Medium	Road traffic blocking back to level crossing. Mitigation – uncertain as loss of highway capacity is cause of traffic queue lengths	Probable	Catastrophic	High
User error - pedestrian	Pedestrian use of crossing when traffic signals display “green” for vehicles. Mitigation - peer review of design, including further consideration of sight lines etc	Occasional	Critical	Medium	Pedestrian use of crossing when level crossing barriers are down / closing. Mitigation – high level of protective features, including location of warning signs and audible devises	Occasional	Catastrophic	High
User error – road vehicles	Road vehicle use of crossing when traffic signals display “red” for vehicles**.** Mitigation - peer review of design, including further consideration of crossing width and utilisation of raised table	Occasional	Critical	Medium	Road vehicle use of crossing when level crossing barriers are down / closing. Mitigation – high level of protective features, including location of warning signs and audible devices	Occasional	Catastrophic	High
User error – train driver	Not applicable				Train driver misses a signal or fails to stop. Mitigation could include measures that reduce likelihood of human errors	Remote	Catastrophic	Medium
System failure	Errors in the equipment installed at the pedestrian crossing. This would result in traffic not being controlled.	Remote	Critical	Medium	Errors in the equipment installed at the level crossing. Systems are highly regulated and designed to “fail safe”	Remote	Catastrophic	Medium
Level crossing specific	Not applicable				Suicides, access to railway for vandalism, trespass / short cutting walking routes	Occasional	Catastrophic	High

Appendices

Richard Price
Chief Executive
Telephone 020 7282 2006
richard.price@orr.gsi.gov.uk

OFFICE OF **RAIL REGULATION**

Rt Hon Liam Fox MP
House of Commons
London
SW1A 0AA

31 July 2014

Dear Mr Fox,

Thank you for your recent letters regarding Bristol to Portishead services.

Great Britain's level crossings, although among the safest in Europe, pose a significant rail safety risk to the public. ORR therefore supports the closure and removal of crossings wherever possible and promotes the need for railway operators' risk assessments to always consider closure first.

In respect of new level crossings we have a policy that no new level crossings should be installed, unless there are exceptional circumstances. We do not define the term 'exceptional circumstances' but consider each case on its merits.

If a new crossing is being considered, we ask that the applicant engages with ORR as early as possible and liaises with the Department for Transport, since an order under the Transport and Works Act 1992 may be required. There may also be rights of way issues that would need to be clarified.

An initial approach was made by letter to ORR in May 2013, from North Somerset Council, asking whether ORR would be likely to support the creation of a new level crossing by Network Rail. The letter outlined three possible options that were being considered for the re-opening of the Portishead rail line to passenger train services. Based on the limited information provide at the time, we stated that since Quays Avenue is a busy road, introducing a new crossing would mean there would be high levels of safety risk and ORR would not authorise a new crossing at this point. To make a more informed decision ORR expects an applicant to provide sufficiently compelling evidence to demonstrate that there is an exceptional case. When a case for a new crossing is submitted to ORR for a safety review an expert panel will review the application based on the evidence below.

Head Office: One Kemble Street, London WC2B 4AN T: 020 7282 2000 F: 020 7282 2040 www.rail-reg.gov.uk

The applicant would need to submit:

- the location of the proposed crossing including photographs and diagrams;
- information about the proposer of the scheme/applicant for a new crossing and the proposed crossing operator;
- proposed timescales for any new crossing;
- confirmation that there is a right of way, and whether any relevant authorisations/Orders need to be sought through the Transport at Work Act procedures;
- details of any liaison that has already taken place with other Departments and agencies such as the Department for Transport, Highways Agency or local highway authority, planning authorities and other local bodies and interested stakeholders, including a summary of the responses/views received;
- a description of what other options have been considered, such as bridges and underpasses, the financial costing, and the reasons why these have been discounted;
- information about the road and rail traffic at any proposed crossing including the results of censuses;
- details on the features of the proposed crossing and what protective arrangements there would be in place, based on a suitable and sufficient risk assessment;
- financing costs and economic case for proposed level crossing, including funding of installation and on-going maintenance;
- any other information that the expert panel considers might be relevant or helpful

Were such information to be submitted to ORR we would be in a position to review our initial decision and consider the case for a new level crossing. I hope this information is helpful.

Yours sincerely,

Richard Price

RICHARD PRICE
Chief Executive

CONSENTED HIGHWAY ACCESS

CONNECTS TO EXISTING WALKING / CYCLE PATHS

STATION CAR PARK 150 SPACES

WALKING AND CYCLING PROMENADE WITH TREE LINED BUFFER

TWO WAY VEHICLE ENTRANCE

PEDESTRIAN CROSSING

CONNECTS TO EXISTING WALKING / CYCLE PATHS

SAINSBURYS DEVELOPMENT

SAINSBURYS DELIVERY ACCESS ROAD

SAINSBURYS PUBLIC ACCESS ROAD

STATION FORECOURT AND KISS AND DROP AREA

VEHICLE ENTRANCE / EXIT KISS AND DROP / TAXIS

QUAYS AVENUE STOPPED UP

STATION PLATFORM AND BUILDINGS

PROPOSED BUS STOPS

COMMERCIAL BUILDING REDUCED IN SIZE TO MAKE WAY FOR NEW HIGHWAY LINK

PROPOSED PEDESTRIAN AND CYCLE LINK

PROPOSED FOOTBRIDGE

NEWFOUNDLAND WAY

MALIN PARADE

BISCAY DRIVE

WIGHT ROW

CAMOMILE WALK

TANSY LANE

SERBERT CLOSE

SERBERT WAY

HARBOUR CRESCENT

QUAYS AVENUE

GALINGALE WAY

MULBERRY AVENUE

FOR CONSULTATION

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2. This plan has been prepared for consultation purposes only and does not represent a definitive plan.
3. Any further development of the plans presented or there alternatives is subject to consultation with third parties including private landowners and / or their respective tenants.
4. Land boundaries shown are indicative only.

Key:

- PROPOSED FOOTBRIDGE
- PROPOSED PEDESTRIAN LINK / CYCLEWAY
- PROPOSED PEDESTRIAN CROSSING
- PROPOSED HIGHWAY LINK
- PROPOSED STATION PLATFORM AND BUILDINGS
- NSC RAIL LAND
- PHOTOGRAPH TAKEN FROM THIS POINT

Rev	By	Chkd	Apprvd	Date	Description

North Somerset Council
Wolfbroote Grove Road
Weston-super-Mare, BS23 1UJ
tel +44 (0)1934 888 888
www.n-somerset.gov.uk

Project

METROWEST
HIGHWAY REALIGNMENT OPTIONS

Drawing

OPTION 2c

CONSEPTUAL ARRANGEMENT

Drawn by: DCF	Date: MAY 2014
Checked by: JW	Date: MAY 2014
Approved by: IW	Date: MAY 2014
Drawing No. METRO/HR0/2c	Revision 0

Drawing Scale: NTS

Drawing file path & name: C:\Users\DRich\Desktop\MetroWest Option 2c [PUBLISHED].dwg

CONNECTS TO EXISTING
WALKING / CYCLE PATHS

CONNECTS TO EXISTING
WALKING / CYCLE PATHS

SAINSBURYS
DEVELOPMENT

OVERFLOW CAR PARK
ENTRANCE

OVERFLOW CAR PARK
50+ SPACES

WALKING AND CYCLING PROMENADE WITH TREE LINED BUFFER

LEFT TURN LANE ONTO QUAYS
AVENUE

'KISS AND DROP'
LAY-BYS

STATION CAR PARK
100 SPACES

STATION FORECOURT

AREA FOR
TAXI RANK

PROPOSED PEDESTRIAN
AND CYCLE LINK

PEDESTRIAN CROSSING

BUS STOPS
(OPTION FOR LAY-BYS)

SAINSBURYS PUBLIC ACCESS
ROAD

AREA OF PUBLIC OPEN SPACE
WITH LANDSCAPING

PROPOSED
FOOTBRIDGE

NEWFOUNDLAND WAY

MALIN PARADE

FINISTERRE PARADE

BISCAY DRIVE

WIGHT ROW

CAMOMILE WALK

TANSY LANE

HARBOUR CRESCENT

SERBERT CLOSE

SERBERT ROAD

SERBERT WAY

QUAYS AVENUE

MULBERRY AVENUE

MULBERRY

GALINGALE WAY

PEARTREE

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- NSC RAIL LAND
- PHOTOGRAPH TAKEN FROM THIS POINT

Rev	By	Chkd	Apprvd	Date	Description

North Somerset Council
Wallscote Grove Road
Weston-super-Mare, BS23 1UJ
tel +44 (0)1934 888 888
www.n-somerset.gov.uk

Project

METROWEST
HIGHWAY REALIGNMENT OPTIONS

Drawing

OPTION 2b

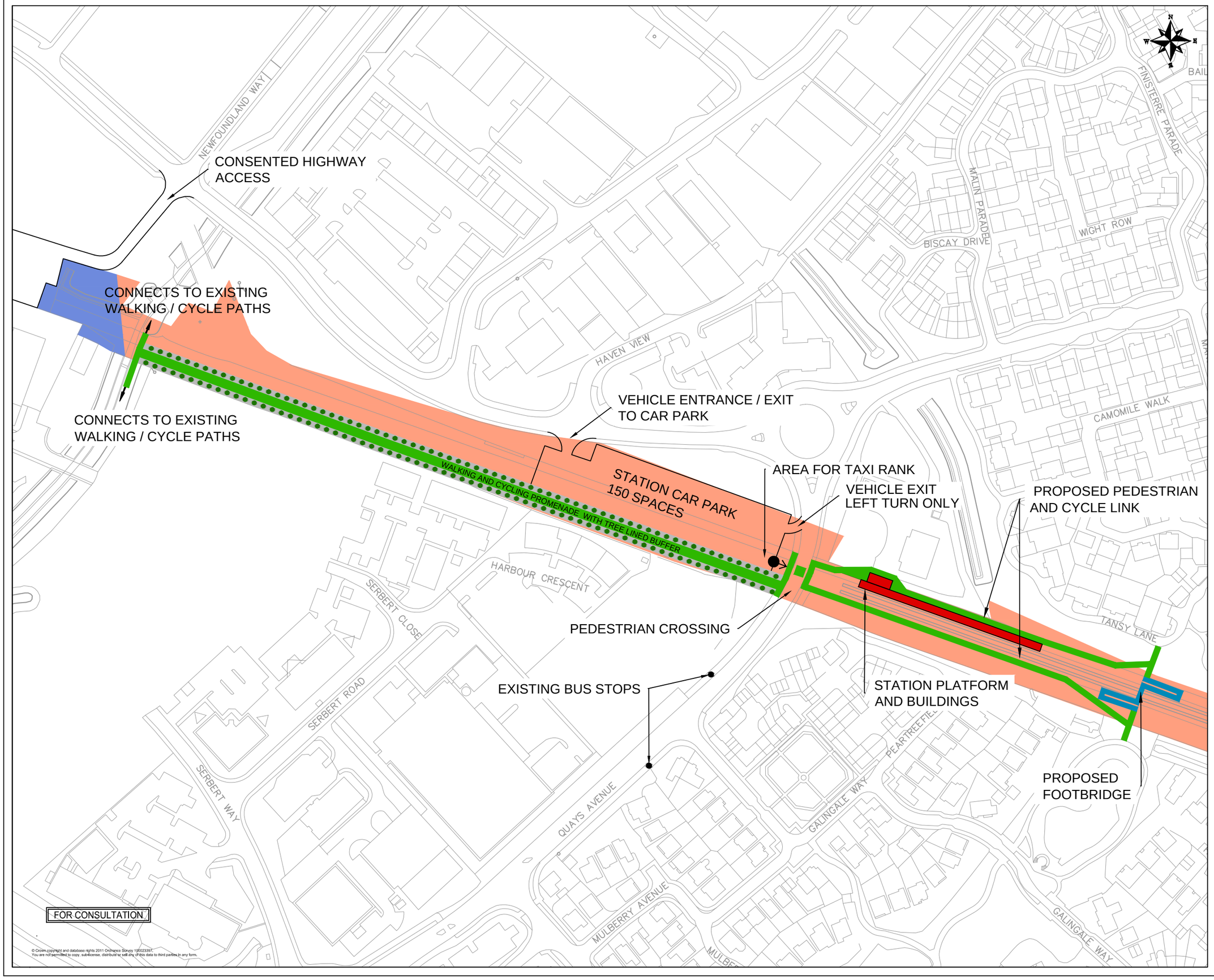
CONSEPTUAL ARRANGEMENT

Drawn by: DCF	Date: MAY 2014
Checked by: JW	Date: MAY 2014
Approved by: IW	Date: MAY 2014

Drawing No.	Revision
METRO/HR0/2b	0

Drawing Scale: NTS

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- PROPOSED HIGHWAY LINK
- PROPOSED STATION PLATFORM AND BUILDINGS
- NSC RAIL LAND
- PHOTOGRAPH TAKEN FROM THIS POINT

Rev	By	Chkd	Apprvd	Date	Description

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Project

METROWEST
HIGHWAY REALIGNMENT OPTIONS

Drawing

OPTION 2a

CONSEPTUAL ARRANGEMENT

Drawn by: DCF	Date: MAY 2014
Checked by: JW	Date: MAY 2014
Approved by: JW	Date: MAY 2014
Drawing No. METRO/HR0/2a	Revision 0

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Network Strategy and Planning: Capability Analysis
MetroWest Phase 1 Addendum Report

Document Control

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Authorisation Control

Lee Mowle Signature 17/7/14 Date

Project Manager - Capability Analysis (Document Owner)

James Willcock Signature Date

Project Manager MetroWest Phase 1

Andrew Holley Signature Date

Senior Development Manager – Network Rail

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DOCUMENT CONTROL & ADMINISTRATION

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0.1	20/06/14	Rhys Bowen	First Draft
0.2	01/07/14	Rhys Bowen	Updated from comments received
0.3	03/07/14	Rhys Bowen	Updated from comments received
1.0	16/07/14	Rhys Bowen	Final for issue

Reviewers

Version	Date	Name	Review notes

References

Ref.	Document Name	Doc. Ref. No.	Date	Rev.
1.	MetroWest Interim Report Final Issue	MetroWest Interim Report Final Issue v1.1.docx	16/12/2013	1.1

Stakeholders

Name of stakeholder	Company / Business
James Willcock	Phase One Project Manager, West of England councils.
Andrew Holley	Strategic Planning, Network Rail

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1. EXECUTIVE SUMMARY

The MetroWest Phase One project is the first step in a scheme that will radically alter the passenger connections in Bristol and the surrounding areas. It focuses on the increased frequency of services on the Severn Beach line and Bath corridor, and reopening of the Portishead line to passenger trains.

This report details the continuation of previous work conducted by Capability Analysis, Economic Analysis and Halcrow. It focuses on the analysis of two service specification scenarios on the background of Crossrail/IEP Iteration 5 timetable. Both options are assessed for their operational feasibility and infrastructure requirements, with a focus on providing inputs to the investment case for the proposals.

Some minor infrastructure changes above the core proposals are required to construct either timetable. However given these interventions, a relatively even pattern can be constructed for both options. Both options require a theoretical minimum of six units to achieve a viable timetable. The structure of the Crossrail and IEP timetable dictates the operational working of the services. This, together with short turnarounds at the terminal locations, may have an impact on the performance of MetroWest and other services.

It is recommended that both service specification options are taken forward as potential outputs for the scheme and the associated infrastructure progressed to GRIP 3, where further analysis of their connectional benefits, unit requirement and operational strategy will be conducted.

2. INTRODUCTION & OBJECTIVES

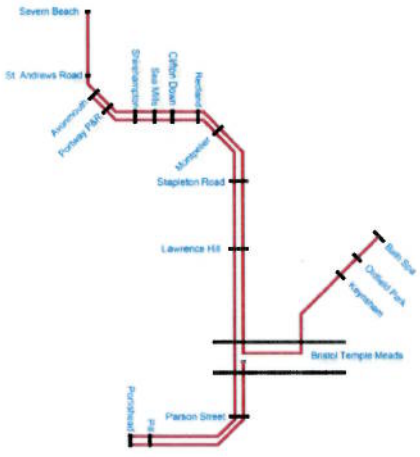
Chronologically, this report details the work that this team has untaken since the issue of the MetroWest Interim Report Final Issue v1, where an introduction to the background and objectives of the MetroWest scheme can be found. The purposes of this particular iteration are:

- to determine whether a suitable MetroWest phase 1 service level can be delivered given the latest timetable and infrastructure assumptions.
- to analyse the timetable structure of the proposed service level options.
- to compare the operational suitability of these timetables, with regard to service regularity, journey times, required unit numbers and connectivity.
- to feed these indicative timetables into the business case studies to be conducted by the Economic Analysis team.
- to inform of any potential infrastructure changes necessary to deliver the required service level.

The assumptions for this analysis can be found in Appendix A

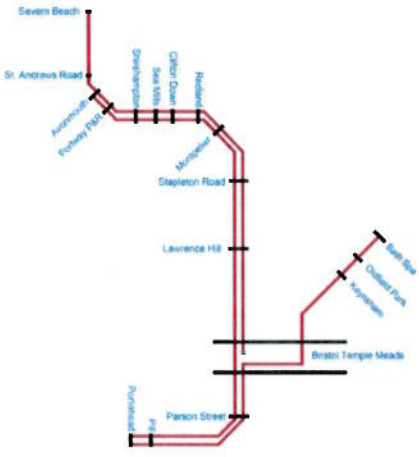
The train service specifications tested are defined as Option 5b and Option 6b; the details of the scenarios are as follows:

Option 5b



•Portishead – Avonmouth : 1 tph
•Severn Beach - Bath : 1tph
•Portishead – Bristol Temple Meads : 1 tph

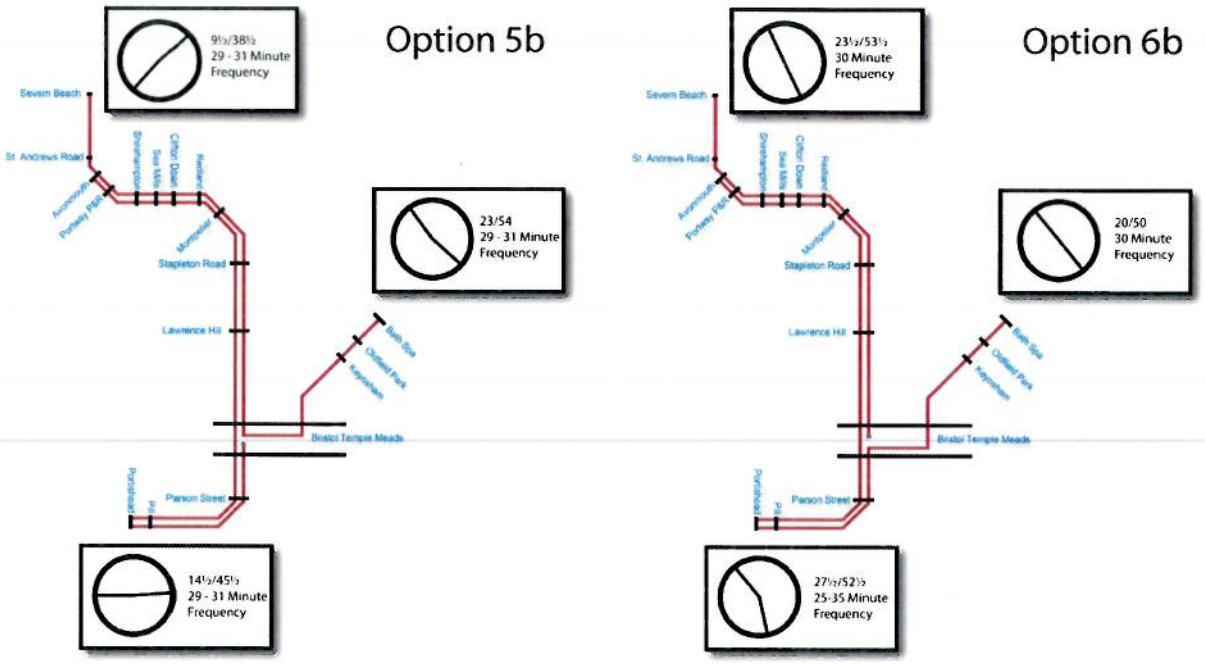
Option 6b



•Portishead – Avonmouth : 1 tph
•Severn Beach - Portishead : 1tph
•Severn Beach - Bristol Temple Meads : 1tph

3. PROJECT FINDINGS

The diagrams below are a visual representation of the timetable findings of both options:

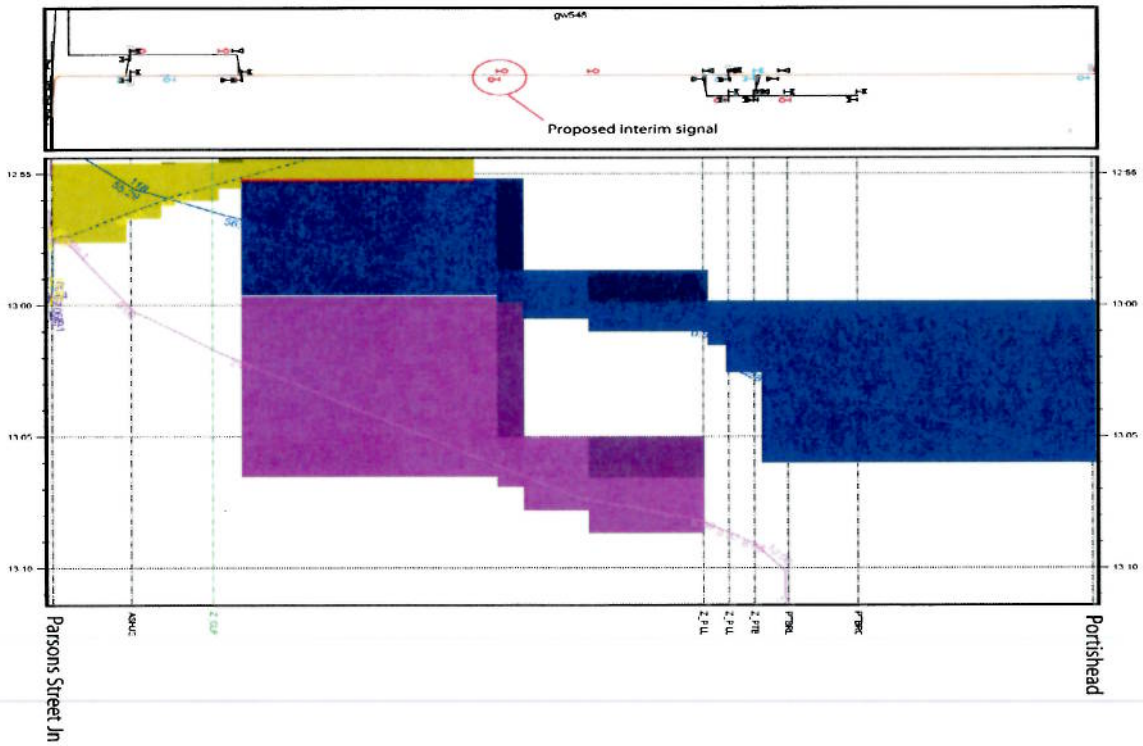


They demonstrate primarily that in both scenarios it has been possible to produce a test timetable that meets the required service specification. Due to the connectivity of the services there are some necessary compromises on regularity of services.

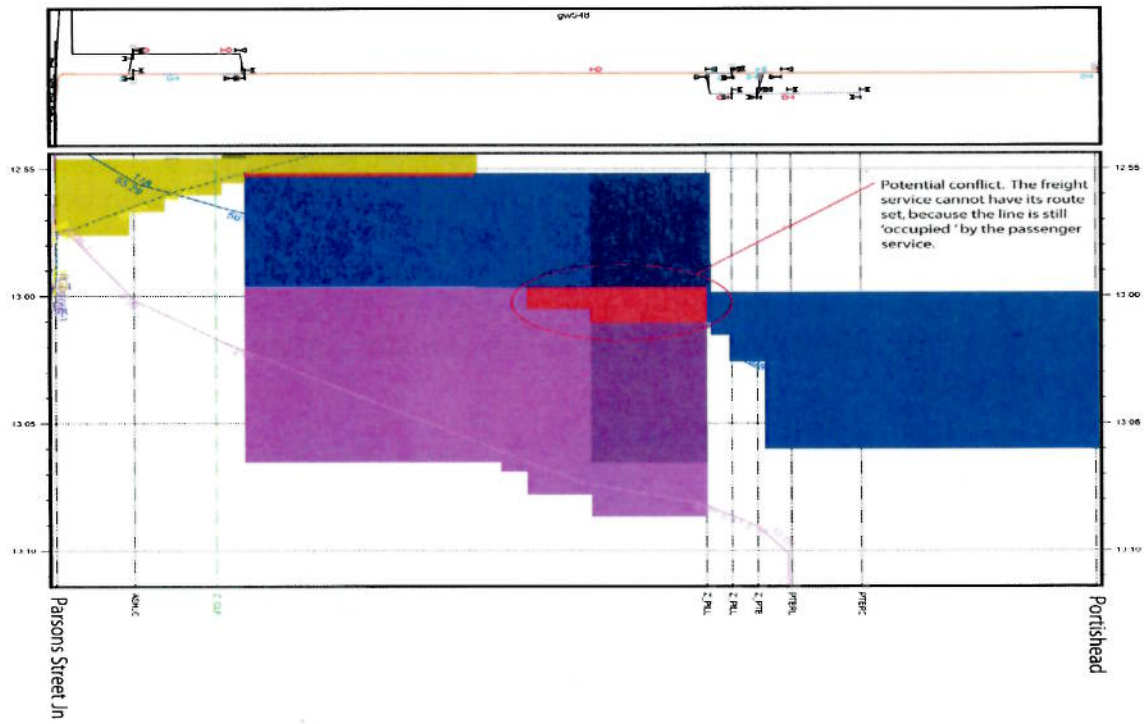
The following infrastructure findings are common to both indicative timetable scenarios.

Portishead Branch intermediate signal

The addition of an intermediate signal on the Portishead Branch has been assumed for this work. The diagram overleaf demonstrates the requirement for this signal.



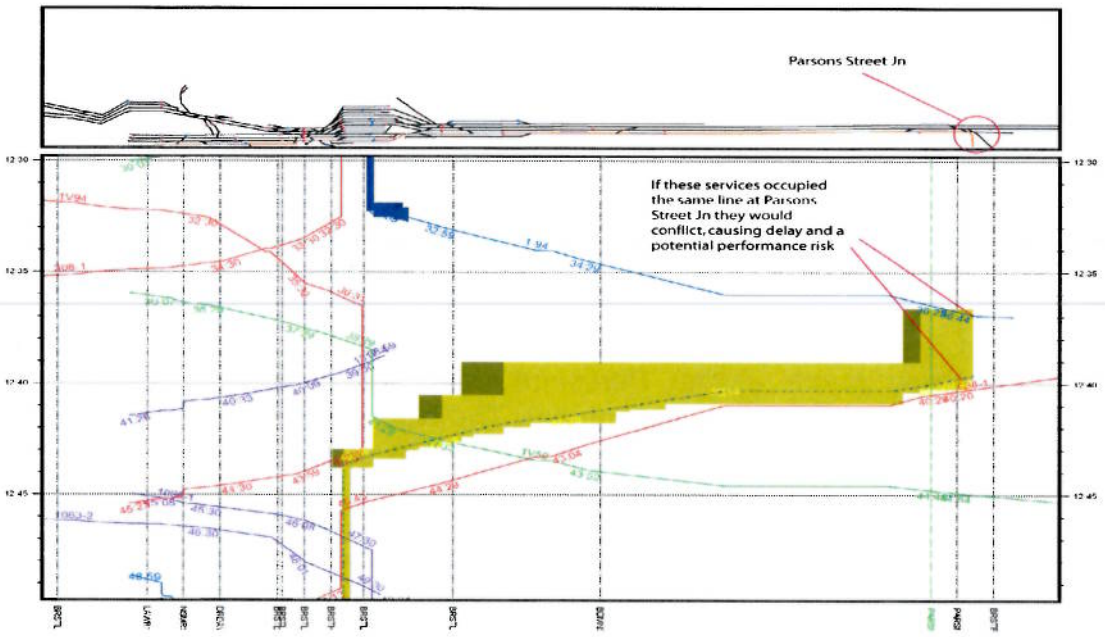
This shows a train graph of the Portishead line with a freight service (lilac) immediately following a passenger train (blue). The blue and lilac boxes surrounding the services represent the required block occupation, as calculated by Railsys. If the intermediate signal is not present, the block occupation of the passenger service increases. This is shown in the diagram below.



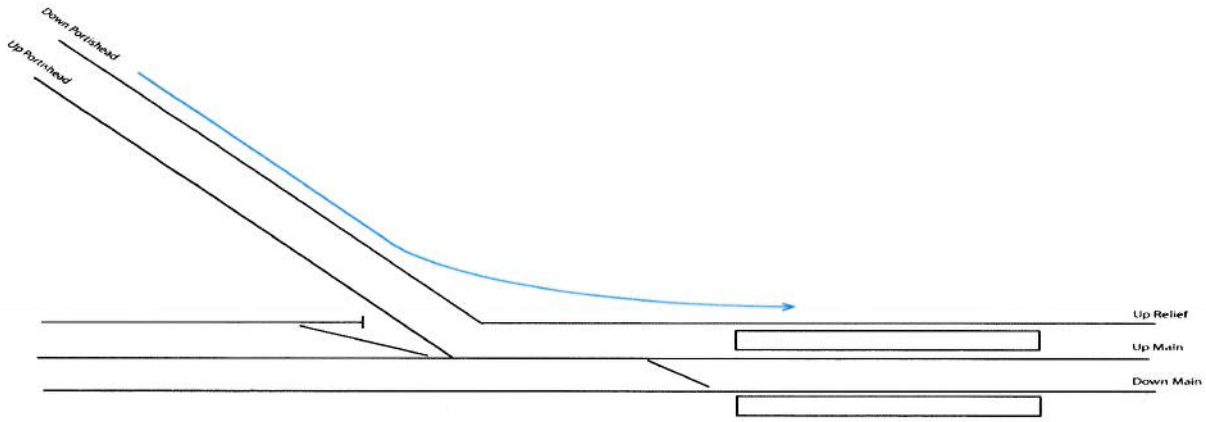
The conflict is marked and labelled on the diagram overleaf, and demonstrates that the passenger and freight service specification is not achievable without an additional signal.

Doubling of Parson St junction

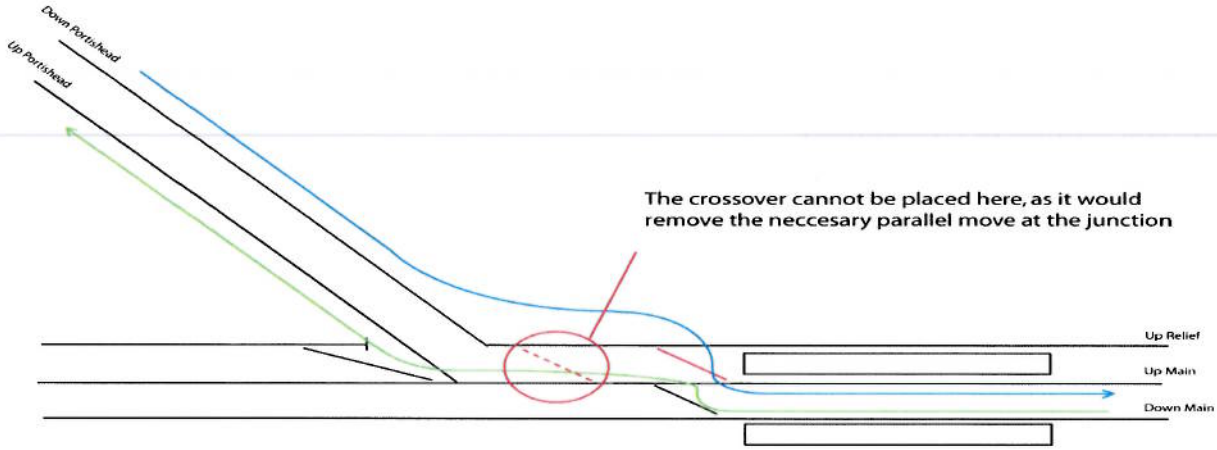
The work conducted has also demonstrated the need to provide a double junction at Parson Street Jn. This will allow a parallel move for services entering and exiting the Portishead branch, which is essential for achieving a regular pattern of MetroWest services.



The diagram above shows a train graph where services cross at Parson Street Jn, making use of a double junction. The yellow box shows the line occupation of a down Portishead train. The marked blue line is an up Portishead Metro service in a parallel move with the down Portishead train. If it were to remain a single lead junction, these services would conflict. It would then be necessary to retime at least one of these trains, which would result in an uneven calling pattern for these Portishead services.



It should be noted that on the layout provided a service leaving the Portishead line must run on the up relief line through Parsons Street.



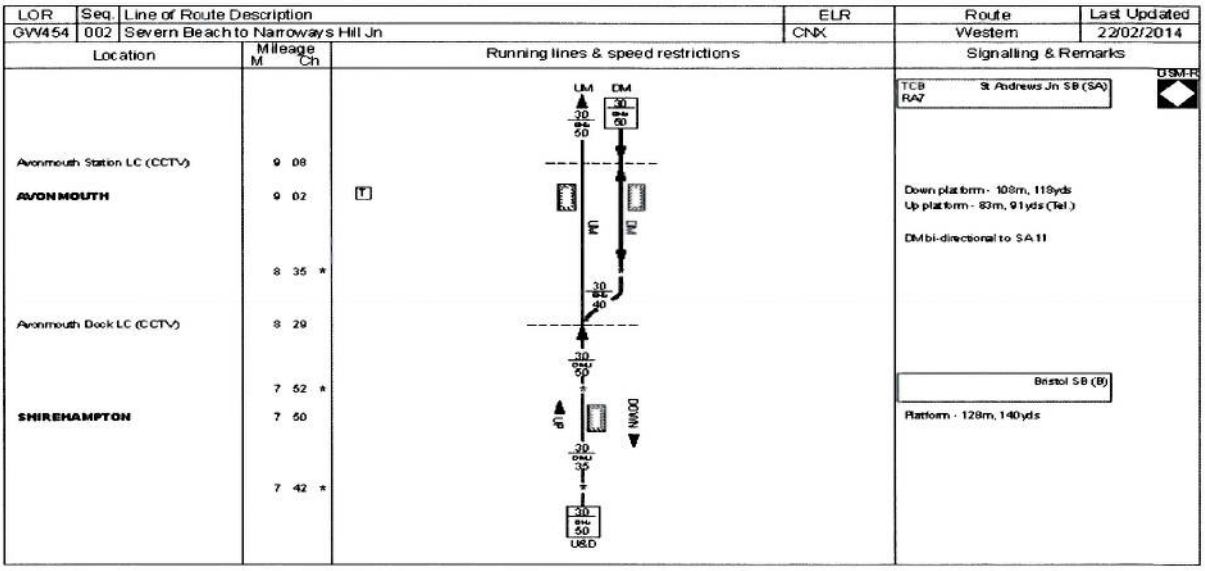
If the layout enabled services to diverge to the Up Main as shown above (whilst maintaining a parallel move with an Up Portishead service) it would provide greater timetable and operational flexibility for both freight and passenger services. This in turn mitigates the performance risk of perturbed services.

Signalling enhancements at Avonmouth (6b) or North of Avonmouth (5b)

At present the capability of Avonmouth station is:

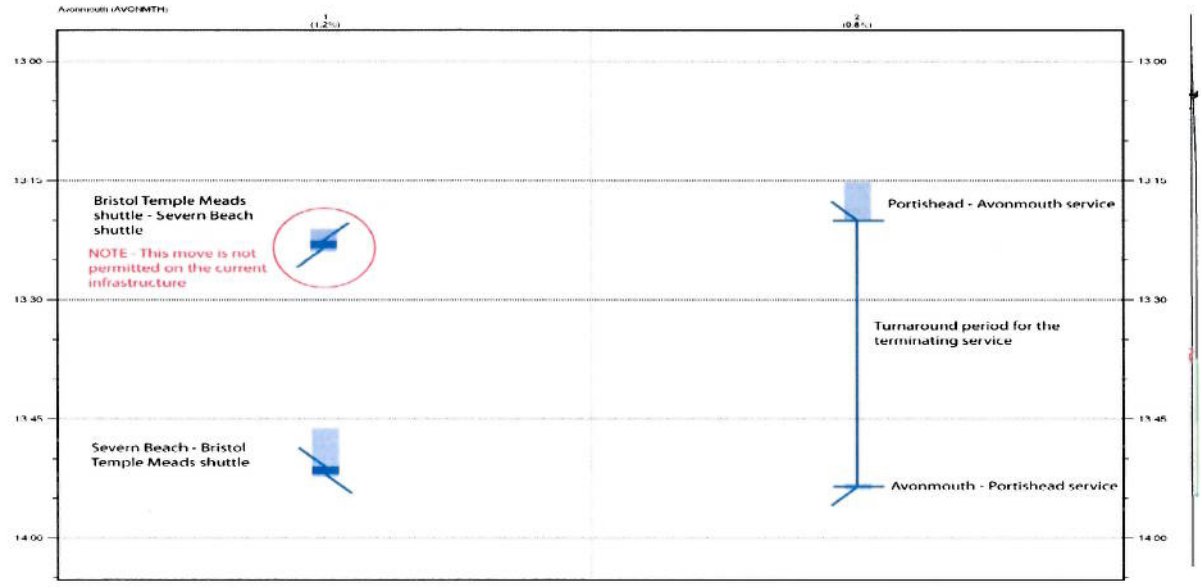
- 1 up Severn Beach line
- 1 bi-directional line/Down Severn beach line

This is shown in the diagram below.



This situation does not allow for a Down Severn Beach service to pass a train that is turning around at Avonmouth.

This diagram shows a platform graph of Avonmouth station. The blue markers represent the MetroWest services. It demonstrates that it is necessary to permit bi-directional running on the up Severn Beach line, in order to achieve a uniform service pattern in Option 6b.



A further advantage of two bidirectional lines is that it allows better access for passengers to Avonmouth station, as it would be possible to depart all up Bristol

services from platform 2. This means that it would not be necessary to cross the level crossing to board the train. This would require extra unit miles to achieve, but would not affect unit numbers.

Given the construction of the timetable, Option 5b timetable does not require the services to cross at Avonmouth, which removes the immediate requirement for signalling enhancements at this location. However, Option 5b has a long service dwell at Severn Beach, which blocks the ability of freight services to enter and leave the LPG freight terminal for a significant proportion of the hour. Here signalling enhancements north of Avonmouth would enable these moves to be performed independently.

It is recommended that the potential for signalling enhancements at either Avonmouth or north of Avonmouth are explored in order to make the best use of capacity for freight and passenger services in this area.

Commentary on Bristol East jn

As stated in the assumptions, these timetable scenarios have been developed using the current Bristol East Jn. Should Bristol East Junction be enhanced (assumed as per option version 5.4.2), the improved layout would allow:

- More efficient usage of Bristol Temple Meads platform capacity
- Potential journey time, service regularity benefits
- Improved performance of the MetroWest scheme and in the wider Bristol area

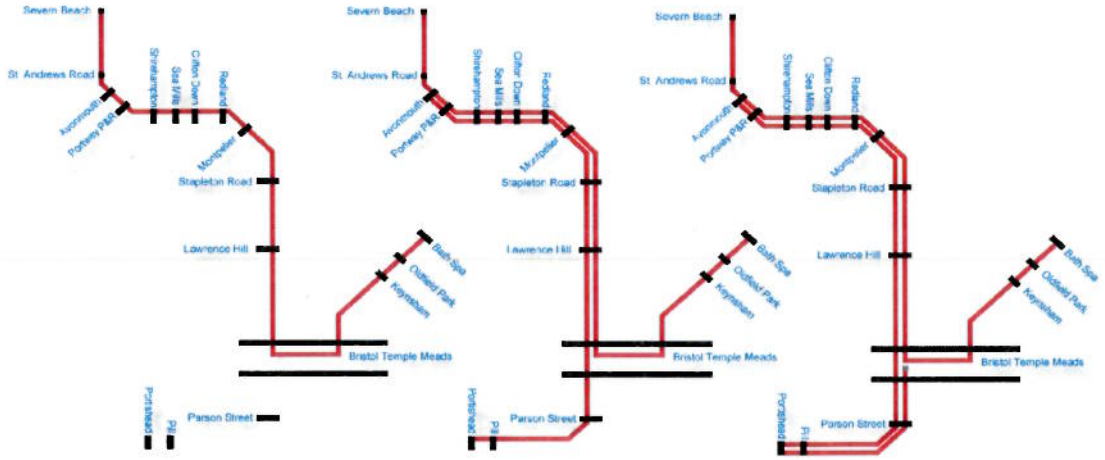
Commentary on rolling stock

All the timetabling work conducted for this report has assumed Class 150 rolling stock for the MetroWest trains. All SRTs, whether previously available or calculated, are for Class 150. There is a proposal to make Class 165 units available for use as MetroWest services. Given the superior acceleration/braking characteristics of Class 165s, this work is valid in both cases.

Timetable comparisons

Given the connective nature of the MetroWest service specification, the development of both scenarios has been a process of 'fixing' a MetroWest service on one route and cascading the broad effect of this to the rest of the area. An example of how this has been achieved is shown overleaf:

Option 5b

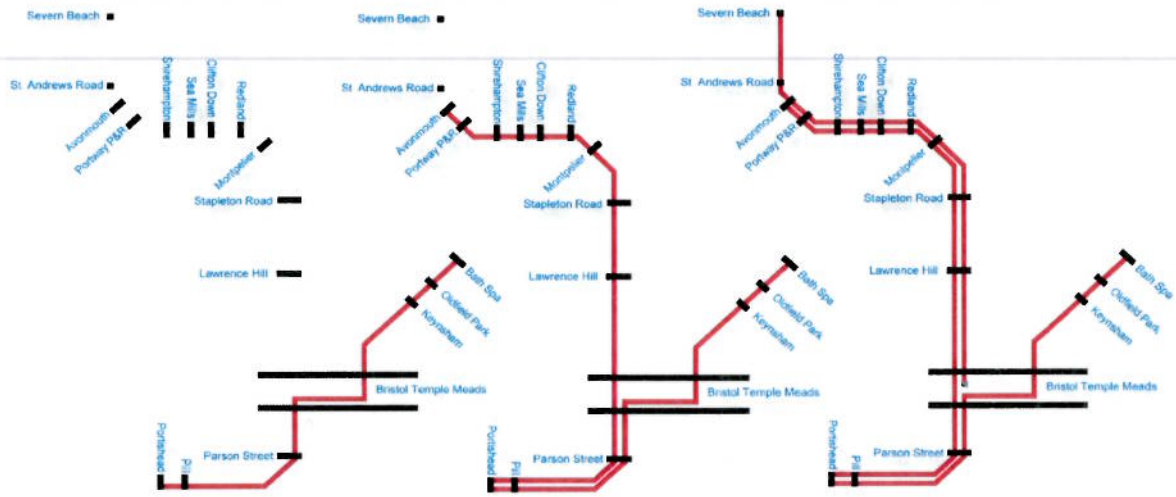


1. Bath - Severn Beach service fixed in both directions, in order to create an even pattern for interim Bath corridor stations

2. Avonmouth - Portishead services can now be fixed in both directions, to ensure an even pattern.

3. Portishead shuttle services can now be added in both directions. The available paths result in the segregation of service groups

Option 6b



1. Bath - Portishead service fixed in both directions, in order to create an even pattern for interim Bath corridor stations

2. Avonmouth - Portishead services can now be fixed in both directions, to ensure an even pattern. Due to the journey time disparity between the Portishead and Severn beach branches, this is necessarily in the opposing half hour from its counterpart in Option 5b

3. Severn beach shuttle services can now be fixed in both directions. Again, to ensure an even pattern, the available paths result in the requirement for service interworking

Furthermore, the different service specifications have resulted in the direction interaction of different services in both cases. This drives a requirement to manipulate the paths in different ways, in order to achieve a balanced timetable.

These two factors have resulted in a number of differences between the two scenarios, which are detailed below:

Portbury dock freight traffic

The proposed reinstatement of passenger services to the Portishead line results in the need to examine the capability of this route to accommodate mixed traffic. The

capacity for one standard path freight train per hour in each direction has been assumed, as agreed with Peter Willey, Senior Freight Manager for Network Rail (Western route).

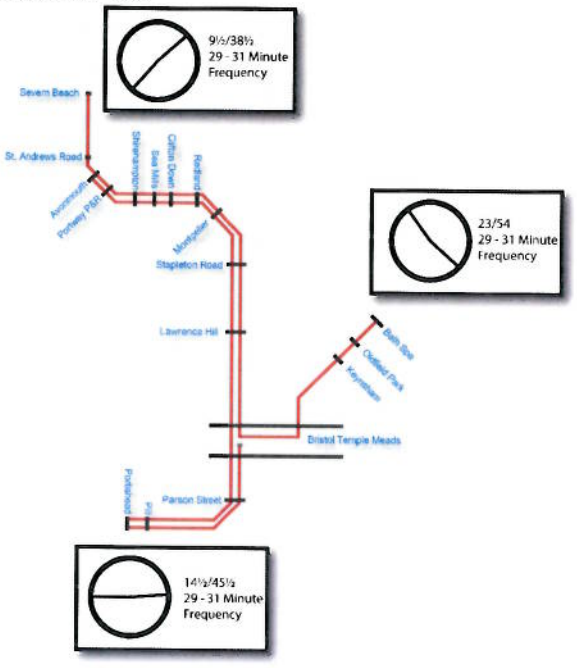
It is possible to accommodate this assumption with both MetroWest scenarios. Both options would require any regulation of freight services to take place away from the Portishead line (assumed to take place either within the Port itself or on both the up and down through lines at Bristol Temple Meads or in the wider area).

It should be noted we have calculated new preliminary SRTs (Sectional running times) for the freight services based on the TRTs (theoretical running times) produced by Railsys. Network Rail Operational Planning 'own' the SRTs and as such the update and/or acceptance of these calculated SRTs for both freight and passenger services, will be required at a later GRIP stage.

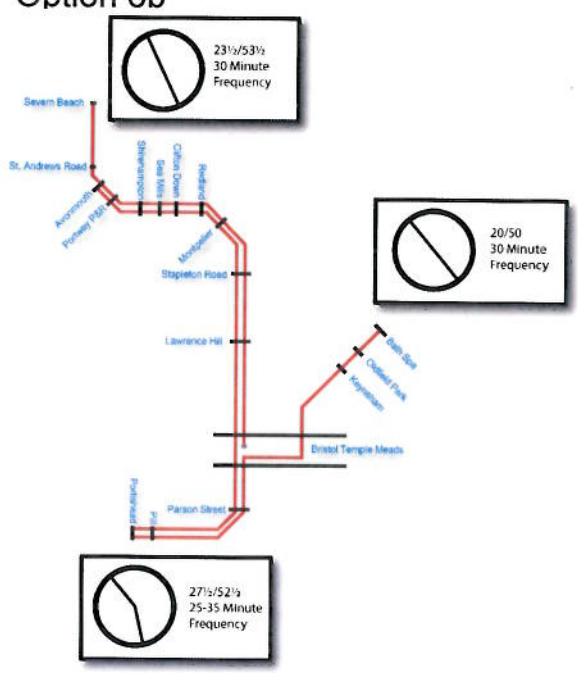
Regularity of pattern

It has been possible to manipulate both timetables to achieve an acceptable clockface pattern on departures from origin stations to Bristol Temple Meads, as shown below

Option 5b



Option 6b



Unit usage

In order to achieve an economy of units whilst fitting within the structure of other services in the area, the requirements of the two service specifications drive different operational strategies. This is due to the fixed nature of each specification scenario and journey time difference on all branches.

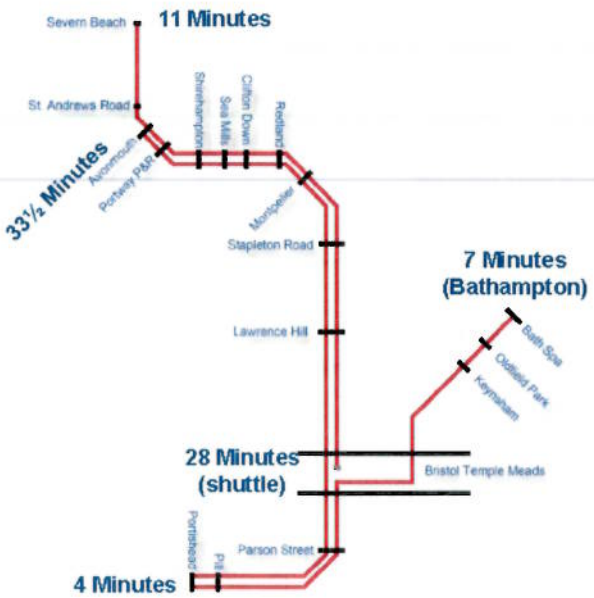
Turnaround time at outer locations

The fixed nature of these timetables has resulted in the following turnaround times.

Option 5b



Option 6b



It should be noted that, given the segregation of services in option 5b, the short turnarounds at both Avonmouth and Portishead are a critical factor in terms of unit numbers.

The above diagram also shows the length of the turnarounds at Severn Beach and Avonmouth are inverted in both options. This drives the necessary signalling intervention at Avonmouth, as discussed in the 'Signalling enhancements at Avonmouth (6b) or North of Avonmouth (5b)' section above.

Journey times

Option 5b

	To Bristol	From Bristol
Bath Spa	17	16.5
Avonmouth	33/31	26/26½
Portishead	17½/18½	16½/16½

Option 6b

	To Bristol	From Bristol
Bath Spa	17	16.5
Avonmouth	30/35½	25½/27½
Portishead	17/15½	16½/16½

The journey times overleaf have been calculated. The differences between the two scenarios are again due to the formation of uniform timetables around the surrounding services.

Unit numbers

These two scenarios, operated in different ways, have resulted in the following minimum unit numbers:

	Option 5b	*Option 6b*
Required unit numbers	6	6

These unit numbers are intrinsically linked to the journey, dwell and turnaround times of all MetroWest services and as a result are only indicative of the theoretical minimum number of units needed to timetable the proposed service levels. Due to the (relatively) short turnarounds and dwell times at Temple Meads it can be deduced that both scenarios involve using six units extremely efficiently, which may not be achievable in the course of normal operations. Furthermore, because recovery opportunities are limited in both scenarios, there are performance risks with minimum unit number operation.

The table below demonstrates the operational risks of operating this. It shows the estimated efficiency of the units on the various routes. In this case the estimated efficiency is calculated as the percentage of time the units are in use plus minimum turnaround allowances.

		Unit Efficiency	
	Service Pattern	**6 total units**	**7 total units**
Option 5b	Portishead – Avonmouth	94.2%	62.8%
	Severn Beach – Bath Spa	77.2%	57.9%
	Portishead – Temple Meads	75.8%	37.9%
Option 6b	Bath Spa – Portishead - Avonmouth	86.5%	69.2%
	Severn Beach – Temple Meads	70.8%	47.2%

As can be seen, the addition of another unit on any route results in significantly lower unit efficiency. This would mitigate the performance risk of perturbed services on that route. It should be noted that this is an indicative measure, as the feasibility of interworking an additional ECS move into the timetable, particularly on the single line sections, would need to be explored.

The differences in interworking of services between the two options mean that there are different performance implications. In Option 5b, which is segregated by service, any primary delay will likely be similarly segregated. This will be of particular importance on the Avonmouth – Portishead route, as there are short turnarounds at both ends. Conversely, any delay experienced by the metro services in Option 6b will potentially spread across the connected service groups. This is potentially mitigated by the longer turnaround at Avonmouth, which will provide recovery time for delayed services.

Robustness – Unit usage

The impact of the structure of the timetable on performance can be deduced from these two scenarios. The fact that the connectivity of units vary between scenarios demonstrates that the decision on service specification will have performance, capability and timetable implications. Factors that may mitigate these risks are:

- Enhanced Bristol East Jn – To allow greater flexibility to the timetable, potential recovery opportunities and journey time benefits.
- Further timetable development which will take place as the proposals progress through the GRIP stages, in particular with regards to other services in the area. This will provide a more accurate view on how the timetable will be formed in the future. Better integration of MetroWest services into the timetable will reduce the performance risks.

- The use of Class 165 units would potentially provide some performance benefits, however this cannot be quantified with the present analysis.

4. CONCLUSIONS & RECOMMENDATIONS

The following infrastructure interventions are necessary to deliver the required MetroWest service level in both scenarios:

- Parson Street Junction doubling
- Intermediate signal on the Portishead branch
- Signalling adjustments, at Avonmouth for Option 6b and north of Avonmouth of Option 5b
- Bathampton turnback siding

The enhancement of Bristol East Jn is desirable for the development of this project, due to the increased number of moves across Bristol Temple Meads Eastern throat under MetroWest. Delivery of this scheme would have performance, timetabling and operational benefits for both the MetroWest project and the wider Bristol area.

The nature of the service level in the wider Bristol area and the required connectivity of the MetroWest service drive whether the services are segregated by route or interconnected. Both options have potential performance benefits and drawbacks.

It is recommended that the ability of the project to procure Class 165 units for MetroWest services be explored as thoroughly as possible. Whilst it is not anticipated that this rolling stock will provide journey time benefits, it has the potential to mitigate performance risk inherent in the scheme.

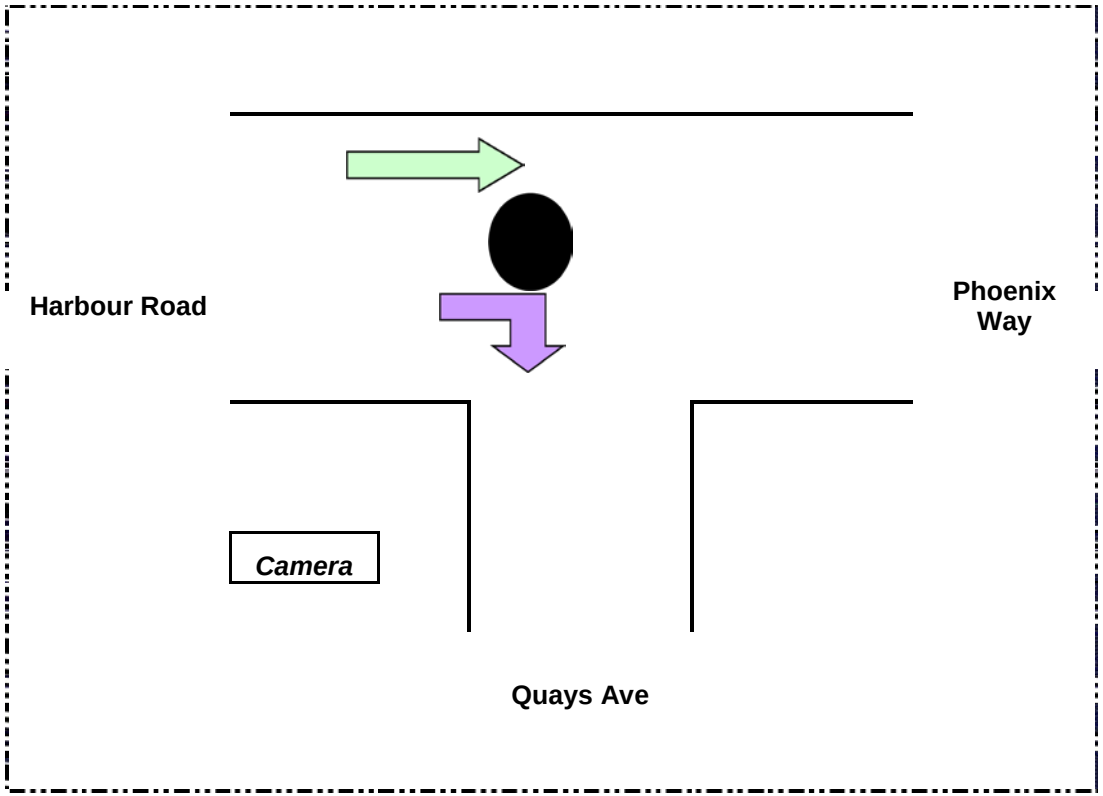
Further timetable development is recommended as the project progresses through the GRIP stages in order to continue to ensure that the required outputs can be delivered in a timetable context.

APPENDIX A. SERVICE SPECIFICATION

Core Timetable Train Service Specification				
Ref.	**Origin**	**Destination**	**Calling Pattern**	**Timing Load**
IE1	London Paddington	Taunton / Weston-Super-Mare	Bristol Parkway, Nailsea & Backwell, Yatton, (Western Milton or Worle), Highbridge & Burnham, Bridgewater	2x5-car Class 800 5-car Class 800
IE2	London Paddington	Bristol Temple Meads	Bristol Parkway	2x5-car Class 800 5-car Class 800
IE3	London Paddington	Bristol Temple Meads	Reading, Didcot Parkway, Swindon, Chippenham, Bath Spa	9-car Class 801
IE4	London Paddington	Bristol Temple Meads	Reading, Didcot Parkway, Swindon, Chippenham, Bath Spa	9-car Class 801
IE5	London Paddington	Carmarthen / Swansea	Didcot Parkway, Bristol Parkway, Newport, Cardiff Central, Bridgend, Port Talbot Parkway, Neath	9-car Class 801
IE6	London Paddington	Swansea / Cardiff Central	Reading, Swindon, Bristol Parkway, Newport, Cardiff Central, Bridgend, Port Talbot Parkway, Neath	9-car Class 801
XC1	Newcastle (North)	Plymouth (South-West)	...Bham, Cheltenham, Bristol Parkway, Bristol Temple Meads, Taunton...	5-car Class 221
XC2	Manchester Piccadilly (North)	Bristol Temple Meads / Paignton (South-West)	...Bham, Cheltenham, Bristol Parkway, Bristol Temple Meads, Western-Super-Mare	5-car Class 221

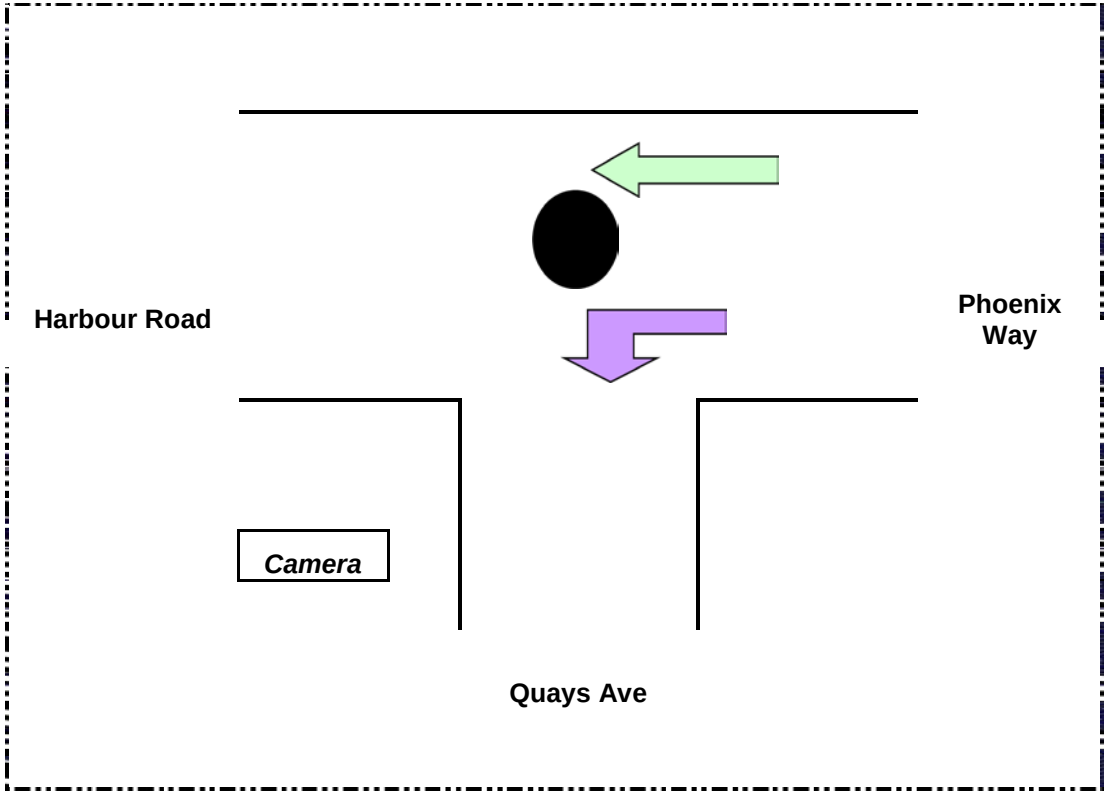
Core Timetable Train Service Specification				
Ref.	**Origin**	**Destination**	**Calling Pattern**	**Timing Load**
			(1tpD), Taunton...	
LOC1	London Waterloo	Bristol Temple Meads	...Bath Spa, Keynsham **(4tpd)**	3-car Class 159
LOC2	Portsmouth Harbour	Cardiff Central	...Bradford-on-Avon, Bath Spa, Bristol Temple Meads, Filton Abbey Wood, Newport	3-car Class 158
LOC3a	Taunton / Weston-Super-Mare	Cardiff Central / Yate/Gloucester*	...Nailsea & Backwell, Bristol Temple Meads, Filton Abbey Wood, Patchway, Severn Tunnel Jn, Newport, Cardiff Central, Filton Abbey Wood, Patchway	2-car Class 150
LOC3b	Weston-Super-Mare	Cardiff Central / Bristol Parkway*	...Nailsea & Backwell, Parson Street, Bedminster, Bristol Temple Meads, Filton Abbey Wood, Patchway...	3-car Class 158
LOC4a	Westbury (South)	Gloucester	...Bradford-on-Avon, Avon Cliff, Freshford, Bath Spa, Oldfield Park, Keynsham, Bristol Temple Meads, Filton Abbey Wood, Bristol Parkway, Yate...**(0.5tph)**	3-car Class 158
LOC4b	Westbury (South)	Great Malvern	...Bradford-on-Avon, Avoncliff, Freshford, Bath Spa, Oldfield Park, Keynsham,Bristol Temple Meads, Filton Abbey Wood, Bristol Parkway, Yate... **(0.5tph)**	3-car Class 158

Core Timetable Train Service Specification				
Ref.	**Origin**	**Destination**	**Calling Pattern**	**Timing Load**
BM1	Severn Beach	Bristol Temple Meads^	All Stations	4-car Class 150
BM2	Avonmouth	Bristol Temple Meads^	All Stations	4-car Class 150
BM3	Bath Spa	Bristol Temple Meads^	All Stations	4-car Class 150
BM4	Portishead	Bristol Temple Meads^	Pill Only	4-car Class 150
BM5	Portishead	Bristol Temple Meads^	Pill Only	4-car Class 150
FR1	Portbury	Severn Tunnel Jn	1tph each way off peak 1tph one way peak	Class 6 GLW:2000tn from Portbury Class 4 TARE to Portbury



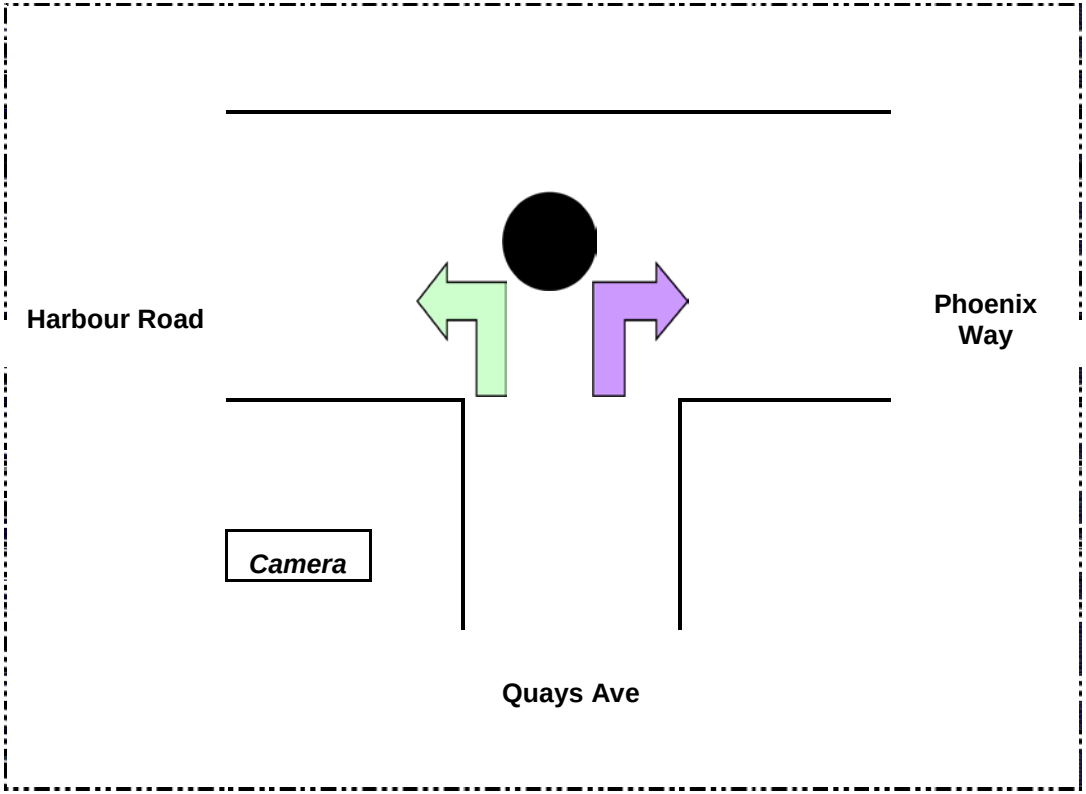
	Straight On						Right						From Harbour Road							To Harbour Road						
TIME	CAR	LGV	HGV	BUS	MCL	PCL	CAR	LGV	HGV	BUS	MCL	PCL	CAR	LGV	HGV	BUS	MCL	PCL		CAR	LGV	HGV	BUS	MCL	PCL	
07:00	3	0	0	0	0	1	57	10	1	0	0	1	60	10	1	0	0	2	73	25	12	1	0	0	0	38
07:15	2	1	0	0	0	3	59	6	1	0	0	0	61	7	1	0	0	3	72	41	9	1	0	1	1	53
07:30	10	0	0	0	0	0	50	8	0	0	1	0	60	8	0	0	1	0	69	87	9	3	0	1	4	104
07:45	12	2	0	0	0	1	43	8	1	0	1	1	55	10	1	0	1	2	69	94	10	0	0	1	3	108
Hr/Total	**27**	**3**	**0**	**0**	**0**	**5**	**209**	**32**	**3**	**0**	**2**	**2**	**236**	**35**	**3**	**0**	**2**	**7**	**283**	**247**	**40**	**5**	**0**	**3**	**8**	**303**

08:00	16	1	0	0	0	0	49	3	2	1	0	2	65	4	2	1	0	2	74	115	12	2	0	0	3	132
08:15	13	0	0	0	0	0	46	3	1	0	0	1	59	3	1	0	0	1	64	148	15	0	0	0	3	166
08:30	19	4	0	0	0	0	38	7	1	1	1	0	57	11	1	1	1	0	71	150	9	1	0	1	6	**167**
08:45	27	1	0	0	0	4	66	7	0	0	0	1	93	8	0	0	0	5	**106**	142	7	1	0	0	4	154
Hr/Total	**75**	**6**	**0**	**0**	**0**	**4**	**199**	**20**	**4**	**2**	**1**	**4**	**274**	**26**	**4**	**2**	**1**	**8**	**315**	**555**	**43**	**4**	**0**	**1**	**16**	**619**
09:00	11	2	0	0	0	1	57	4	1	0	0	0	68	6	1	0	0	1	76	85	7	2	0	0	4	98
09:15	12	2	0	0	0	0	59	8	0	1	0	0	71	10	0	1	0	0	82	79	6	0	0	0	0	85
09:30	12	1	0	0	0	0	43	5	1	0	0	0	55	6	1	0	0	0	62	57	5	1	0	0	1	64
09:45	13	0	0	0	0	0	29	5	2	0	0	1	42	5	2	0	0	1	50	48	5	0	0	0	0	53
Hr/Total	**48**	**5**	**0**	**0**	**0**	**1**	**188**	**22**	**4**	**1**	**0**	**1**	**236**	**27**	**4**	**1**	**0**	**2**	**270**	**269**	**23**	**3**	**0**	**0**	**5**	**300**
15:00	25	1	0	0	0	0	53	10	0	0	0	1	78	11	0	0	0	1	90	83	14	1	0	0	1	99
15:15	13	2	0	0	0	4	52	12	1	0	0	0	65	14	1	0	0	4	84	91	7	0	0	0	1	99
15:30	30	1	0	0	0	7	50	8	1	0	0	2	80	9	1	0	0	9	99	83	3	1	0	1	1	89
15:45	24	2	0	0	0	1	60	7	0	0	0	2	84	9	0	0	0	3	96	107	12	1	0	1	1	122
Hr/Total	**92**	**6**	**0**	**0**	**0**	**12**	**215**	**37**	**2**	**0**	**0**	**5**	**307**	**43**	**2**	**0**	**0**	**17**	**369**	**364**	**36**	**3**	**0**	**2**	**4**	**409**
16:00	28	4	0	0	0	2	64	12	2	0	0	2	92	16	2	0	0	4	114	68	13	0	0	0	2	83
16:15	16	0	0	0	1	1	37	12	0	0	1	0	53	12	0	0	2	1	68	75	13	1	0	2	6	97
16:30	34	1	0	0	2	0	65	12	0	0	1	2	99	13	0	0	3	2	117	96	7	0	1	3	1	108
16:45	25	1	0	0	0	0	46	14	0	0	0	1	71	15	0	0	0	1	87	131	2	0	0	1	1	135
Hr/Total	**103**	**6**	**0**	**0**	**3**	**3**	**212**	**50**	**2**	**0**	**2**	**5**	**315**	**56**	**2**	**0**	**5**	**8**	**386**	**370**	**35**	**1**	**1**	**6**	**10**	**423**
17:00	38	1	0	0	1	2	113	4	2	0	0	4	151	5	2	0	1	6	**165**	100	7	0	0	1	5	113
17:15	30	1	0	0	1	4	77	5	0	0	0	1	107	6	0	0	1	5	119	92	7	1	0	0	6	106
17:30	32	1	0	0	0	2	82	6	0	0	2	1	114	7	0	0	2	3	126	131	3	0	1	1	3	139
17:45	39	1	0	0	0	3	50	4	1	0	0	1	89	5	1	0	0	4	99	133	7	0	1	3	6	**150**
Hr/Total	**139**	**4**	**0**	**0**	**2**	**11**	**322**	**19**	**3**	**0**	**2**	**7**	**461**	**23**	**3**	**0**	**4**	**18**	**509**	**456**	**24**	**1**	**2**	**5**	**20**	**508**
18:00	44	0	0	0	0	3	67	2	0	0	0	0	111	2	0	0	0	3	116	105	6	1	0	1	3	116
18:15	42	0	0	0	1	3	49	4	0	0	0	0	91	4	0	0	1	3	99	122	4	0	0	1	4	131
18:30	32	1	0	0	0	0	38	3	0	0	0	1	70	4	0	0	0	1	75	121	3	0	0	0	0	124
18:45	33	0	0	0	0	2	38	0	0	0	0	1	71	0	0	0	0	3	74	103	6	0	0	2	6	117
Hr/Total	**151**	**1**	**0**	**0**	**1**	**8**	**192**	**9**	**0**	**0**	**0**	**2**	**343**	**10**	**0**	**0**	**1**	**10**	**364**	**451**	**19**	**1**	**0**	**4**	**13**	**488**



	Straight On						Left						From Phoenix Way							To Phoenix Way						
TIME	CAR	LGV	HGV	BUS	MCL	PCL	CAR	LGV	HGV	BUS	MCL	PCL	CAR	LGV	HGV	BUS	MCL	PCL		CAR	LGV	HGV	BUS	MCL	PCL	
07:00	9	1	0	0	0	0	84	6	0	0	0	0	93	7	0	0	0	0	100	9	2	0	1	0	1	13
07:15	21	4	0	0	0	0	88	8	1	1	1	1	109	12	1	1	1	1	125	11	6	1	0	0	3	21
07:30	44	0	1	0	0	1	120	13	0	0	0	0	164	13	1	0	0	1	**179**	26	3	0	1	0	0	30
07:45	47	1	0	0	0	1	82	10	0	1	2	0	129	11	0	1	2	1	144	22	4	0	0	0	1	27
Hr/Total	**121**	**6**	**1**	**0**	**0**	**2**	**374**	**37**	**1**	**2**	**3**	**1**	**495**	**43**	**2**	**2**	**3**	**3**	**548**	**68**	**15**	**1**	**2**	**0**	**5**	**91**

08:00	67	3	0	0	0	3	94	7	0	0	0	2	161	10	0	0	0	5	176	37	4	0	0	0	0	41
08:15	71	3	0	0	0	1	88	4	0	1	0	2	159	7	0	1	0	3	170	32	4	0	1	0	0	37
08:30	63	2	0	0	0	4	79	6	0	0	0	1	142	8	0	0	0	5	155	52	7	0	0	0	0	**59**
08:45	28	1	0	0	0	2	74	3	0	1	0	2	102	4	0	1	0	4	111	44	4	0	1	1	4	54
Hr/Total	**229**	**9**	**0**	**0**	**0**	**10**	**335**	**20**	**0**	**2**	**0**	**7**	**564**	**29**	**0**	**2**	**0**	**17**	**612**	**165**	**19**	**0**	**2**	**1**	**4**	**191**
09:00	23	0	0	0	0	1	50	5	0	0	1	1	73	5	0	0	1	2	81	44	5	0	0	0	1	50
09:15	16	0	0	0	0	0	52	0	1	0	1	1	68	0	1	0	1	1	71	34	5	0	1	0	0	40
09:30	9	0	0	0	0	0	24	3	0	1	0	0	33	3	0	1	0	0	37	26	6	0	0	0	0	32
09:45	14	2	0	0	0	0	26	6	0	0	0	0	40	8	0	0	0	0	48	26	5	0	1	0	0	32
Hr/Total	**62**	**2**	**0**	**0**	**0**	**1**	**152**	**14**	**1**	**1**	**2**	**2**	**214**	**16**	**1**	**1**	**2**	**3**	**237**	**130**	**21**	**0**	**2**	**0**	**1**	**154**
15:00	23	0	0	0	0	1	25	4	0	0	0	0	48	4	0	0	0	1	53	72	5	1	0	0	0	78
15:15	24	1	0	0	0	1	24	2	0	0	1	0	48	3	0	0	1	1	53	61	10	0	1	2	4	78
15:30	22	0	0	0	1	1	42	2	1	1	0	0	64	2	1	1	1	1	70	83	5	1	0	0	7	96
15:45	24	2	0	0	0	1	22	5	0	0	0	0	46	7	0	0	0	1	54	71	5	0	1	1	1	79
Hr/Total	**93**	**3**	**0**	**0**	**1**	**4**	**113**	**13**	**1**	**1**	**1**	**0**	**206**	**16**	**1**	**1**	**2**	**4**	**230**	**287**	**25**	**2**	**2**	**3**	**12**	**331**
16:00	14	0	0	0	0	1	35	3	1	1	0	0	49	3	1	1	0	1	55	77	14	0	0	0	3	94
16:15	18	4	0	0	0	2	32	2	0	0	0	0	50	6	0	0	0	2	58	69	6	0	1	3	1	80
16:30	19	0	0	0	0	1	35	4	0	1	3	0	54	4	0	1	3	1	63	92	5	0	0	2	0	99
16:45	32	0	0	0	0	1	27	2	0	0	1	0	59	2	0	0	1	1	63	111	12	0	1	3	0	127
Hr/Total	**83**	**4**	**0**	**0**	**0**	**5**	**129**	**11**	**1**	**2**	**4**	**0**	**212**	**15**	**1**	**2**	**4**	**5**	**239**	**349**	**37**	**0**	**2**	**8**	**4**	**400**
17:00	16	1	0	0	0	5	26	4	0	1	0	0	42	5	0	1	0	5	53	117	7	0	0	1	2	127
17:15	18	0	0	0	0	3	32	3	0	0	0	0	50	3	0	0	0	3	56	120	8	0	1	2	5	136
17:30	29	1	0	0	1	1	36	2	0	1	1	0	65	3	0	1	2	1	72	115	9	0	0	2	2	128
17:45	37	1	0	0	1	4	31	3	0	0	0	0	68	4	0	0	1	4	77	145	7	0	0	1	4	**157**
Hr/Total	**100**	**3**	**0**	**0**	**2**	**13**	**125**	**12**	**0**	**2**	**1**	**0**	**225**	**15**	**0**	**2**	**3**	**13**	**258**	**497**	**31**	**0**	**1**	**6**	**13**	**548**
18:00	15	0	0	0	0	0	44	2	0	1	0	0	59	2	0	1	0	0	62	144	3	0	1	1	5	154
18:15	33	1	0	0	0	2	50	2	0	0	0	0	83	3	0	0	0	2	**88**	131	3	0	0	3	3	140
18:30	24	2	0	0	0	0	30	3	0	0	2	0	54	5	0	0	2	0	61	130	5	0	1	1	1	138
18:45	29	2	0	0	0	1	52	3	0	1	0	0	81	5	0	1	0	1	**88**	107	2	0	1	0	2	112
Hr/Total	**101**	**5**	**0**	**0**	**0**	**3**	**176**	**10**	**0**	**2**	**2**	**0**	**277**	**15**	**0**	**2**	**2**	**3**	**299**	**512**	**13**	**0**	**3**	**5**	**11**	**544**



	Left						Right						From Quays Ave							To Quays Ave						
TIME	CAR	LGV	HGV	BUS	MCL	PCL	CAR	LGV	HGV	BUS	MCL	PCL	CAR	LGV	HGV	BUS	MCL	PCL		CAR	LGV	HGV	BUS	MCL	PCL	
07:00	16	11	1	0	0	0	6	2	0	1	0	0	22	13	1	1	0	0	37	141	16	1	0	0	1	159
07:15	20	5	1	0	1	1	9	5	1	0	0	0	29	10	2	0	1	1	43	147	14	2	1	1	1	166
07:30	43	9	2	0	1	3	16	3	0	1	0	0	59	12	2	1	1	3	78	170	21	0	0	1	0	**192**
07:45	47	9	0	0	1	2	10	2	0	0	0	0	57	11	0	0	1	2	71	125	18	1	1	3	1	149
Hr/Total	**126**	**34**	**4**	**0**	**3**	**6**	**41**	**12**	**1**	**2**	**0**	**0**	**167**	**46**	**5**	**2**	**3**	**6**	**229**	**583**	**69**	**4**	**2**	**5**	**3**	**666**

08:00	48	9	2	0	0	0	21	3	0	0	0	0	69	12	2	0	0	0	83	143	10	2	1	0	4	160
08:15	77	12	0	0	0	2	19	4	0	1	0	0	96	16	0	1	0	2	115	134	7	1	1	0	3	146
08:30	87	7	1	0	1	2	33	3	0	0	0	0	120	10	1	0	1	2	134	117	13	1	1	1	1	134
08:45	114	6	1	0	0	2	17	3	0	1	1	0	131	9	1	1	1	2	**145**	140	10	0	1	0	3	154
Hr/Total	**326**	**34**	**4**	**0**	**1**	**6**	**90**	**13**	**0**	**2**	**1**	**0**	**416**	**47**	**4**	**2**	**2**	**6**	**477**	**534**	**40**	**4**	**4**	**1**	**11**	**594**
09:00	62	7	2	0	0	3	33	3	0	0	0	0	95	10	2	0	0	3	110	107	9	1	0	1	1	119
09:15	63	6	0	0	0	0	22	3	0	1	0	0	85	9	0	1	0	0	95	111	8	1	1	1	1	123
09:30	48	5	1	0	0	1	14	5	0	0	0	0	62	10	1	0	0	1	74	67	8	1	1	0	0	77
09:45	34	3	0	0	0	0	13	5	0	1	0	0	47	8	0	1	0	0	56	55	11	2	0	0	1	69
Hr/Total	**207**	**21**	**3**	**0**	**0**	**4**	**82**	**16**	**0**	**2**	**0**	**0**	**289**	**37**	**3**	**2**	**0**	**4**	**335**	**340**	**36**	**5**	**2**	**2**	**3**	**388**
15:00	60	14	1	0	0	0	47	4	1	0	0	0	107	18	2	0	0	0	127	78	14	0	0	0	1	93
15:15	67	6	0	0	0	0	48	8	0	1	2	0	115	14	0	1	2	0	132	76	14	1	0	1	0	92
15:30	61	3	1	0	0	0	53	4	1	0	0	0	114	7	2	0	0	0	123	92	10	2	1	0	2	107
15:45	83	10	1	0	1	0	47	3	0	1	1	0	130	13	1	1	2	0	147	82	12	0	0	0	2	96
Hr/Total	**271**	**33**	**3**	**0**	**1**	**0**	**195**	**19**	**2**	**2**	**3**	**0**	**466**	**52**	**5**	**2**	**4**	**0**	**529**	**328**	**50**	**3**	**1**	**1**	**5**	**388**
16:00	54	13	0	0	0	1	49	10	0	0	0	1	103	23	0	0	0	2	128	99	15	3	1	0	2	120
16:15	57	9	1	0	2	4	53	6	0	1	2	0	110	15	1	1	4	4	135	69	14	0	0	1	0	84
16:30	77	7	0	1	3	0	58	4	0	0	0	0	135	11	0	1	3	0	150	100	16	0	1	4	2	123
16:45	99	2	0	0	1	0	86	11	0	1	3	0	185	13	0	1	4	0	203	73	16	0	0	1	1	91
Hr/Total	**287**	**31**	**1**	**1**	**6**	**5**	**246**	**31**	**0**	**2**	**5**	**1**	**533**	**62**	**1**	**3**	**11**	**6**	**616**	**341**	**61**	**3**	**2**	**6**	**5**	**418**
17:00	84	6	0	0	1	0	79	6	0	0	0	0	163	12	0	0	1	0	176	139	8	2	1	0	4	**154**
17:15	74	7	1	0	0	3	90	7	0	1	1	1	164	14	1	1	1	4	185	109	8	0	0	0	1	118
17:30	102	2	0	1	0	2	83	8	0	0	2	0	185	10	0	1	2	2	200	118	8	0	1	3	1	131
17:45	96	6	0	1	2	2	106	6	0	0	1	1	202	12	0	1	3	3	**221**	81	7	1	0	0	1	90
Hr/Total	**356**	**21**	**1**	**2**	**3**	**7**	**358**	**27**	**0**	**1**	**4**	**2**	**714**	**48**	**1**	**3**	**7**	**9**	**782**	**447**	**31**	**3**	**2**	**3**	**7**	**493**
18:00	90	6	1	0	1	3	100	3	0	1	1	2	190	9	1	1	2	5	208	111	4	0	1	0	0	116
18:15	89	3	0	0	1	2	89	3	0	0	2	0	178	6	0	0	3	2	189	99	6	0	0	0	0	105
18:30	97	1	0	0	0	0	98	4	0	1	1	1	195	5	0	1	1	1	203	68	6	0	0	2	1	77
18:45	74	4	0	0	2	5	74	2	0	1	0	0	148	6	0	1	2	5	162	90	3	0	1	0	1	95
Hr/Total	**350**	**14**	**1**	**0**	**4**	**10**	**361**	**12**	**0**	**3**	**4**	**3**	**711**	**26**	**1**	**3**	**8**	**13**	**762**	**368**	**19**	**0**	**2**	**2**	**2**	**393**

Non Motorised Users Count on Quays Avenue

TIME	22/09/2014			23/09/2014			24/09/2014			Average for 3 days		
	PED	PCh	PCL	PED	PCh	PCL	PED	PCh	PCL	PED	PCh	PCL
06:00	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00
06:15	0	0	0	0	0	0	1	0	0	0.33	0.00	0.00
06:30	3	0	1	1	0	0	2	0	3	2.00	0.00	1.33
06:45	5	0	1	2	0	1	7	0	1	4.67	0.00	1.00
Hr/Total	**8**	**0**	**2**	**3**	**0**	**1**	**10**	**0**	**4**	**7.00**	**0.00**	**2.33**
07:00	1	0	0	1	0	2	4	0	2	2.00	0.00	1.33
07:15	1	0	2	3	0	1	1	0	2	1.67	0.00	1.67
07:30	3	0	6	2	0	6	3	0	4	2.67	0.00	5.33
07:45	8	0	3	12	0	4	9	0	1	9.67	0.00	2.67
Hr/Total	**13**	**0**	**11**	**18**	**0**	**13**	**17**	**0**	**9**	**16.00**	**0.00**	**11.00**
08:00	11	3	2	8	0	5	9	0	6	9.33	1.00	4.33
08:15	27	1	7	20	0	4	19	1	4	22.00	0.67	5.00
08:30	6	0	3	5	0	6	15	0	6	8.67	0.00	5.00
08:45	4	1	3	7	0	3	7	1	5	6.00	0.67	3.67
Hr/Total	**48**	**5**	**15**	**40**	**0**	**18**	**50**	**2**	**21**	**46.00**	**2.33**	**18.00**
09:00	6	0	3	8	1	4	5	0	3	6.33	0.33	3.33
09:15	6	0	3	4	1	0	8	1	3	6.00	0.67	2.00
09:30	7	1	2	5	1	1	6	2	1	6.00	1.33	1.33
09:45	4	1	2	2	0	1	7	0	0	4.33	0.33	1.00
Hr/Total	**23**	**2**	**10**	**19**	**3**	**6**	**26**	**3**	**7**	**22.67**	**2.67**	**7.67**
10:00	2	0	3	6	1	2	6	2	1	4.67	1.00	2.00
10:15	3	1	1	1	1	1	1	0	0	1.67	0.67	0.67
10:30	3	1	1	7	1	1	4	0	0	4.67	0.67	0.67
10:45	2	0	2	3	2	0	8	1	0	4.33	1.00	0.67
Hr/Total	**10**	**2**	**7**	**17**	**5**	**4**	**19**	**3**	**1**	**15.33**	**3.33**	**4.00**
11:00	3	1	1	4	1	1	5	1	0	4.00	1.00	0.67
11:15	5	3	1	3	0	1	3	1	3	3.67	1.33	1.67
11:30	1	0	1	1	0	2	5	0	1	2.33	0.00	1.33
11:45	2	0	3	5	1	0	1	0	1	2.67	0.33	1.33
Hr/Total	**11**	**4**	**6**	**13**	**2**	**4**	**14**	**2**	**5**	**12.67**	**2.67**	**5.00**
12:00	2	0	2	5	0	1	4	0	0	3.67	0.00	1.00
12:15	3	0	0	4	1	3	1	0	2	2.67	0.33	1.67
12:30	9	1	4	10	1	4	9	0	2	9.33	0.67	3.33
12:45	10	1	0	9	1	4	12	0	3	10.33	0.67	2.33
Hr/Total	**24**	**2**	**6**	**28**	**3**	**12**	**26**	**0**	**7**	**26.00**	**1.67**	**8.33**
13:00	9	0	0	8	2	1	8	0	4	8.33	0.67	1.67
13:15	14	0	2	13	1	2	12	0	3	13.00	0.33	2.33
13:30	2	0	1	11	1	2	4	0	2	5.67	0.33	1.67
13:45	3	1	1	5	1	1	7	2	2	5.00	1.33	1.33
Hr/Total	**28**	**1**	**4**	**37**	**5**	**6**	**31**	**2**	**11**	**32.00**	**2.67**	**7.00**
14:00	9	1	2	10	2	1	6	0	2	8.33	1.00	1.67
14:15	2	0	3	3	0	1	8	1	1	4.33	0.33	1.67
14:30	2	0	2	4	1	0	2	1	0	2.67	0.67	0.67
14:45	8	1	2	11	2	2	9	1	0	9.33	1.33	1.33
Hr/Total	**21**	**2**	**9**	**28**	**5**	**4**	**25**	**3**	**3**	**24.67**	**3.33**	**5.33**

15:00	7	2	2	3	1	3	5	2	3	5.00	1.67	2.67
15:15	4	0	7	2	0	4	6	0	1	4.00	0.00	4.00
15:30	17	5	7	14	1	3	23	0	8	18.00	2.00	6.00
15:45	13	0	5	12	0	0	11	0	1	12.00	0.00	2.00
Hr/Total	**41**	**7**	**21**	**31**	**2**	**10**	**45**	**2**	**13**	**39.00**	**3.67**	**14.67**
16:00	4	0	1	10	1	2	10	0	2	8.00	0.33	1.67
16:15	18	3	5	10	3	1	4	1	4	10.67	2.33	3.33
16:30	5	1	5	3	0	4	2	1	4	3.33	0.67	4.33
16:45	8	0	6	8	0	1	6	0	0	7.33	0.00	2.33
Hr/Total	**35**	**4**	**17**	**31**	**4**	**8**	**22**	**2**	**10**	**29.33**	**3.33**	**11.67**
17:00	8	0	8	8	0	6	4	0	6	6.67	0.00	6.67
17:15	8	1	10	2	1	1	8	0	5	6.00	0.67	5.33
17:30	12	1	5	7	0	5	5	0	3	8.00	0.33	4.33
17:45	8	2	7	3	0	6	3	0	4	4.67	0.67	5.67
Hr/Total	**36**	**4**	**30**	**20**	**1**	**18**	**20**	**0**	**18**	**25.33**	**1.67**	**22.00**
18:00	9	0	6	6	1	2	5	1	2	6.67	0.67	3.33
18:15	5	0	6	2	0	0	6	0	7	4.33	0.00	4.33
18:30	2	0	0	6	0	0	4	2	2	4.00	0.67	0.67
18:45	13	0	4	5	1	2	15	0	4	11.00	0.33	3.33
Hr/Total	**29**	**0**	**16**	**19**	**2**	**4**	**30**	**3**	**15**	**26.00**	**1.67**	**11.67**
19:00	4	0	3	4	0	4	4	0	2	4.00	0.00	3.00
19:15	10	1	2	4	0	0	0	0	4	4.67	0.33	2.00
19:30	11	0	3	5	0	0	4	0	2	6.67	0.00	1.67
19:45	6	0	5	8	0	1	4	0	0	6.00	0.00	2.00
Hr/Total	**31**	**1**	**13**	**21**	**0**	**5**	**12**	**0**	**8**	**21.33**	**0.33**	**8.67**
Total	**358**	**34**	**167**	**325**	**32**	**113**	**347**	**22**	**132**	**343.33**	**29.33**	**137.33**

Non Motorised Users Count - Marjoram to Gallingale Permissive Footpath Count

	22/09/2014			23/09/2014			24/09/2014			Average of the 3 days		
TIME	PED	PCh	PCL	PED	PCh	PCL	PED	PCh	PCL	PED	PCh	PCL
0600 -0700	5	0	4	2	0	0	4	0	2	3.7	0.0	2.0
0700 - 0800	27	0	9	26	0	3	29	0	5	27.3	0.0	5.7
0800 - 0900	187	5	36	167	1	32	181	4	36	178.3	3.3	34.7
0900 - 1000	17	4	5	15	3	2	12	2	4	14.7	3.0	3.7
1000 - 1100	11	2	5	12	4	4	9	2	7	10.7	2.7	5.3
1100 - 1200	8	1	4	3	0	1	4	0	3	5.0	0.3	2.7
1200 - 1300	10	2	3	13	2	1	10	2	3	11.0	2.0	2.3
1300 - 1400	9	2	3	16	3	0	14	5	6	13.0	3.3	3.0
1400 - 1500	15	3	3	9	2	3	15	3	7	13.0	2.7	4.3
1500 - 1600	142	9	25	135	6	16	148	10	7	141.7	8.3	16.0
1600 - 1700	49	3	9	66	3	7	57	5	4	57.3	3.7	6.7
1700 - 1800	55	1	13	19	0	8	36	2	7	36.7	1.0	9.3
1800 - 1900	33	0	15	24	0	9	33	0	9	30.0	0.0	11.0
1900 - 2000	26	1	14	14	0	7	19	1	4	19.7	0.7	8.3
Total	594	33	148	521	24	93	571	36	104	562	31	115

Stage 1
Road Safety Audit

MetroWest Phase 1 Portishead Rail Station
Options 1A, 2A, 2B and 2C

Stage 1 Road Safety Audit

December 2014

North Somerset Council

THINK! Road Safety

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1 Introduction

This report forms a Stage 1 Road Safety Audit of highway alterations proposed as part of the provision of a new railway station in Portishead. The scheme comprises alterations to existing highways, the creation of new junctions and accesses, the provision of car parks, and the construction of facilities for pedestrians and cyclists.

Four alternative locations are being considered for the station, identified as Option 1A, Option 2A, Option 2B and Option 2C, with different highway alterations. Option 1A would include the installation of a level crossing where the re-opened railway line crosses Quays Avenue.

In this report, the team has examined and reported only on the road safety implications of the works, and have not examined or verified the compliance with any other criteria. No members of the audit team have been involved in the design of the scheme. The report format is based upon the checklist contained in Annex A of HD 19/03.

A site visit was undertaken on the morning of Monday 13 October 2014. The weather at the time was overcast with showers, the road surface was wet and traffic flow was moderate. No detailed design has been prepared yet, so there are no comments on matters such as surface water drainage, signs, road markings, street lighting, etc.

The speed limit on Harbour Road is 20mph to the west of Newfoundland Way junction and 30 mph to the east. The speed limit on Quays Avenue is 30mph.

A list of the information supplied to the audit team in advance of the audit is contained in Appendix A.

A location plan for the scheme is shown in Appendix B.

Each of the problems identified by the audit team has been allocated a reference number, which is shown on the plan extracts in Appendix C.

The Audit Team comprised the following people:

John Painter – Principal Engineer – Audit Team Leader

Paul Watkins – Senior Engineer – Audit Team Member

2 Items raised at previous audits

There have been no previous Road Safety Audits of any of the proposed options.

2.1 Departures from Standards

No departures from Standards have been notified for any of the proposed options.

3 Option 1A (Drawing METRO/HR0/1a)

3.1 Priority Junctions and Accesses

3.1.1 Problem: Risk that all road users could sustain personal injury from head on/side swipe/nose to tail/shunt type collisions due to conflicting traffic movements.

Location: Proposed access to station car park off Harbour Road.

Summary: The access to the proposed new station car park is shown as being directly opposite the existing Newfoundland Way T-junction, creating a crossroads. Turning movements, particularly right turns to/from the car park will conflict with right turns and/or straight across movements to/from Newfoundland Way increasing risk of collision.

Recommendation: Either relocate the proposed station access away from Newfoundland Way to the north-west of Harbour Road or provide a traffic signal junction.

3.1.2 Problem: Risk that all road users could sustain personal injury from head on/side swipe/nose to tail/shunt type collisions due to conflicting traffic movements.

Location: Proposed access to station overflow car park off Harbour Road.

Summary: The access to the proposed new station overflow car park is shown as being directly opposite the existing access to Harbour Road Trading Estate, creating a crossroads. Turning movements, particularly right turns to/from the car park will conflict with right turns to/from the Trading Estate.

Recommendation: Relocate the proposed new access away from Harbour Road Trading Estate to the north-west of Harbour Road.

3.1.3 Problem: Increased risk of vehicular conflict due to on street parking and additional traffic volumes.

Location: Harbour Road (near Health Centre and junction with Haven View)

Summary: Road users may incur personal injury from head on, side swipe or nose to tail/shunt type collisions due to increases in traffic volume and existing on street parking provision, requiring vehicles to pass in the opposing lane.



Recommendation: Ensure all parking/waiting restrictions are reviewed along Harbour Road (to include all side roads and Quays Avenue). Ensure additional parking/waiting restrictions are provided where required to reduce vehicular conflict or improve intervisibility between road user groups.

3.2 Roundabouts

3.2.1 Problem: Risk of personal injury collisions from queuing traffic across/over roundabout.

Location: All entry/exit points of Quays Avenue/Harbour Road roundabout.

Summary: All road user groups may come into conflict with each other at the roundabout of Quays Avenue/Harbour Road where vehicles queue blocking entries/exists when the level crossing is in operation. This may lead to nose to nose to tail/shunt type collisions resulting in personal injury.

Recommendation: Where practicable the requirement for a level crossing should be eliminated. However, if this is not possible, provide keep clear road markings on roundabout circulatory to ensure entries and exits are kept clear.

3.3 Level Crossing

3.3.1 Problem: Risk that all road users may incur serious personal injury due to direct conflict with moving trains.

Location: Quays Avenue level crossing.

Summary: A collision may result from a vehicle crossing the railway line at the same time that a train was approaching or leaving the station. A recent study[1] has shown that “overall, there is an increase of around 8% in the risk of a fatality during an average car journey that includes a level crossing, compared with one that does not”. This is an average figure for all existing crossings, which takes no account of the speed of the trains. At Quays Avenue, trains will be travelling at low speed, reducing both the likelihood and severity of any collision.

Recommendation: Where practicable the requirement for a level crossing should be eliminated. However, if this is not possible any level crossing provided should be in accordance with the most up to date guidance/regulations, ensuring full width vehicle barriers and fail safe interlock systems that prevent barriers being opened at inappropriate times are provided.

3.3.2 Problem: Risk of personal injury to cyclists and riders of powered two-wheeled vehicles due to loss of control.

Location: Proposed level crossing at Quays Avenue.

Summary: Riders of two-wheeled vehicles may skid and lose control whilst crossing the railway tracks due the curved road alignment at the crossing, the low skid resistance of the metal rails, and the gaps between the rails and the adjacent crossing.

Recommendation: Realign the road to provide a straight and perpendicular crossing of the railway track, and ensure that the skid resistance of the crossing is similar to that of the approaches.

3.3.3 Problem: Risk that pedestrians may be killed or seriously injured due to direct conflict with moving trains.

Location: Quays Avenue level crossing.

Summary: A fatal or serious collision could result from a pedestrian crossing the railway line at the same time that a train is approaching or leaving the station. A recent study[1] has shown that "if an average walking trip includes a level crossing, the fatality risk to a pedestrian is about double the risk of an average walking trip without a level crossing". This is an average figure for all existing crossings, which takes no account of the speed of the trains. At Quays Avenue, trains will be travelling at low speed, reducing both the likelihood and severity of any collision. This risk is further increased where a primary School is located in close proximity.

Recommendation: Where practicable the requirement for a level crossing should be eliminated. However, if this is not possible any level crossing provided should ensure that fail-safe interlock systems that prevent barriers being opened at inappropriate times are provided. In addition audible warning devices to cater for large pedestrian volumes and/or partially sighted user groups should be provided.

3.4 Public Utilities / Services Apparatus

3.4.1 Problem: Maintenance operatives could sustain serious injury due to collisions with vehicles.

Location: Proposed access to station car park.

Summary: There is a large access chamber and services located in the grass area opposite the existing Newfoundland Way junction. The entry manhole would be located within the new access road to the car park, creating risk of conflict between maintenance operatives and traffic entering or leaving the proposed car park.





Recommendation: Relocate the proposed access away from Newfoundland Way to the north-west of Harbour Road.

3.4.2 Problem: Risk that all road users may incur personal injury due to collisions occurring on the existing road network.

Location: Harbour Road, Cabstand junction and Wyndham Way.

Summary: When the proposed level crossing on Quays Avenue is closed to traffic, some drivers will divert to the alternative route of Harbour Road, Cabstand junction and Wyndham Way, creating additional traffic and conflict on these routes.

Recommendation: Where practicable the requirement for a level crossing should be eliminated. However, if this is not possible improvements may be required to existing roads and junctions to accommodate diverted traffic.

3.4.3 Problem: Risk that all road users may incur personal injury due to side swipe/nose-to-tail collisions arising from drivers making U-turns or three-point turns.

Location: Quays Avenue to the south of the proposed level crossing.

Summary: Drivers travelling northwards along Quays Avenue may decide to turn round to find an alternative route when the level crossing is closed to traffic.

Recommendation: Where practicable the requirement for a level crossing should be eliminated. However, if this is not possible provide adequate advance electronic warning signs/systems that barriers are in operation.

4 **Option 2A** (Drawing METRO/HR0/2a)

4.1 Priority Junctions and Accesses

4.1.1 Problem: Risk that all road users could sustain personal injury from head on/side swipe/nose to tail/shunt type collisions due to conflicting traffic movements.

Location: Proposed access/egress to/from station car park.

Summary: The entrance/exit for the new station car park is shown as being directly opposite the existing Haven View T-junction, creating a crossroads. Right turns to/from the car park will conflict with right turns to/from Haven View.

Recommendation: Relocate the proposed access away from Newfoundland Way to the north-west of Harbour Road.

4.1.2 Problem: Risk that all road users could sustain personal injury from head on/side swipe/nose to tail/shunt type collisions due to conflicting traffic movements.

Location: Proposed exit from station car park onto Quays Avenue.

Summary: The car park exit onto Quays Avenue is designated to be “Left turn only”. It will be difficult to ensure compliance which may cause confusion/uncertainty leading to side impact/nose to tail/shunt type collisions between road users.

Recommendation: Either provide adequate physical measures to prevent right turns out of the car park or enlarge the roundabout to accommodate an exit directly onto it.

4.2 Non-motorised User Provision

4.2.1 Problem: Pedestrians may incur injury due to collisions with vehicles exiting the car park onto Quays Avenue.

Location: “Left turn only” exit from car park onto Quays Avenue.

Summary: It is proposed that drivers exiting the car park onto Quays Avenue will only be allowed to turn left. Drivers may therefore only look to their right when joining Quays Avenue, and may not see any pedestrians who are to their left (i.e. walking from north to south along the Quays Avenue footway.

Recommendation: Either highlight the footway crossing at the proposed exit to make drivers aware pedestrians may be present or divert the footway via the proposed station car park.

4.3.1 Problem: Pedestrians could sustain injury due to collisions with vehicles when crossing Quays Avenue to get from the car park to the station or vice-versa.

Location: Proposed pedestrian crossing Quays Avenue, between the car park and the station.

Summary: The scheme drawing indicates that a pedestrian crossing is to be provided across Quays Avenue to connect the car park and the station, but does not indicate what type of crossing this will be. If the crossing type is not appropriate for the likely level of usage, pedestrians may take risks when crossing the road or when in a hurry to catch a train.

Recommendation: Where practicable provide a pedestrian footbridge over Quays Avenue linking the car park directly to the station platform. If a pedestrian crossing is to be provided ensure that the type of crossing and measures installed are appropriate for the likely level of usage.

5 Option 2B (Drawing METRO/HR0/2b)

5.1 Carriageway Alignment and Visibility

5.1.1 Problem: All road users could be at risk of sustaining injury due to nose-to-tail collisions resulting from sub-standard forward visibility.

Location: Realigned section of Quays Avenue

Summary: The proposed realignment of Quays Avenue appears to be quite “tight”, although the plan does not indicate what radius is proposed. Forward visibility along the road and to the bus stops and pedestrian crossing point may be compromised.

Recommendation Ensure that forward visibility is appropriate to the design speed of the realigned road, and that any verge widening required is kept free from structures or planting.

5.2 Priority Junctions and Accesses

5.2.1 Problem: Risk that all road users could sustain personal injury from head on/side swipe/nose to tail/shunt type collisions due to conflicting traffic movements.

Location: Proposed access to station overflow car park.

Summary: The access to the proposed station overflow car park is shown as being directly opposite the existing access to Harbour Road Trading Estate, creating a crossroads. Right turns to/from the car park will conflict with right turns to/from the Trading Estate.

Recommendation: Relocate the proposed access away from Harbour Road trading estate to the north-west of Harbour Road.

5.3 Roundabouts

5.3.1 Problem: Road users could sustain injury due to side swipe/nose-to-tail collisions resulting from inadequate design of proposed roundabout.

Location: Proposed roundabout where realigned Quays Avenue connects to Harbour Road (located at the existing Haven View junction).

Summary: The proposed four-arm roundabout is significantly smaller than the existing three-arm Quays Avenue/Harbour Road/Phoenix Way roundabout, so may be too small to safely accommodate traffic flows/movements (which will increase as a result of the proposed station).

Recommendation: Ensure that the size and geometry of the new roundabout is appropriate to accommodate predicted traffic flows and movements (swept paths etc) safely.

5.3.2 Problem: Road users could sustain personal injury due to side swipe/nose-to-tail type collisions resulting from inadequate design of proposed roundabout.

Location: Proposed roundabout where realigned Quays Avenue connects to Harbour Road (located at the existing Haven View junction).

Summary: The proposed roundabout includes a segregated left-turn from Phoenix Way to Quays Avenue. This movement may encourage high speeds, which may lead to conflicts with vehicles exiting the roundabout.

Recommendation: Ensure that the size and geometry of the new roundabout is appropriate to accommodate predicted traffic flows/movements safely.

6 Option 2C (Drawing METRO/HR0/2c)

6.1 Basic Design Principles

6.1.1 Problem: Road users could sustain personal injury due to nose-to-tail/head-on type collisions.

Location: Serbert Road/Serbert Way/Serbert Close.

Summary: Quays Avenue is to be stopped up and traffic diverted along Serbert Road, which is proposed to be extended through to Harbour Road. Serbert Road is restricted in width and has a number of accesses and a lot of on-street parking. Two new bus stops are also proposed along the same route, with a further significant retail development entrances/exits currently under construction on Serbert Way and Serbert Close. This route may be unable to safely accommodate proposed traffic flows. Turning movements in/out of the retail entrance/exits will further compound this problem.



Recommendation: Undertake traffic flow capacity and turning movement assessments (to include traffic/pedestrian trip generations to/from the new retail development – Sainsbury's) for Serbert Road, Serbert Way and the new roundabout where Serbert Way is proposed to link with Harbour Road. Introduce parking/waiting restrictions to ensure the main carriageway is kept free from obstruction.

6.1.2 Problem: Risk that all road users could sustain personal injury from head on/side swipe/nose to tail/shunt type collisions due to conflicting traffic movements.

Location: Proposed access to trading estate off Harbour Road.

Summary: The access to the proposed station car park is shown as being directly opposite the existing trading estate T-junction, creating a crossroads. Turning movements, particularly right turns to/from the car park will conflict with right turns and/or straight across movements to/from the trading estate increasing risk of collision.

Recommendation: Relocate the proposed station access away from the existing trading estate access to the north-west of Harbour Road.

6.2 Roundabouts

6.2.1 Problem: Risk that all road users could sustain personal injury from nose-to-tail collisions arising from driver confusion and uncertainty.

Location: Existing roundabout at the junction of Quays Avenue /Harbour Road/Phoenix Way & severed section of Quays Avenue.

Summary: The stopping up and diversion of Quays Avenue will make the existing roundabout redundant. Drivers may be confused by the road layout. In addition, drivers may use the “dead” areas of road for parking, which could obstruct pedestrian movements.

Recommendation: Remove the redundant roundabout to ensure road users are clear about the route ahead. Provide formalised parking and waiting restrictions along Quays Avenue.

6.2.2 Problem: Road users could sustain injury due to side swipe/nose-to-tail collisions resulting from inadequate design of proposed roundabout.

Location: Proposed roundabout where realigned Quays Avenue connects to Harbour Road (located at the existing Haven View junction).

Summary: The proposed four-arm roundabout is significantly smaller than the existing three-arm Quays Avenue/Harbour Road/Phoenix Way roundabout, so may be too small to safely accommodate traffic flows (which will increase as a result of the new station).

Recommendation: Ensure that the size and geometry of the new roundabout is appropriate to accommodate predicted traffic flows safely.

7 General (applicable to all options)

7.1 Non – Motorised Users

7.1.1 Problem: Increase in pedestrian/cycle and vehicle flows may increase the potential for conflict between all user groups.

Location: Throughout localised area.

Summary: All road users but particularly vulnerable user groups may be at increased risk of conflict leading to personal injury due to the increase in pedestrian/cycle and/or vehicle activity within the vicinity of the proposed station.

Recommendation: Extend existing 20mph zone to encompass additional pedestrian/cycle/vehicle movements/flows in/around each of the proposed options. Review all pedestrian and cycle provisions/facilities as part of an NMU audit to be undertaken for the option taken forward to detailed design.

7.2 Road Layout

7.2.1 Problem: All road users could be at risk of personal injury due to side swipe or nose-to-tail type collisions.

Location: Harbour Road

Summary: Existing bus stops along Harbour Road have not been identified as part of the proposals. Sudden unexpected stopping or changes of direction may occur if the bus stops are poorly sited in relation to the revised road layouts.

Recommendation: Ensure that bus stop locations are reviewed and changed if necessary.

8 Audit Team Statement

I certify that this audit has been carried out following the principles of HD19/03.

Audit Team Leader

Name: John Painter, BSc, CEng, MICE, MCIHT

Position: Principal Engineer
North Somerset Council

Signed:  Dated: 22/12/2014

Audit Team Member

Name: Paul Watkins, MIHE, regRSA

Position: Senior Engineer
North Somerset Council

9 Appendix A

Drawings and information supplied for Audit

Un-numbered drawing entitled Option 1A with Level Crossing (number assumed to be METRO/HR0/1a)

Drawing number METRO/HR0/2a Option 2a Conceptual Arrangement

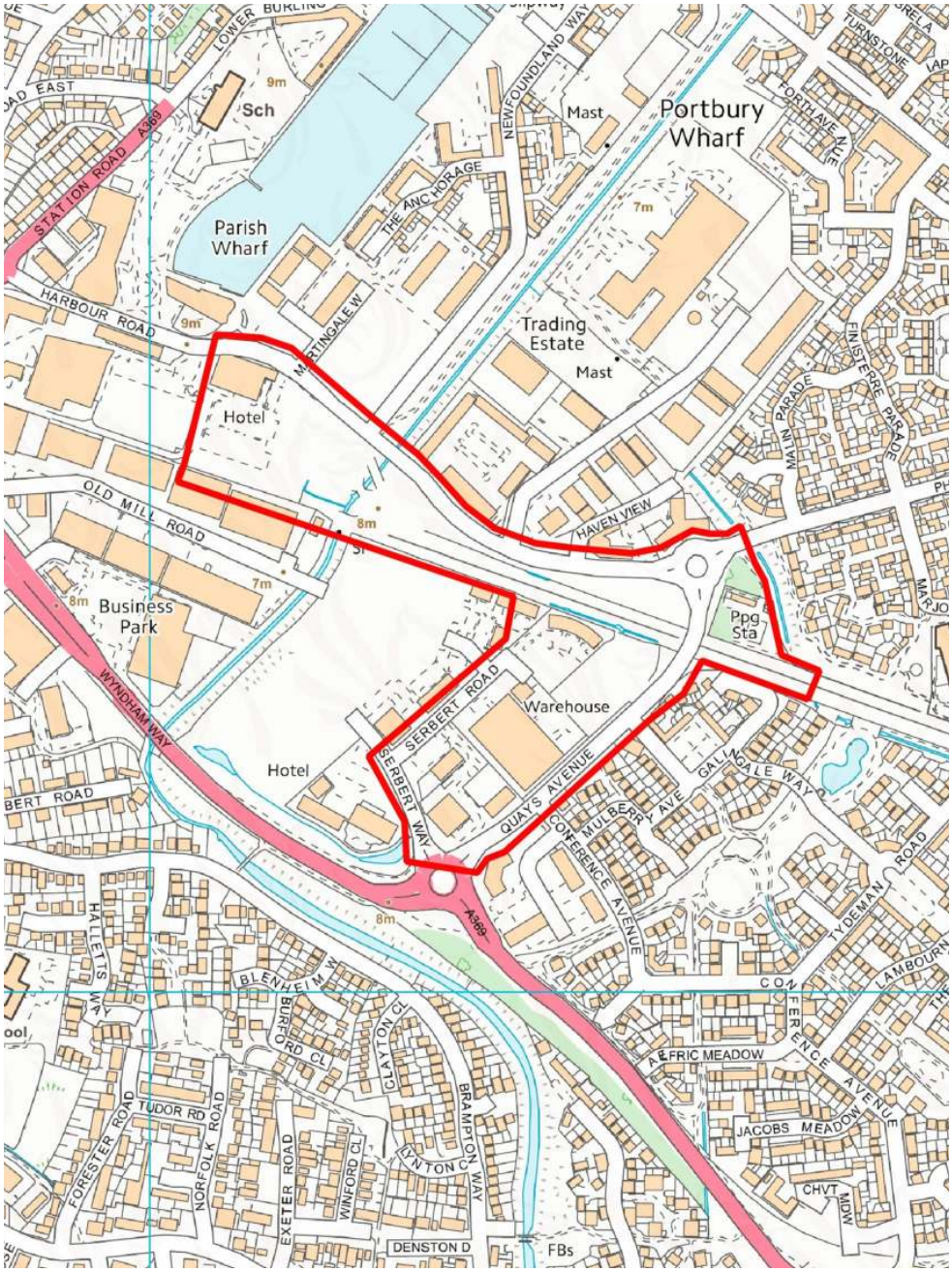
Drawing number METRO/HR0/2b Option 2b Conceptual Arrangement

Drawing number METRO/HR0/2c Option 2c Conceptual Arrangement

[1] "Safety at level crossings Eleventh Report of Session 2013 – 14" House of Commons Transport Committee February 2014.

10 Appendix B

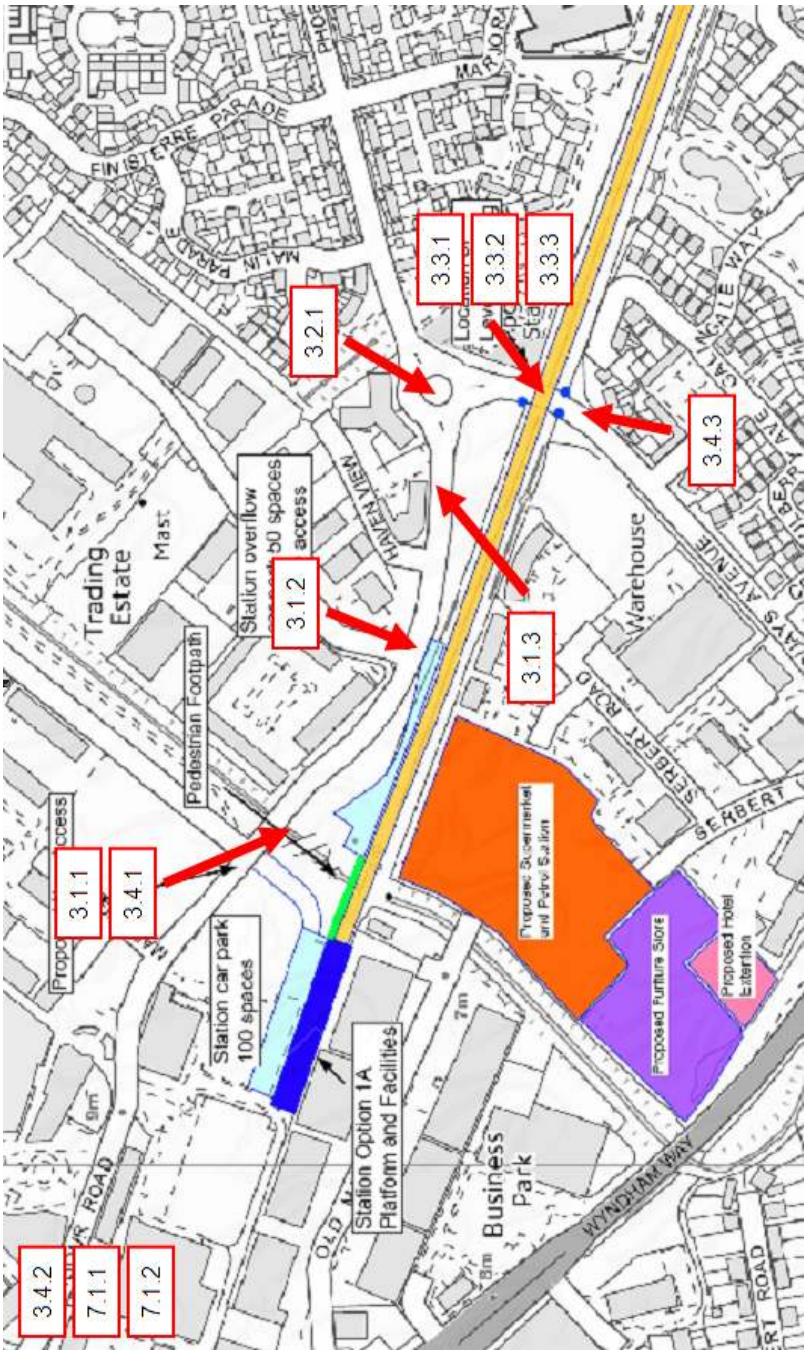
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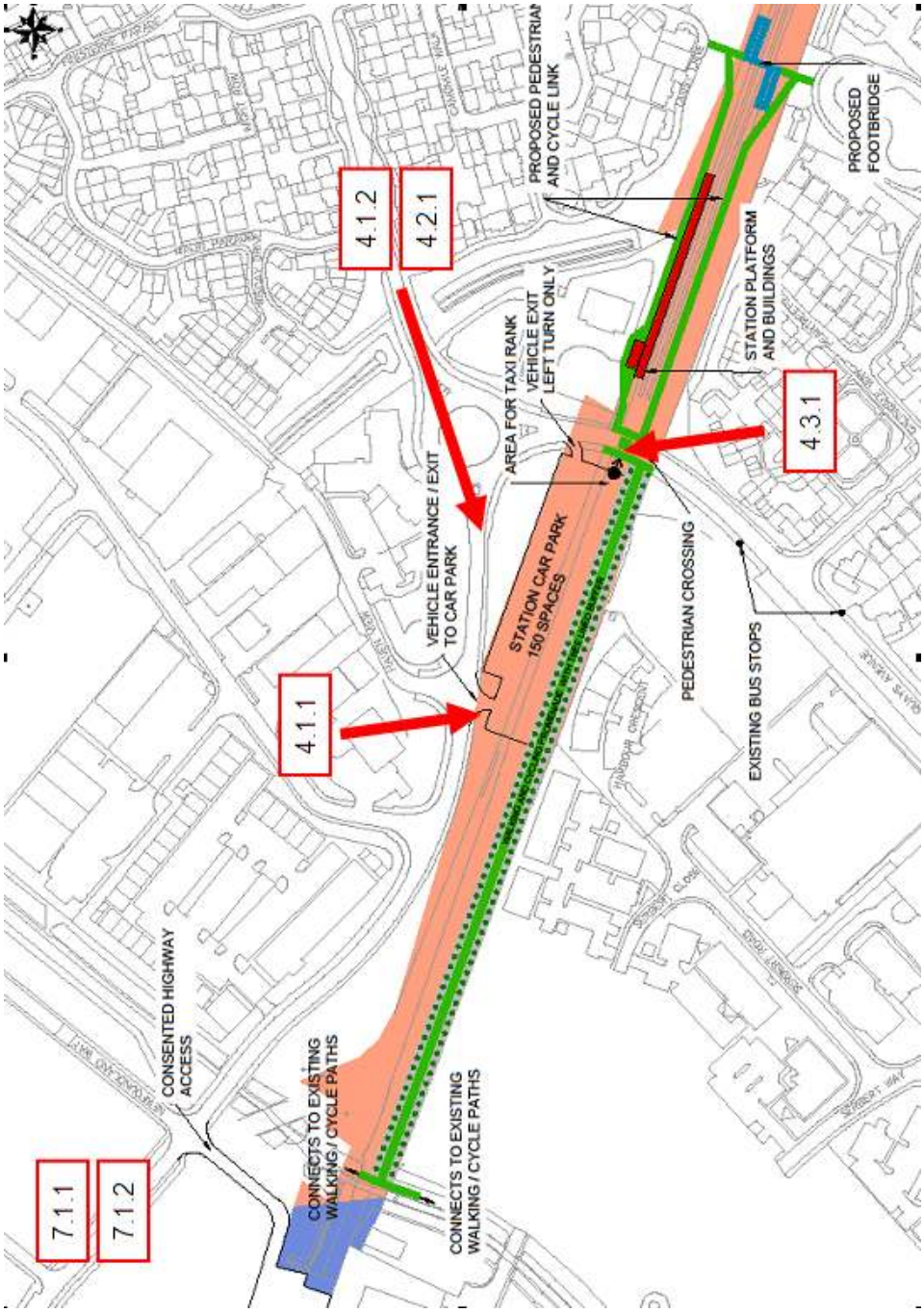
11 Appendix C

Audit Drawings

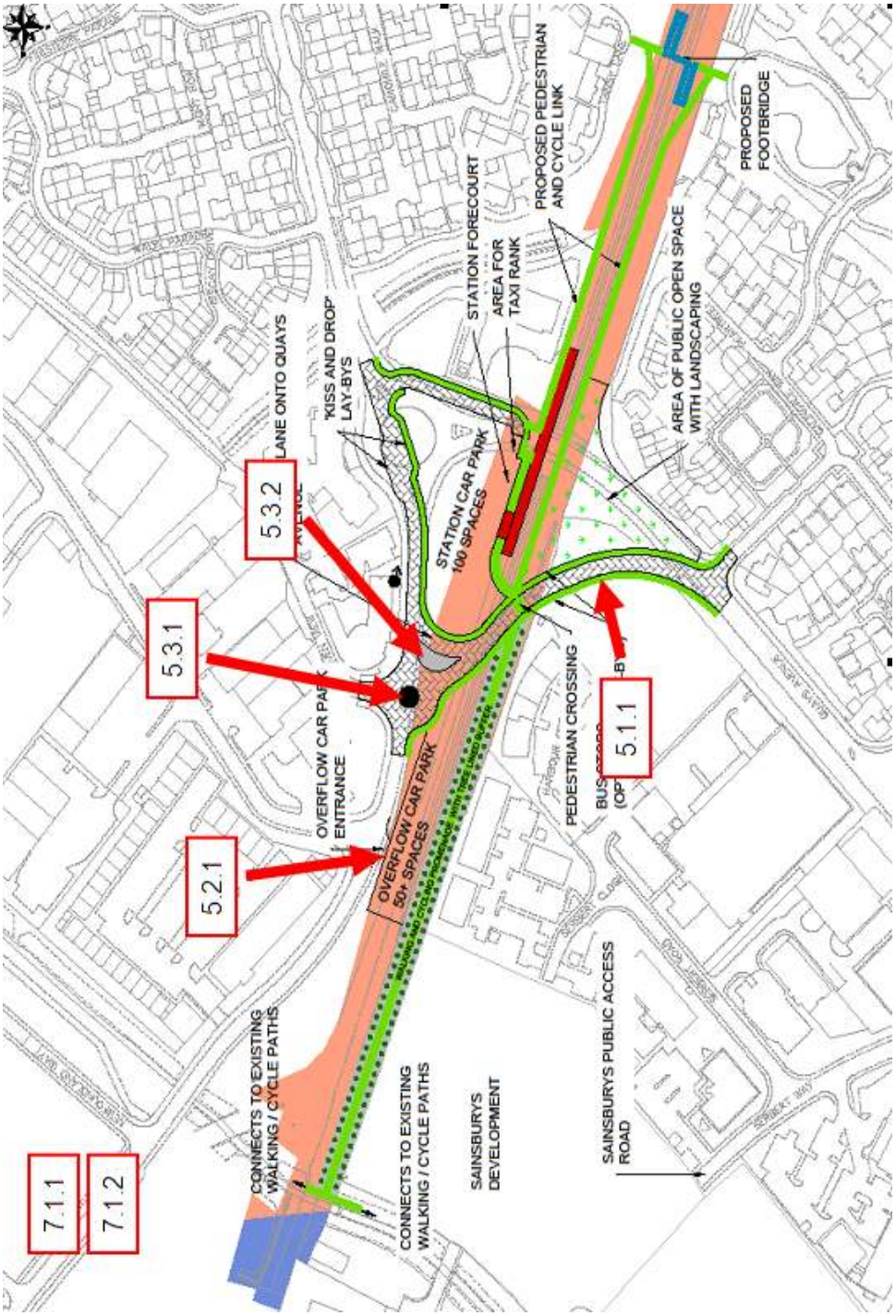
Option 1A



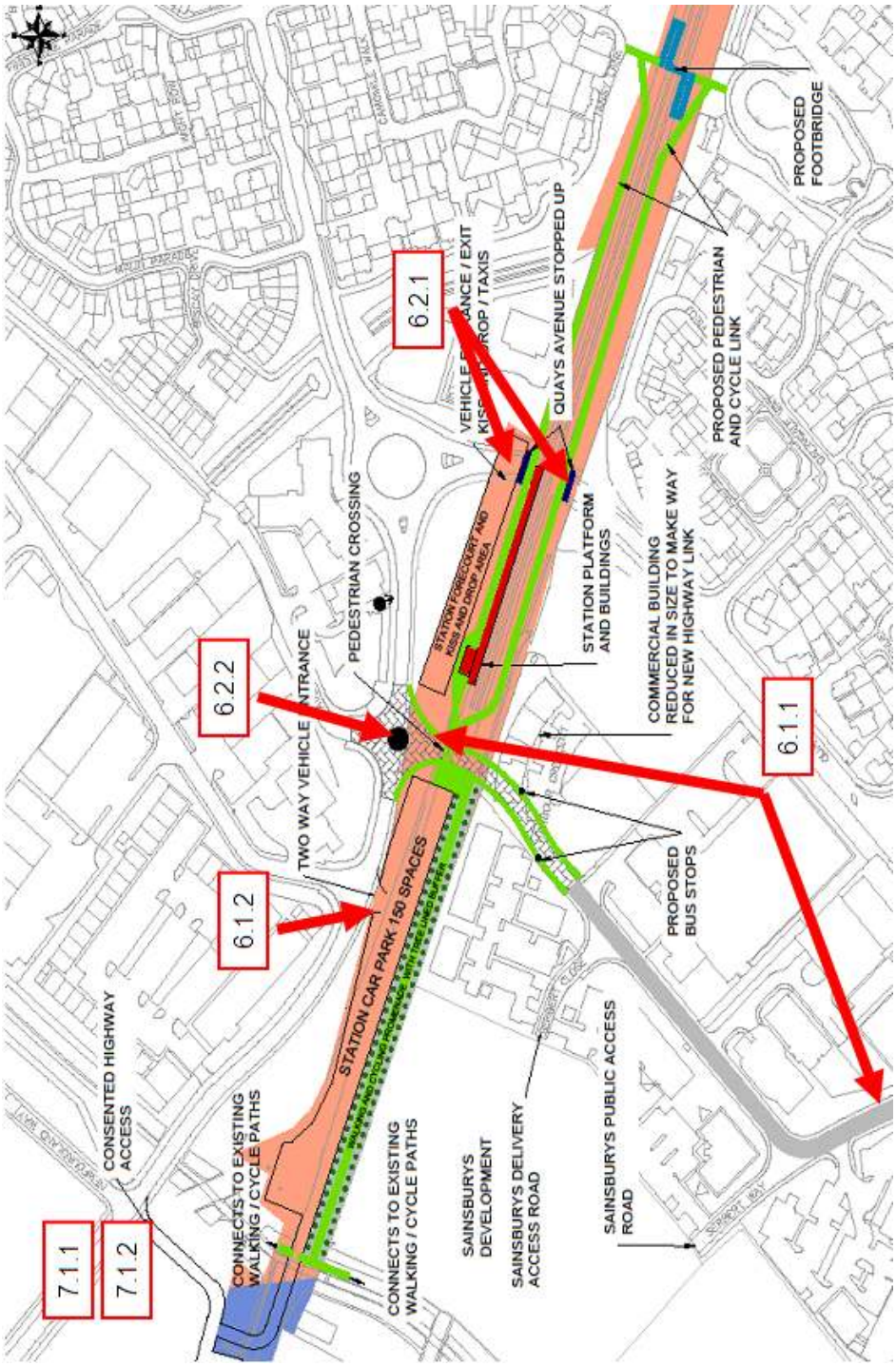
Option 2A


4.1.2
4.2.1
PROPOSED PEDESTRIAN AND CYCLE LINK
PROPOSED FOOTBRIDGE
STATION PLATFORM AND BUILDINGS
AREA FOR TAXI RANK
VEHICLE EXIT LEFT TURN ONLY
4.3.1
VEHICLE ENTRANCE / EXIT TO CAR PARK
STATION CAR PARK 150 SPACES
4.1.1
PEDESTRIAN CROSSING
EXISTING BUS STOPS
CONSENTED HIGHWAY ACCESS
CONNECTS TO EXISTING WALKING / CYCLE PATHS
CONNECTS TO EXISTING WALKING / CYCLE PATHS
7.1.1
7.1.2

Option 2B


5.3.2
5.3.1
5.2.1
5.1.1
7.1.1
7.1.2
LANE ONTO QUAYS
'KISS AND DROP' LAY-BYS
STATION FORECOURT
AREA FOR TAXI RANK
PROPOSED PEDESTRIAN AND CYCLE LINK
PROPOSED FOOTBRIDGE
AREA OF PUBLIC OPEN SPACE WITH LANDSCAPING
STATION CAR PARK 100 SPACES
OVERFLOW CAR PARK ENTRANCE
OVERFLOW CAR PARK 50+ SPACES
PEDESTRIAN CROSSING
CONNECTS TO EXISTING WALKING / CYCLE PATHS
CONNECTS TO EXISTING WALKING / CYCLE PATHS
SAINSBURYS DEVELOPMENT
SAINSBURYS PUBLIC ACCESS ROAD

Option 2C


6.2.1
6.2.2
6.1.2
6.1.1
7.1.1
7.1.2
PROPOSED FOOTBRIDGE
PROPOSED PEDESTRIAN AND CYCLE LINK
QUAYS AVENUE STOPPED UP
STATION PLATFORM AND BUILDINGS
COMMERCIAL BUILDING REDUCED IN SIZE TO MAKE WAY FOR NEW HIGHWAY LINK
PROPOSED BUS STOPS
PEDESTRIAN CROSSING
TWO WAY VEHICLE ENTRANCE
STATION CAR PARK 150 SPACES
CONSENTED HIGHWAY ACCESS
CONNECTS TO EXISTING WALKING / CYCLE PATHS
CONNECTS TO EXISTING WALKING / CYCLE PATHS
SAINSBURYS DEVELOPMENT
SAINSBURYS DELIVERY ACCESS ROAD
SAINSBURYS PUBLIC ACCESS ROAD

Severity of a Collision Comparison of an Average Car vs Passenger Train

Severity of a Collision

The severity of a collision with a vehicle can be determined from the amount of force arising from the vehicle. The greater the force of a vehicle, the greater the damage the vehicle causes to other objects in a collision.

Force is measured as follows:

Force (Newtons) = Mass (kg) multiplied by Acceleration (m/s^2)

For example a 1,000 kg vehicle accelerating at 3 m/s^2 = 3,000 Newtons

The following scenarios represent realistic comparisons of the amount of force arising from a family car at 20mph and a two carriage train at 20 mph.

Scenario 1 – Pedestrian crossing (highway crossing). An average family car of 1,650 kg (1,500 kg vehicle plus two occupants of 75 kg each), accelerating at 20 miles per hour (8.94 m/s^2) = force of 131,873 Newtons. Therefore, a family car on Quays Avenue travelling at 20 mph colliding with a stationary object such as a pedestrian would result in 131,873 Newtons of force.

Scenario 2 – Level crossing. The type of train to be proposed for operation on the Portishead rail line is either a class 150 or class 165 in either a two carriage, a three carriage or a four carriage formation. The lightest variant of these is a class 150 in a two carriage formation. A class 150 train in a two car formation of 77,225 kg (71,600 kg plus 75 occupants of 75 kg each), accelerating at 20 miles per hour (8.94 m/s^2) = force of 6,172,100 Newtons.

In other words a two carriage train has a 46 fold greater force travelling at 20 mph than an average family car. Even at crawling pace of 3 mph, a two carriage train has more force than the average family car, with 138,897 Newtons compared with 131,873 Newtons.



MetroWest

Portishead Branch Line (MetroWest Phase 1)

TR040011
Applicant: North Somerset District Council

5.1 – Consultation Report and Appendices
Appendix I2: NSDC decision report on Portishead Station location

Planning Act 2008: Sections 37(3)

Author: North Somerset District Council
Date: November 2019

NetworkRail · West of England Local Enterprise Partnership · West of England Combined Authority · HM Government · Bath & North East Somerset Council · Bristol City Council · North Somerset Council · South Gloucestershire Council · travelwest

North Somerset Council

REPORT TO THE EXECUTIVE

DATE OF MEETING: 17 MARCH 2015

SUBJECT OF REPORT: METROWEST PHASE 1 DEVELOPMENT CONSENT ORDER UPDATE & PORTISHEAD STATION

TOWN OR PARISH: ALL

OFFICER/MEMBER PRESENTING: CLLR NIGEL ASHTON, LEADER OF COUNCIL AND CLLR ELFAN AP REES, DEPUTY LEADER OF COUNCIL

KEY DECISION: YES

RECOMMENDATIONS

It is recommended that the Executive:

1. Note that legal advice has been received from leading counsel confirming that a Development Consent Order will be required for the Project, and that:
    - the programme will follow the 6 stages broadly set out in para 3.5 Table 1, and
    - a public consultation process of not less than 2 stages will be required to meet the requirements of the Development Consent Order process. Stage 1 consultation will need to commence mid / late May to mid/late June 2015. Stage 2 public consultation will need to be undertaken from late October to late December 2015.

2. Authorise delegated authority for the Head of Highways & Transport to finalise the public consultation material for Development Consent Order consultation stages 1 and 2, in consultation with the Leader and the Deputy Leader. The Head of Highways & Transport will also consult with the partner West of England Council's given the cross boundary nature of the project.

3. Note that the Council has carried out an OJEU competitive procurement of legal advisers for the project with a total estimated spend of up to £950,000 for the duration of the contract, which is within the project budget provision. The evaluation of such tenders resulted in Bond Dickinson submission providing the best overall value in respect of quality and price. The estimated spend for stage 1 of the Development Consent Order 1 is £149,570, in the 2015-16 financial year.

4. Authorise the Director of Development & Environment in consultation with the Head of Legal & Democratic Services to agree the contract and the Head of Legal & Democratic

Services to execute the contract for Legal Services with Bond Dickinson in respect of legal advice and services for the Project.

5. Authorise delegated authority for the Director of Development & Environment in consultation with the Head of Legal & Democratic Services to enter into a Joint Technical Working Agreement with Network Rail in respect of the Development Consent Order. A draft outline structure is attached in appendix 1.

6. Note that the Council has issued an OJEU Invitation to Tender for a Land Agent for the Project with a total estimated spend of up to £350,000 for the duration of the contract, which is within the project budget provision.

7. Authorise the Director of Development & Environment in consultation with the Head of Legal & Democratic Services to agree the contract and the Head of Legal & Democratic Services to execute a contract for Land Agent services with the bidder providing the best overall value in respect of quality and price, upon completion of the competitive procurement.

8. Note the letter of 2nd March 2015 from the Office of Rail Regulation (ORR) that there is no case for exceptional circumstances for a level crossing at Quays Avenue, stating "This letter confirms the expert panel's decision to …NOT contemplate a level crossing at Quays Avenue". The letter is attached in appendix 2.

9. Endorse option 2B as the preferred option for the location for Portishead rail station, having taken account of the responses to the public consultation undertaken in June and July 2014, the response from the Office of Rail Regulation that it would not contemplate a level crossing at Quays Avenue and the relevant factors set out in para 3.21 to 3.25. Option 2B is a corner site between Quays Avenue and Harbour Road. The proposed station platform and building would be located across the existing Quays Avenue and the northern section of Quays Avenue would be re-aligned to form a new junction with Haven View, maintaining Quays Avenue as a through route. A concept design of option 2B is shown in appendix 3.

10. Note the concept design of option 2B shown in appendix 3 will need to be refined through the normal engineering design iterative process. The design of the road junctions, car park access / egress and highway geometry are therefore subject to further refinement. In respect of railway infrastructure, the location of the station platform is more certain at this stage and therefore less likely to require alteration.

1. SUMMARY OF REPORT

1.1 The MetroWest Phase 1 project proposes to re-open the Portishead rail line with stations at Portishead and Pill and operate half hourly train services through to the Severn Beach line to Avonmouth (hourly beyond Avonmouth), and provide a half hourly train service for local stations between Bristol Temple Meads and Bath Spa. The project is being promoted by North Somerset Council on behalf of the West of England councils; Bath & North East Somerset, Bristol City and South Gloucestershire. The project forms part of a wider MetroWest programme to deliver strategic enhancements to the local rail network over the next 5 years. In respect of infrastructure, the MetroWest Phase 1 project in summary comprises rebuilding the 5km disused section of railway between Portishead and Pill, upgrading the Portbury

freight line, partial reinstatement of the Down Relief line near Bedminster station (900 metres of track), minor signalling works at Avonmouth and a crossover and signalling at Bathampton. This is a complex project with challenging technical, planning and organisational constraints and dimensions. The project is on programme to commence construction in late 2017 and open in May 2019.

1.2 MetroWest Phase 1 is a Nationally Significant Infrastructure Project (NSIP) and therefore requires a Development Consent Order for planning powers to build and operate the proposed development. The DCO regime is a six stage process, taking up to three years however the timescale depends on the complexity of the project and the nature and extent of objections from stakeholders and statutory bodies. A two stage public consultation process is required and in order to keep the project 'on programme' consultation stage 1 will need to commence mid/late May to mid/late June 2015. A further consultation stage 2 will need to be undertaken from late October to late December 2015.

1.3 Specialist legal services are required for the DCO pre-application stage one and subsequent five stages. The legal services include specialist advice on the prescribed requirements for the environmental assessment, consultation process, the project land requirements, supporting documents for the DCO application, the drafting of the Order, assistance with engagement with statutory bodies and other stakeholders and legal agreements with partner organisations etc. An OJEU competitive procurement has been undertaken and the evaluation of tenders resulted in Bond Dickinson's submission providing best overall value, in respect of quality and price for DCO stage 1.

1.4 It will be necessary to enter into a Joint Technical Working Agreement with Network Rail (JTWA). The JTWA will be scoped jointly by Bond Dickinson and Network Rail and then reviewed by the NSC legal department. It is anticipated the JTWA will be ready for engrossment by the two parties before the end of 2015. Network Rail has set out a draft outline structure for the JTWA which is attached as appendix 1.

1.5 In order to progress the land aspects of the project it will be necessary to appoint a Land Agent in the coming months. An OJEU invitation to tender has been issued and tender submissions are due to be returned in April 2015. In addition to leading on the acquiring land, the Land Agent will also lead on arrangements to gain access to third party land, undertake land referencing, advise on the closure of various historic crossings of the rail line, production of documents for DCO, supporting all stages of the DCO process including the examination hearing, and advising on post construction matters.

1.6 Following the conclusion of various technical matters, and taking into account the public consultation undertaken in June and July 2014, the project is now in a position to recommend a preferred option for the location of Portishead rail station.

1.7 The project preliminary Business Case was completed in September 2014 and endorsed by the WoE Joint Transport Board and the NSC Executive (October 2014). The Preliminary Business Case reported; the estimated capital outturn cost is £58.159 million and is expected to be funded from the Department for Transport Major Schemes devolved grant (which is overseen by the WoE Local Transport Body), the Local Growth Fund and local contributions by the four councils. A total of £57.665 million capital funding has been identified to date, leaving residual £494k

capital to be sought. More detailed work on both the capital and net subsidy costs of the project will be undertaken in preparation of the Outline Business Case which is scheduled to report in late 2015.

2. POLICY

2.1 The project is identified in the Joint Local Transport Plan 3 (JLTP3) and North Somerset's Core Strategy as a priority for early delivery. Re-opening the Portishead line was also included in the 2007 Replacement Local Plan and successive Local Plans over a number of decades.

2.2 Following studies undertaken in 2012 and early 2013, the four WoE councils jointly launched the MetroWest Phase 1 project. The MetroWest programme involves delivering targeted enhancements to the existing local rail network, in parallel with re-opening strategically important disused rail lines. In recognition that not all the proposals can be delivered at once, the WoE councils are taking a phased approach to delivery of the MetroWest, with Phase 1 identified by the WoE Joint Transport Board as its top priority, followed with early delivery of Phase 2.

2.3 In December 2014 the Department for Transport published its 'National Policy Statement for National Networks'. The National Policy Statement (NPS) is underpinned by legislation (the Planning Act 2008) and sets out the Governments priorities and policy direction for the national road and rail networks. The NPS sets out the need for substantial further investment in the rail network as a result of sustained increasing demand for both passenger and freight train services over the last two decades. The NPS states that delivering Nationally Significant Infrastructure Projects (NSIPs) will play a key part of the strategy for ensuring the national road and rail networks have sufficient capacity to meet the increasing demand.

2.4 The Secretary of State will use the NPS as a primary basis for making decisions on applications for a Development Consent Order for Nationally Significant Infrastructure Projects. The NPS sets out a presumption in favour of sustainable development for Nationally Significant Infrastructure Projects. MetroWest Phase 1 is a Nationally Significant Infrastructure Project and requires a Development Consent Order, see para 3.1 for further details.

2.5 The MetroWest Phase 1 principal objectives are to:

- support economic growth, through enhancing transport links to major employment centres across the West of England
- deliver a more resilient transport offer, with more attractive & reliable journey times
- improve accessibility to the rail network with new and re-opened rail stations
- make a positive contribution to improving quality of life

The principle objectives are supplemented with the following supporting objectives to:

- 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.

BACKGROUND

Development Consent Order

Overview of Development Consent Order Process

3.1 Over the last six months considerable progress has been made in respect of the consenting strategy for the project working with Network Rail and with support from leading counsel Andrew Tate QC. The legal advice concluded the project is a Nationally Significant Infrastructure Project (NSIP) as it includes more than 2km of railway build outside Network Rail's current operational railway. The Planning Act 2008 requires NSIPs to be subject to the Development Consent Order (DCO) regime for planning powers to build and operate the proposed development.

3.2 A total of 105 DCOs are either in the system or have been through the system since the legislation came into effect in 2010. The national policy position is that DCO process has a presumption in favour of sustainable development and to date a total of 31 DCOs have been granted and one refused. The legislation consolidates the previously separate consenting regimes together with compulsory purchase and associated development. The aim of the legislation was to bring the various contents needed for major infrastructure within a 'one stop shop' approach. This has largely been achieved however there are some minor exceptions such as Environmental Permits and European Protected Species Licences which remain separate but parallel processes.

3.3 Key points regarding the project DCO are as follows:

- the DCO will include the works required to rebuild the disused line from Portishead to Pill and works required to upgrade the Portbury freight line to passenger service capability,
- the DCO redline will extend from Portishead to Parsons Street Junction,
- the DCO will include powers for compulsory purchase of third party land,
- the DCO is to be promoted by North Somerset Council, with extensive technical joint working with Network Rail,
- engagement with our partner West of England Councils is on-going through existing governance arrangements and Bristol City Council will be a DCO statutory consultee,
- the draft six stage DCO summary programme is set out in para 3.5 Table 1,
- a two stage public consultation process is required and in order to keep the project 'on programme' consultation stage 1 will need to commence mid/late May to mid/late June 2015. A further consultation stage 2 will need to be undertaken from late October to late December 2015. The draft consultation programme is set out in para 3.7 Table 2,
- that while the DCO process is a robust and a relatively lengthy process, it will be taken forward in parallel with the rest of the technical development of the project and therefore should be seen in that light, and
- the remaining minor infrastructure works at Bedminster, Avonmouth and Bathampton, required to deliver the wider MetroWest Phase 1 project, will be taken forward using Network Rail's general permitted development rights, as these are entirely within the existing operational railway and are separate to the works required to re-open the Portishead rail line.

3.4 The section of the Portbury freight line from Parsons Street Junction to Ashton Gate falls within the Bristol City Council boundary. The GRIP 2 engineering design work undertaken to date identifies the extent of upgrade works required are principally; re-instatement of double tracking at Parsons Street Junction and at Ashton Gate, some localised track camber adjustments on sections of track radius to enable 60 mph passenger train operating speeds, double tracking through Pill including bridge widening at Avon Road/Lodway Close, replacement of signalling equipment and renewal of barriers and associated equipment at the Ashton Vale Road level crossing. All these works are within Network Rail's operational boundary.

3.5 The DCO regime is a six stage process, taking up to three years however the timescale depends on the complexity of the project and the nature and extent of objections from stakeholders and statutory bodies. The stages are as follows:

Table 1 Draft Six Stage DCO Summary Programme

DCO Stage	**Indicative Timescale**
Stage 1. Pre-application	Winter 2015 to Spring 2016
Stage 2. Acceptance	Spring 2016
Stage 3. Pre-examination	Summer/Autumn 2016
Stage 4. Examination	Winter 2017
Stage 5. Recommendation & Decision	Summer 2017
Stage 6. Post decision	Autumn 2017

<u>DCO Stage 1 Pre-application</u>

3.6 Stage 1 pre-application entails a considerable investment in resources and time, given the technical requirements including; GRIP engineering design, Highway engineering design, Environmental Impact Assessment, an Environmental Statement and formal consultation processes.

3.7 Consultation is one of the most crucial aspects of the DCO pre-application stage. It must be carried out correctly and the promoter must be able to demonstrate that consultation responses have been taken into account as required by the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, the DCLG Guidance and the relevant Advice Notes. Failure to meet these requirements can result in or contribute to the application being rejected, as has happened in two cases (Maesgwyn Wind Farm, which was withdrawn and the Daventry International Freight terminal ("DRIFT") for which the application had to be re-submitted), causing delays and additional cost to the promoter. The draft consultation programme for Stage 1 pre-application is shown in Table 2.

Table 2. Draft Consultation Programme for DCO Stage 1 Pre-application

Activity / Milestone	**Indicative Timescale**
Draft Statement of Community Consultation for Stage 1 consultation (informal) setting out our approach on how we will be consulting stakeholders	By late March 15
Submit Statement of Community Consultation for Stage 1 consultation to the four Development Management departments of the councils	By early April 15
Production of consultation material for Stage 1 public consultation (informal)	Completed and signed off by early May 15

Receive responses from Development Management departments and make amendments as necessary to SoCC Stage 1 consultation (informal) and publish	By mid May 15
Undertake Stage 1 public consultation (informal), including consultation leaflets, website, exhibition events, meetings with specific stakeholders.	From mid / late May to mid / late June 15 Consultation
Collate consultation responses, produce and publish a Stage 1 consultation (informal) Summary Report.	By late July 15
Draft Statement of Community Consultation for Stage 2 (formal consultation) setting out our approach on how we will be consulting stakeholders	By late July 15
Submit Statement of Community Consultation for Stage 2 (formal consultation) to the four Development Management departments of the councils	By early Aug 15
Receive responses from Development Management departments and make amendments as necessary to SoCC Stage 2 (formal consultation)	By late Sept 15
Publish Statement of Community Consultation Stage 2 (formal consultation)	By mid Oct 15
Produce a consultation project proposal report for stakeholders	By mid Oct 15
Publish two newspaper adverts at beginning of formal consultation	By mid Oct 15
Undertake Stage 2 formal project consultation	From late Oct 15 to late Dec 15
Collate consultation responses	By mid Jan 16
Respond to consultees whether or not changes are to be made to the project	By mid Feb 16
Prepare and publish a Consultation Report to be submitted with the DCO application	By early March 16
Submit DCO application	By late March 16

3.8 The public consultation will need to include engagement with the wider community, distribution of consultation leaflets, provision of information on-line, exhibition events, social media, meetings with specific community groups and statutory consultees etc. To assist managing the sign-off of consultation material, delegated authority is requested for the Head of Highways & Transport to finalise consultation material, in consultation with the Leader and Deputy Leader. The Head of Highways & Transport will also consult with the partner West of England Councils given the cross boundary nature of the project.

DCO Legal Professional Services

3.9 Specialist legal services are required for the DCO pre-application stage 1 and subsequent five stages. The legal services include specialist advice on the prescribed requirements for the environmental assessment, consultation process, the project land requirements, supporting documents for the DCO application, the drafting of the Order, assistance with engagement with statutory bodies and other stakeholders and legal agreements with partner organisations etc.

3.10 An OJEU competitive procurement has been undertaken and the evaluation of tenders resulted in Bond Dickinson's submission providing best overall value, in respect of quality and price. The estimated spend for DCO stage 1 is £149,570, arising in the 2015-16 financial year. Budget provision has been made for a total estimated spend of up to £950,000 for DCO legal services for stages 1 to 6 over the duration of the contract, however it is anticipated that actual spend will be lower pending the nature and extent of objections to the DCO.

Joint Technical Working Agreement with Network Rail for the DCO

3.11 As set out in para 3.3 the legal advice received is the DCO should be promoted by North Somerset Council, with extensive technical joint working with Network Rail. While several rail DCOs have been granted to date, MetroWest Phase 1 will be the first DCO in country to be promoted by an organisation other than Network Rail. All highway assets delivered by the project will be owned and maintained by the respective partner council. Upon project opening, the Portishead rail line will return back into the national rail network and the railway assets will be transferred to Network Rail, who will then have responsibility for operating and maintaining the line. It will therefore be necessary to enter into a Joint Technical Working Agreement with Network Rail (JTWA). The JTWA will be scoped jointly by Bond Dickinson and Network Rail and then reviewed by the NSC legal department. It is anticipated the JTWA will be ready for engrossment by the two parties before the end of 2015. Network Rail has set out a draft outline structure for the JTWA which is attached as appendix 1. The draft outline structure covers the following areas;

- Roles and responsibilities
- Specific technical areas being led by each party
- Terms of reference and governance
- Form of the order
- Process to make amendment to planning application
- Agreements with third parties
- Agreement to enter into subsequent agreements, delivering the works, asset management, asset transfer etc
- Appointing consultants
- Costs
- Various miscellaneous aspects

3.12 The agreement will span all six stages of the DCO process, from pre-application (Stage 1) culminating in post decision (stage 6). After the submission and acceptance of the DCO application (DCO stages 1&2) the following stages of pre-examination and examination (DCO stages 3 & 4) can be intensive in respect of technical resourcing and input from specialist professionals (eg specific fields of engineering, environmental specialists, planning specialists etc). Stage 5 entails a report by the planning inspector/s with a recommendation to the Secretary of State. The Secretary of State makes the decision on the DCO, He/She has powers to either; accept the planning inspector/s recommendations, accept in part and amend or add planning conditions or reject the recommendations. Stage 6 is the post decision stage commencing after the issue of a DCO by the Secretary of State. This stage includes a 6 week period of challenge. If no valid challenges are made, the promoter can then proceed with discharging the planning conditions with the relevant local planning authority/statutory body. Upon completion of discharging the planning conditions and any other environmental consents (if applicable), the promoter has achieved full planning consent and is therefore in a position to commence construction (subject to ratification of decisions to release funding and award contracts etc).

Procurement of a Land Agent

3.13 The scheme has a relatively strong starting position in relation to land assembly. Approximately 95% of all the land required by the project is owned either by North Somerset Council or Network Rail. There are a number of parcels of land that will

need to be acquired, these relate mainly to stations / station car parks. Negotiations to acquire land have already commenced and it is possible that amicable agreement could be reached between parties. Should negotiations stall, compulsory purchase procedures will be taken forward for the required land. The DCO process has the option to include compulsory purchase of land, and almost all DCO's to date have done so. In such an instance the DCO examination (DCO Stage 4) includes both examination of the planning proposals alongside examination of proposed compulsory purchases.

3.14 In order to progress the land aspects of the project it will be necessary to appoint a land agent in the coming months. An OJEU invitation to tender has been issued and tender submissions are due to be returned in April 2015. The duration of the contract will span 3 years (plus provision to extend by a further 2 years) and budget provision has been made for a spend of up to £350,000, however it is anticipated that actual spend will be lower pending the outcome of land negotiations and related matters. In addition to leading on the acquiring land, the Land Agent will also lead on arrangements to gain access to third party land, undertake land referencing, advise on the closure of various historic crossings of the rail line, production of documents for DCO, supporting all stages of the DCO process including the examination hearing, and advising on post construction matters. The authorisation of a contract for this value would normally be determined by the Executive Member. However bringing together key decision making on the project into one report increases transparency of decision making and increases efficiency as it removes the need for a separate report to the Executive Member.

Portishead Rail Station

Public Consultation

3.15 Between 16th June and 28th July 2014 the project team undertook a public consultation on the location of Portishead rail station. The consultation identified three potentially viable site options for the station, known as option 2A, 2B and 2C, all within the vicinity of Quays Avenue. The consultation leaflet is available at: www.travelwest.info/projects/metrowest/phase1/Portishead Consultation.pdf

3.16 A total of 407 people responded to the consultation and made 1014 comments on the three station options. The comments were assessed on a qualitative basis and assigned to five categories reflecting the level of support or opposition. The consultation results are summarised as follows:

- Option 2A - 174 were either strongly in support or some support, 18 were neutral and 149 were slightly or strongly against.
- Option 2B - 213 were either strongly in support or some support, 13 were neutral and 86 were slightly or strongly against.
- Option 2C - 132 were either strongly in support or some support, 7 were neutral and 152 were slightly or strongly against.

3.17 The above shows that option 2B is the most popular option by some margin. Of the 86 responses that were slightly or strongly against option 2B, 38 responses were slightly against and 48 responses were strongly against. In respect of the concerns raised about the options, the main concerns regarding option 2A from stakeholders were the close proximity of the station to residential housing, the lack of space for

modal interchange, the distance from the town centre and parking / traffic. The main concern regarding option 2B relate to parking / traffic. While for option 2C the main concerns relate to the suitability of Serbert Road to replace the function of Quays Avenue (which would be stopped up) and other parking / traffic concerns. In relation to the specific question "On the basis that one of the three station locations is selected, would you use the station? Yes or No", the response was 91% of people replied Yes. Summary details of the consultation process and responses received is available at:
www.travelwest.info/projects/metrowest/phase1/Portishead Station Consultation Report.pdf

3.18 The consultation explained that a total of six site options had been identified and all had been subject to assessment on the basis of:

- Fit with planning / transport policy,
- Environmental and social impact
- Deliverability

The assessment concluded that three of the six options were not viable and the consultation material set out an overview of reasons for this. These non-viable sites are Harbour Road Rear of Travelodge (Option 1A), Harbour Road Opposite Pure Offices (Option 1B) and Sheepway, North of Moor Farm (Option 3). The consultation material also signposted stakeholders to the full assessment (Options Appraisal Report) which was published on 16th June 2014 at:
www.travelwest.info/projects/metrowest/phase1/options appraisal

Office of Rail Regulation Letter 31st July 2014

3.19 In late July 2014, a letter was received from the Office of Rail Regulation (ORR) stating its initial view about the case for exceptional circumstances for a level crossing on Quays Avenue (email May 2013) was based on limited information. The letter stated the ORR would be willing to make a more informed decision on this matter if sufficient evidence could be provided by the promoter based on ten detailed criteria. The ORR letter is attached in appendix 3.

Technical Assessment of the case for exceptional circumstance for a level crossing

3.20 During the autumn, the project team undertook a detailed technical assessment addressing each of the ten ORR criteria. The technical assessment comprises a 40 page report, 8 appendices and 4 background documents. In early January 2015, the project team met with Portishead Town Council to discuss the emerging findings. The technical assessment was completed and submitted to the ORR on 9th January 2015. The key findings of the technical assessment are:

- a level crossing would cause a severe traffic impact and result in increased journey times and traffic congestion, loss of highway network resilience and lower highway level of service to all road users. Upon the level crossing barriers being raised, the southbound queue on Quays Avenue in the morning peak would extend to over 300 metres (the entire length of Quays Avenue).
- a level crossing would increase safety risks to existing road users including, pedestrians, cyclists, vehicle drivers and passengers. It would also increase safety risks for future train passengers and crew. Furthermore the level crossing would be within 200 metres of a local primary school and this would result in young school children being exposed to additional risks,

- a level crossing would also result in an additional train service performance risk. The train service performance (punctuality and reliability) would be directly affected by road driver and pedestrian behaviour. If drivers and or pedestrians ignore markings on the road and signs and stop too close to the level crossing, the result is the level crossing sequence cannot be activated and the train service will be delayed, waiting on a red signal. This would be the case whether a level crossing is CCTV controlled (via a remote operator) or is automated via obstacle detection devices (eg radar etc), and
- our Stage 1 road safety audit identified a number of fundamental safety issues 'with a level crossing' which cannot be fully mitigated. In respect of the 'without a level crossing' scenario, all the issues raised in the audit can be addressed through the engineering design iteration process, and
- there are viable and deliverable alternatives to a level crossing.

The technical assessment is attached in appendix 3.

Office of Rail Regulation Letter 2nd March 2015

3.21 The ORR responded to our Technical Assessment on 2nd March 2015, see letter attached in appendix 2. The letter states "The case has been considered by ORR's expert panel in line with the process set out in Rail Guidance RGD-2014-06 on interpreting and applying ORR's long established policy of no new crossings unless there are exceptional circumstances. This letter confirms the expert panel's decision ……. to NOT contemplate a level crossing at Quays Avenue…" The letter sets out the expert panel's reasons which in summary are:

- Exceptional circumstances not demonstrated sufficiently – the expert panel concluded that there was not a credible demonstration of exceptional circumstances for a level crossing,
- Other viable non-level crossing options exist – the expert panel considered all three options [options consulted on June/July 2014, namely option 2A, 2B and 2C] were preferable from a railway risk point of view, and
- Significant traffic issues would be caused leading to safety risks to the operation of the railway – the expert panel considered the proposed location of the crossing, the description of the local roads/area, the current traffic flows and projected traffic impact as set out in the technical assessment and concluded that there is likely to be an adverse impact on railway safety were a level crossing to be put in place at this site.

The expert panel agreed with page 36 of the technical assessment that "given the traffic impact set out in section 7, showing road vehicle queue lengths across the level crossing in both directions and significant volumes of pedestrians, the likelihood of vehicles or pedestrians obstructing the level crossing is high". The expert panel also accepted the reasons provided that bridges or underpasses would not be viable in place of a level crossing at Quays Avenue. The letter sets out a total of 10 major concerns identified by the expert panel, in respect of a level crossing on Quays Avenue.

Summary of Relevant Factors for determining the location for Portishead Rail Station

3.22 In summary, the project team have assessed in detail a total of 6 site options for the station. Three site options are not viable:

- Harbour Road Rear of Travelodge (Option 1A) – would require either a level crossing at Quays Avenue or a road over rail bridge, nether of which are viable.
- Harbour Road Opposite Pure Offices (Option 1B) – would require either a level crossing at Quays Avenue or a road over rail bridge, or stopping up Quays Avenue and provision of an alternative highway route (in lieu of Quays Avenue), none of which are viable.
- Sheepway, North of Moor Farm (Option 3) – would not meet the project objectives, is not within easy walking distance of the town centre, would result in a considerably lower catchment of population within 1 kilometre (resulting in; lower passenger demand, yield lower value for money business case and increased train service subsidy requirement) and would require build in Green belt.

Of the three viable sites consulted on in June and July 2014, option 2B received the highest level of support and the least level of opposition. Option 2A was the second most popular and option 2C received a broadly equal mix of support and opposition.

3.23 Option 2B was also the best performing option identified in the 2013 Options Appraisal report, achieving the highest ranking in relation to policy fit and Environmental & social impact and best aggregate score. Furthermore, option 2B is the only option that forms a prominent corner site, allowing more space for a station forecourt and more space for modal interchange eg space for pedestrians, cyclists, taxis, and buses. It is also the only station option with the main station car park next to the station, whereas the other options have all the car parking located on the opposite side of Quays Avenue/Serbert Road.

3.24 The re-alignment of the northern section of Quays Avenue and associated new junction with Haven View has been subject to a Stage 1 Road Safety Audit. The audit did not identify any fundamental road safety concerns that cannot be adequately mitigated. The audit is attached as an appendix to the submission to the ORR on the level crossing, see appendix 3. While some of the land required for option 2B is in third party ownership, negotiations have commenced but should these not prove to be amicable, the land could be acquired through compulsory purchase procedures as part of the DCO.

3.25 The evidence summarised in this report shows there is a compelling case for proceeding with option 2B as the location for Portishead rail station. Subject to endorsement of option 2B by the Executive, the concept design will need to be refined through the normal engineering design iterative process (preliminary design and detailed design). The design of the road junctions, car park access / egress and highway geometry are therefore subject to further refinement. In respect of railway infrastructure, the location of the station platform is more certain at this stage and therefore less likely to require alteration. In parallel further public consultation will be undertaken on Portishead station and the wider project to seek views on the station and to ascertain the community's design expectations, during the design process and again before the design is finalised, as set out in para 3.6 – 3.8.

4. CONSULTATION

4.1 North Somerset Council provides information and latest news specifically regarding the proposals for re-opening the Portishead line, through the 'Portishead Rail Services', webpage: www.n-somerset.gov.uk/Highways and transport/Transport planning/Transport improvement schemes/Portishead Rail Services. Five quarterly newsletters have been produced since summer 2013, in pdf format. Furthermore, information on the wider project including the train service enhancement for the Severn Beach line and Bath to Bristol line is published at www.travelwest.info/MetroWest

4.2 The project team are engaging with stakeholders, statutory bodies, land owners etc in progressing the development of the project. A MetroWest stakeholder group was established in late 2013 and meets on a quarterly basis. The meeting provides updates on progress on MetroWest Phase 1 and Phase 2 and feedback is provided by stakeholders. The project team also engages with specific groups/bodies to discuss specific aspects at this early stage of the project. During the production of the Preliminary Business Case the project team met with town and parish councils, BusinessWest, Portishead Chamber of Commerce, local schools, land owners etc. The level of engagement will now need to increase as the project progresses; the outline design, the production of the Outline Business Case and the preparation of the DCO planning application.

4.3 A six week public consultation was undertaken from 16th June to 28th July 2014 on the location of Portishead rail station. The consultation set out three viable station locations together with information on other options which were considered through an Options Appraisal report. A consultation postcard was mailed to every property (residential and commercial) within 400 metres of the rail line in Portishead. Two public consultation exhibitions were held (24th and 28th June 2014) in Portishead, and 366 people visited these over the two days. A summary of the consultation responses is set out in para 3.15 – 3.17 and a detailed consultation report is available at:
www.travelwest.info/projects/metrowest/phase1/Portishead Station Consultation Report.pdf

4.4 In April 2014, an eight-page information brochure about MetroWest Phase 1 was prepared and distributed and in early summer 2014 an overview leaflet covering both MetroWest Phase 1 and 2 and other rail projects was published. MetroWest Phase 1 and its former guise (Portishead Rail Line re-opening) have been subject to various public consultations over several years, including the WoE Joint Local Transport Plan 3, the WoE Strategic Economic Plan, the NSC Core Strategy, the NSC Development Plan Document (DPD) Consultation Version - Sites and Policies.

5. FINANCIAL IMPLICATIONS

5.1 The estimated capital outturn cost is £58.159 million and is expected to be funded from the Department for Transport Major Schemes devolved grant (which is overseen by the WoE Local Transport Body), the Local Growth Fund and local contributions by the four councils. A total of £57.665 million capital funding has been identified to date, leaving residual £494k capital to be sought.

The current capital funding profile comprises of:

- DfT Devolved allocation £44.9 million

- Local Growth Fund £8.5 million
- Local contribution by WoE Councils £4.265 million, leaving a residual budget pressure of £494k

5.2 The project preparation costs are being met by the councils up to the end of March 2016 and in total amount to £4.265 million, for all technical work streams feeding into the Outline Business Case. The share of this falling to North Somerset Council is £2.1325 million, which is being met from the Capital Programme and s106 funding. From April 2016, the remaining preparation costs are to be met from the Local Growth Fund. The £494k budget pressure arises in the construction phase which is programmed to commence in December 2017.

5.3 The estimated net train service subsidy ranges from £1.141 million pa average for the first 3 years to £1.765 million pa average for the first three years. The preliminary assessment undertaken, however, utilises relatively pessimistic assumptions for the operational costs and forecast farebox revenue and there is potential for the estimated net subsidy to be reduced to around £1 million pa. Arrangements for the apportionment of revenue costs are yet to be concluded however the share falling to North Somerset Council is likely to be 50% or lower.

5.4 More detailed work on both the residual capital pressure and net subsidy costs of the project will be undertaken in preparation of the Outline Business Case which is scheduled to report in late 2015. Pending both the conclusion of the revenue cost apportionment and more detailed technical work on both the estimated net subsidy cost, the four councils will need to undertake further financial planning in relation to the first three years of operation of the train service (2019/20, 2020/21 and 2021/22). While a final decision in relation to entering into contractual arrangements won't be needed until 2017, the four councils will need to commit to delivering the scheme, upon completion of the Outline Business Case late 2015.

6. RISK MANAGEMENT

6.1 A scheme risk register is managed by the project manager. The top three risks are:

- Scope creep arising from stakeholder expectations or revisions to priorities, causing delay to programme.
- Train service revenue support costs cause affordability problems for the councils or the councils not willing to commit, causing delay to programme.
- Infrastructure requirements of the project are more than initially scoped by Network Rail and increase the capital costs of the project which increase the funding gap and weaken the business case, causing delay to programme.

6.2 A programme and project governance structure has been put in place, with clear lines of reporting and responsibility. Scheme risks are reported to the Rail Programme Board, which in turn reports to the Joint Transport Board. North Somerset Council is the lead council and authorised body for MetroWest Phase 1. The Head of Highways & Transport is the Senior Responsible Officer, taking overall responsibility for the project. The Project Manager leads on the delivery of technical work streams and reports to the Senior Responsible Officer.

7. EQUALITY IMPLICATIONS

7.1 The project will add 10 miles to the UK National Passenger Rail Network. The project will significantly widen travel choices for residents and businesses of

Portishead and the surrounding area, giving them access to local and national destinations. Furthermore visitors to Portishead will benefit from improved access via the national train network. The rail stations and car parks will be designed to meet all statutory accessibility standards. In summary the project will have significant positive equality impacts.

7.2 A full Equalities Impact Assessment of the project has yet to be undertaken, however this work is required for the Outline Business Case work stream, to be produced by late 2015.

8. CORPORATE IMPLICATIONS

8.1 The improvement of the transport network is a key priority in the Corporate Plan. The project will play a significant role in Supporting Economic Prosperity (Aim 5) and Protecting and Improving the Environment (Aim 3). There are no specific cross-service implications.

9. OPTIONS CONSIDERED

9.1 The Preliminary Business Case sets out the project options considered. The wider context for the project option selection is as follows; the local rail network across the West of England is under-developed in comparison with similar sized city regions, local highway network is congested at key locations on arterial corridors and the overall demand for transport continues to increase. The focus of the project option selection was to address the project objectives by making effective use of dis-used / under-used strategic rail corridors in parallel with enhancements to existing local rail lines. The Preliminary Business Case is available at:
http://www.travelwest.info/mw/p1/pbc

AUTHOR James Willcock
MetroWest Phase 1 Project Manager

Appendices

Appendix 1 - Joint Technical Working Agreement draft outline structure

Appendix 2 - Office of Rail Regulation Letter 2nd March 2015 regarding the case for exceptional circumstances for a level crossing at Quays Avenue

Appendix 3 - Technical Assessment of the case for exceptional circumstances for a new level crossing 9th January 2015

Background Papers

Portishead Station Location Consultation Leaflet June - July 2014 - visit:
www.travelwest.info/projects/metrowest/phase1/Portishead Consultation.pdf

Portishead Station Location Consultation Report – October 2014 - visit:
www.travelwest.info/projects/metrowest/phase1/Portishead Station Consultation Report.pdf

Portishead Station Options Appraisal Report - visit:
www.travelwest.info/projects/metrowest/phase1/options appraisal

MetroWest Phase 1 Preliminary Business Case - visit:
www.travelwest.info/mw/p1/pbc

DRAFT

MetroWest Phase 1
Joint Technical Working Agreement (DCO) – proposed outline structure

1. Parties: North Somerset Council [and *other consortium partners*] and Network Rail

2. Acknowledgement of each party's role and set out the duty to co-operate in developing and promoting the order, respond to requests promptly to fit with timetable etc

3. Specific matters. Agreement to set out who is going to do what, including:
- project management
- land and property matters
- consultation, publicity and media engagement
- environmental
- planning
- railway operational issues
- engineering
- business case, funding and finance
- stakeholder (including objector) management
- preparation of order and inquiry documentation

4. Establish and set out terms of reference for a project steering and governance group

5. Form of order to be agreed, including:
- draft planning conditions and consents for railway property to be agreed
- (where the order seeks compulsory powers to acquire (and other powers over) railway property) standard railway protective provisions to be included

6. Process to amend order and planning conditions once the application is made

7. Agreements and undertakings to be entered into with third parties that may impact railway property (or property that will become railway property) to be agreed between the parties

8. Agreement to enter into subsequent agreements (or set out the principles to be included in subsequent agreements) including:
- property matters: ownership and transfer of land, leases, easements etc
- asset protection agreement
- responsibility to deliver the works forming the project
- funding/financing arrangements
- ownership, taking into use and operation and maintenance of new infrastructure (including who is doing what and processes to be followed, ownership and funding of new overbridges and underbridges and the need for relevant bridge agreements)
- track access arrangements
- connection agreement

9. Process for the appointment of consultants to assist in developing and promoting the order

10. Payment of parties' costs for promoting and supporting the development of the order and costs incurred in instructing external consultants and advisors

11. Boilerplate: various, including confidentiality, IPR, no partnership, variation, jurisdiction, dispute resolution etc

****

HM Assistant Chief Inspector of Railways, ORR,
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020 7282 3763
john.gillespie@orr.gsi.gov.uk

2 March 2015

James Willcock
Project Manager Metro West Phase 1
Town Hall
Weston-super-Mare
BS23 1UJ

Dear James

ORR expert panel consideration of MetroWest's Technical assessment of the case for exceptional circumstances for a new level crossing

1. Thank you for submitting your 9 January 2015 *Technical assessment of the case for exceptional circumstances for a new level crossing* to ORR.

2. The case has been considered by ORR's expert panel in line with the process set out in Rail Guidance Document RGD-2014-06 on interpreting and applying ORR's long established policy of no new crossings unless there are exceptional circumstances.

3. This letter confirms the expert panel's decision - as verbally communicated to you on 11 February by Matthew McNeal – to NOT contemplate a level crossing at the proposed Quays Avenue, Portishead location. The panel's reasons are set out below.

4. We would also like to take this opportunity to highlight, in response to a comment made in the final paragraph of page 39 of the technical document submitted, that ORR does **not** undertake risk assessments in this context; this is the responsibility of the applicant.

Exceptional circumstances not demonstrated sufficiently

5. RGD -2014-06 requires the applicant to provide sufficiently compelling evidence to demonstrate that their case is exceptional and the reasons why. The panel concluded that there was not a credible demonstration of exceptional circumstances for the installation of a new level crossing at Quays Avenue.

Other viable/preferable non-level crossing options exist

6. The proposal presented three other station location options (described as 2A, 2B and 2C in the documents) which were considered by MetroWest to be viable and would not require a level crossing. The panel noted that option 2B was the most popular (of the three) at the consultation stage. Taking the information provided into account, the panel considered all three options were preferable from a railway risk point of view.

7. The panel accepted the reasons provided that bridges or underpasses would not be viable in place of the proposed level crossing at Quays Avenue (option 1A).

Significant traffic issues would be caused leading to safety risks to the operation of the railway

8. The panel considered the proposed location of the crossing, the description of the local roads/area, the current traffic flows and projected traffic impact as set out in the technical assessment and concluded that there is likely to be an adverse impact on railway safety were a level crossing to be put in place at this site.

9. In particular the panel noted that –

- there is already congestion southbound on Quays Avenue approaching the junction with Wyndham Way with queue lengths in the AM peak being observed (as part of a full classified traffic turning count undertaken) as extending back 225 metres – 80 metres short of the proposed site of the level crossing;
- the traffic impact assessment for this potential crossing location estimated an additional 107 vehicles on Quays Avenue in both the AM and PM peak;
- the most optimistic estimated barrier down time was 12 minutes in the hour;
- by the end of the 3 minutes level crossing cycle time the queue on Quays Avenue would therefore extend back onto Harbour Road and Phoenix Way increasing in length by approximately 167 metres; and
- adding this to the existing queues would result in a combined queue length of over 300 metres distributed between Harbour Road and Phoenix Way.

10. The panel agreed therefore with MetroWest's statement on page 36 of the technical assessment that "given the traffic impact set out in section 7, showing road vehicle queue lengths across the level crossing in both directions and significant volumes of pedestrians, the likelihood of vehicles or pedestrians obstructing the level crossing is high".

11. As well as inconvenience to users, the panel considered that the likely significant blocking back of traffic would create safety risks to the operation of the railway. Blocking back causes delay to trains, leading to congestion on the rail network which materially increases risk, and potential station crowding creating risks to passengers.

12. The panel also discussed the additional risk that would be created if the proposed footbridge near Trinity Primary School were not to be provided as this would lead to a foreseeable increase in use of the crossing by vulnerable users on foot.

13. The panel also considered that lengthy barrier down time at a crossing in a town centre location could lead to inappropriate use by pedestrians giving rise to risk – when the

barriers are down there is a likelihood that a small proportion of pedestrians will jump them because they want to catch their train (or through general impatience) with considerable risk to themselves, to any witnesses, and to railway staff dealing with the incident.

14. In reaching its decision the panel also considered the other general safety impacts of level crossings including the potential for risks from road traffic accidents when the barriers are descending, involving vehicles and/or pedestrians.

15. Finally in this section, the panel observed that since the traffic census informing the technical assessment had been undertaken – and upon which the application was predicated - there have been local retail developments which mean that the impact on traffic issues is likely to be higher. More generally the traffic impact analysis had not included any provision for traffic growth.

Highway Authority "minded to object"

16. As part of its considerations the panel reviewed the October 2014 consultation report and noted in particular the following comments made by a key stakeholder, North Somerset Council's Highways and Transport Development Management included in the technical assessment document on page 32 -

> "Given the lack of available mitigation measures and the resultant traffic queue lengths, reduction in highway level of service and reduce highway network resilience, the resultant traffic impact on the town centre and the increased risks to pedestrians, the highway authority would be minded to recommend an objection to the Development Consent Order (DCO) application....."

17. ORR's panel supported this position and confirmed that if ORR was to be consulted on a statutory basis as part of the DCO or Transport and Works Act processes it would also be likely to lodge objections, in the event that the application included a level crossing, for the reasons set out in this letter.

18. I hope this letter provides a clear explanation of the reasons for the ORR panel decision in this case. If you wish to discuss it further please contact me. Note that in the interests of transparency we intend to publish this letter on our website.

Yours sincerely

John Gillespie, HM Assistant Chief Inspector of Railways

ORR expert panel Chair

Technical Assessment of the Case for Exceptional Circumstances for a New Level Crossing

MetroWest Phase 1

9th January 2015

MetroWest

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6. **Description of other options**
7. **Details about the rail traffic and road traffic impact**
8. **Details about the level crossing**
9. **Details about the financing and economic case**
10. **Any other relevant or helpful information**

Appendices

Appendix 1 - ORR letter of 31st July 2014
Appendix 2 - Portishead station site option 2C concept design
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Appendix 4 - Portishead station site option 2A concept design
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Appendix 6 - Classified traffic turning count of Quays Avenue and non motorised users
Appendix 7 - Road safety audits
Appendix 8 - Severity of a collision comparison of average car vs passenger train

Background Documents

Portishead Station Options Appraisal Report - visit:
www.travelwest.info/projects/metrowest/phase1/options appraisal

Portishead Station Location Consultation Leaflet June - July 2014 - visit:
www.travelwest.info/projects/metrowest/phase1/Portishead Consultation.pdf

Portishead Station Location Consultation Report – September 2014 - visit:
www.travelwest.info/projects/metrowest/phase1/Portishead Station Consultation Report.pdf

MetroWest Phase 1 Preliminary Business Case - visit:
www.travelwest.info/mw/p1/pbc

Introduction

This document is submitted to the Office of Rail Regulation (ORR) in response to further consideration by the MetroWest Phase 1 project team of the feasibility of a new level crossing at Quays Avenue, Portishead. The document has been compiled in accordance with the criteria provided by the ORR which it uses in considering the case for exceptional circumstances for a new level crossing, as set out a letter of 31st July 2014 (attached in appendix 1). Further detail and supporting information is provided in appendices and background documents. The MetroWest Phase 1 project team, request a formal response from the ORR on whether or not it would be minded to support the authorisation of a new level crossing at Quays Avenue.

The MetroWest Phase 1 project proposes to deliver half hourly train services for the Severn Beach line to Avonmouth (hourly beyond Avonmouth), half hourly train services for local stations between Bristol Temple Meads and Bath Spa and half hourly train services for a re-opened Portishead line with stations at Portishead and Pill. The project is being promoted by the four West of England councils; Bath & North East Somerset, Bristol City, North Somerset and South Gloucestershire. The project forms part of a wider MetroWest programme to deliver strategic enhancements to the local rail network over the next 10 years during Control Period 5 and 6. MetroWest Phase 1 is being led by North Somerset Council on behalf of the four councils. In respect of infrastructure, the MetroWest Phase 1 project in summary comprises rebuilding the 5km dis-used section of railway between Portishead and Pill, upgrading the Portbury freight line, partial reinstatement of the Down Relief line near Bedminster station, minor signalling works at Avonmouth and a crossover and signalling at Bathampton.

It is acknowledged that the formal process for seeking authorisation for a new level crossing is undertaken through the Transport & Works Act Order (TWAO) process or the Development Consent Order (DCO) process, depending on the context. It has been confirmed that the MetroWest Phase 1 is a nationally significant infrastructure project (NSIP) because it includes more than 2km of railway build outside the existing operational railway. The Planning Act 2008 requires NSIPs to be subject to the DCO process for planning powers to build and operate the proposed development. Post completion of the construction works, the Portishead rail line will return back into the national rail network and all the rail infrastructure will be owned and operated by Network Rail.

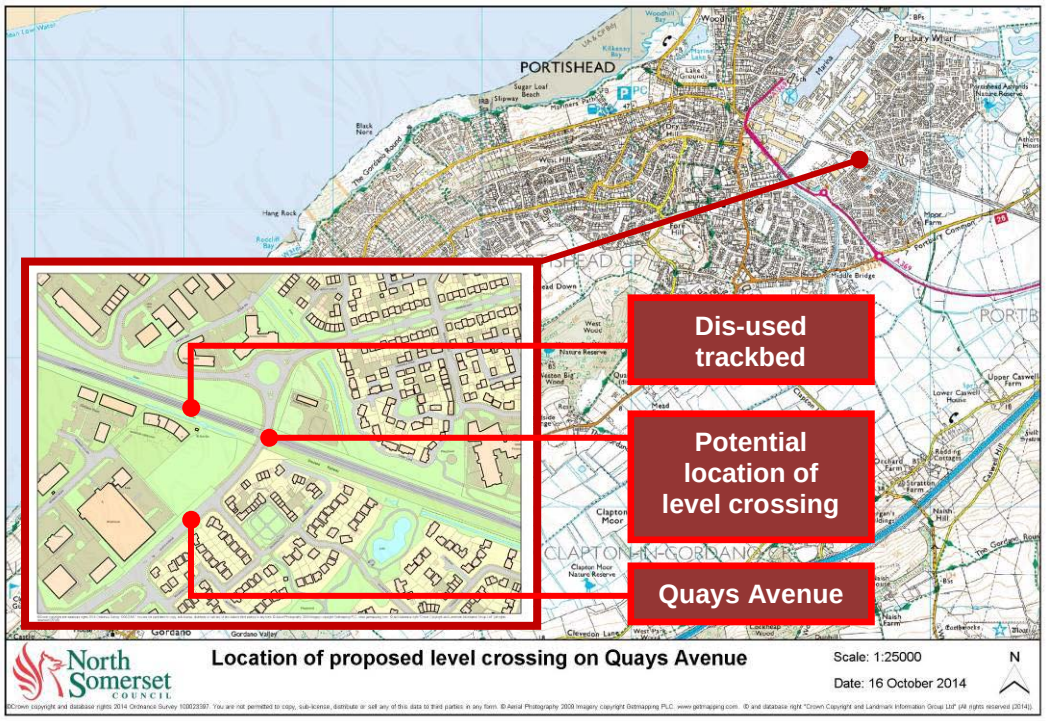
The DCO process is a six stage process taking up to three years. The planning consent granted through a DCO relates specifically to the infrastructure design set out in the DCO application. Unlike the TWAO process, the DCO process does not entail limits of deviation, which allows infrastructure engineering design to be amended within a specified geographic area. Consequently, it is necessary for the MetroWest Phase 1 project to seek clarification from the ORR now, on whether or not it would support a new level crossing at Quays Avenue, in order to inform the project infrastructure design to be included in the DCO application (the pre-application stage). The pre-application stage entails a considerable investment in resources and time, given the technical requirements including; GRIP design / project development stages, Environmental Impact Assessment, an Environmental Statement and formal consultation processes.

All blue italic text in this document is extracted from the ORR letter of 31st July 2014. The ten criteria have number numbered 1 to 10 for ease of reference.

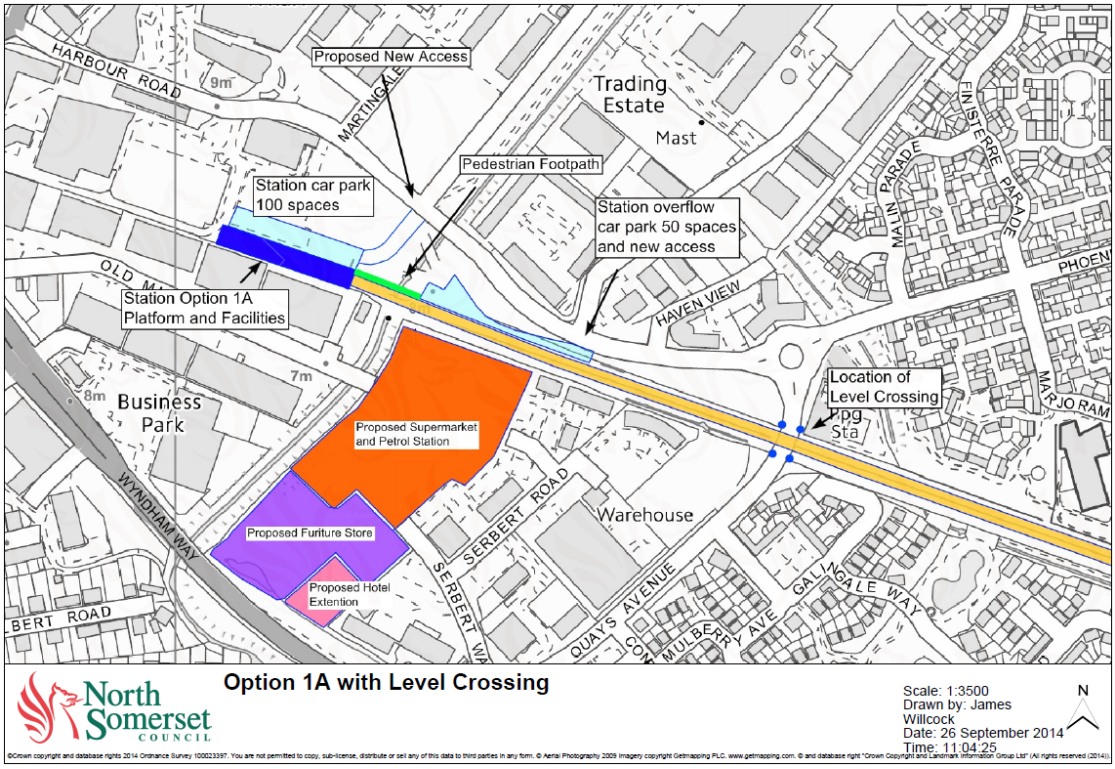
The applicant would need to submit:

1. the location of the proposed crossing including photographs and diagrams;

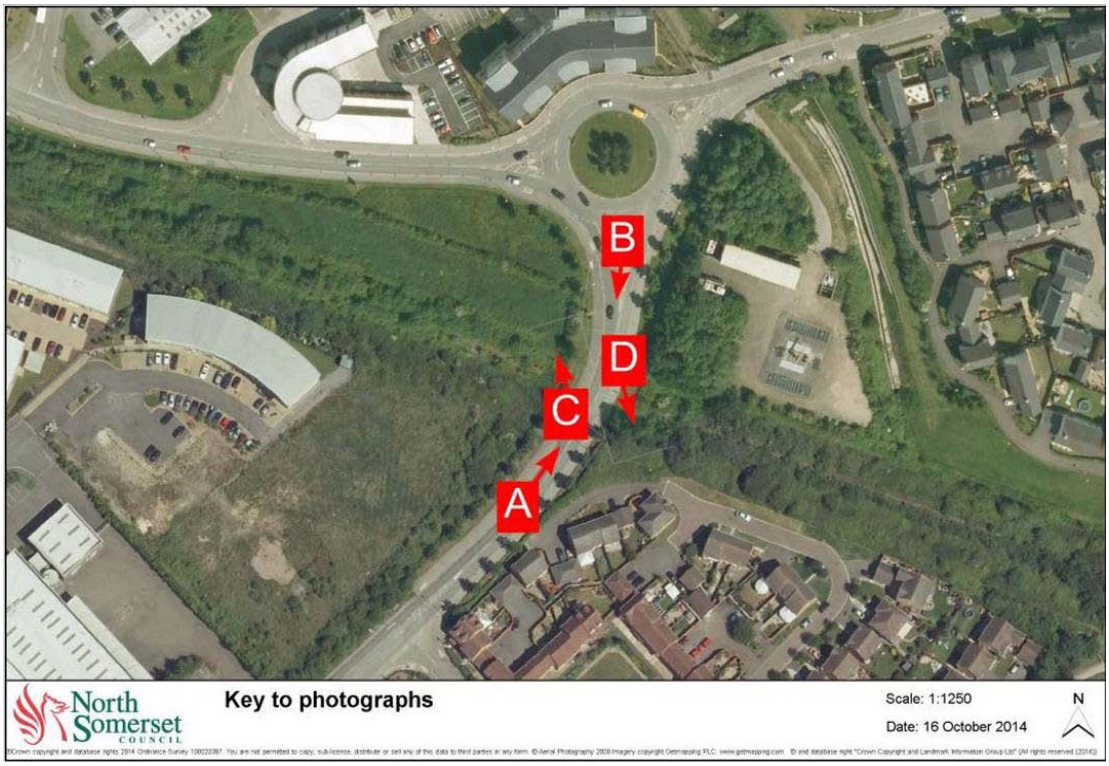
Location map



Plan of possible station site with level crossing in place



Direction of Photographs



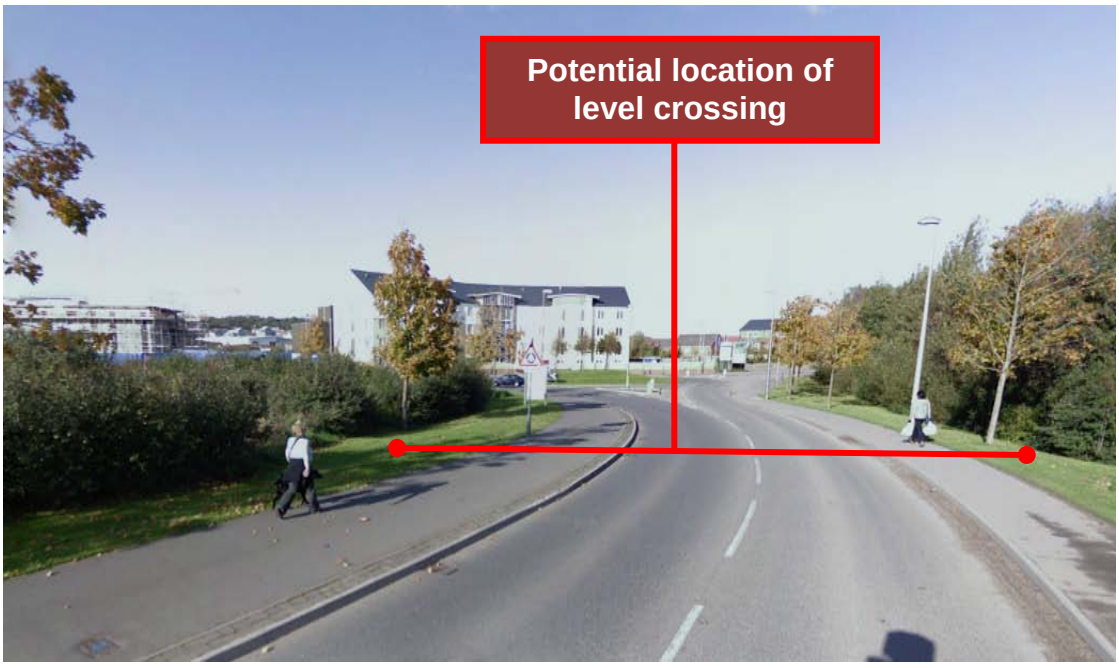
Photograph A. Quays Avenue looking north



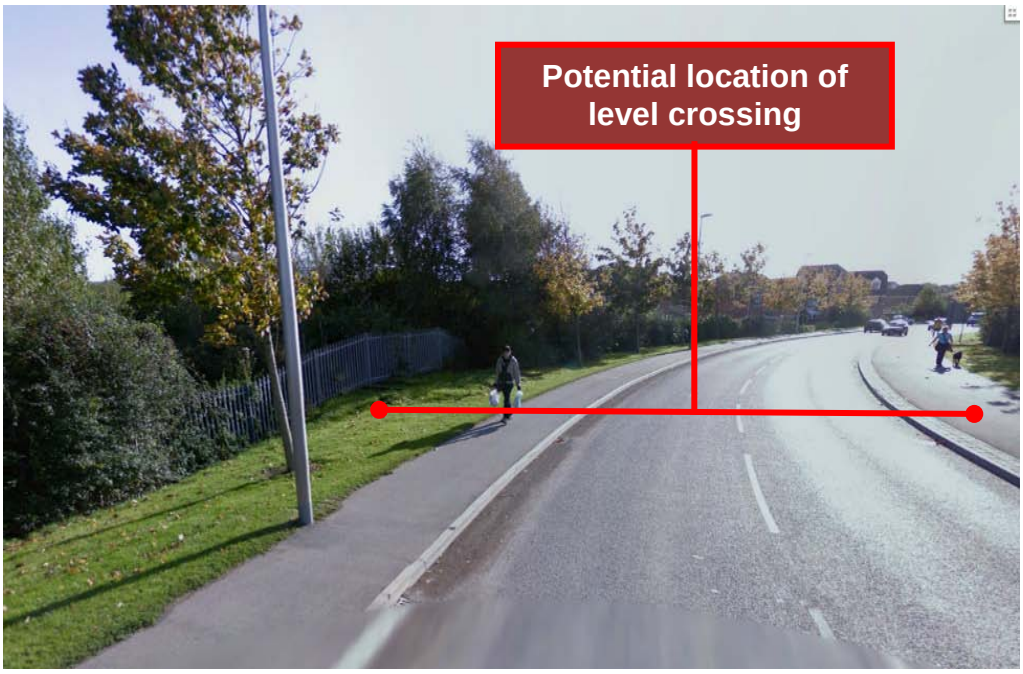
Photograph B. Quays Avenue looking south



Photograph C. Approach from the south looking westwards



Photograph D. Approach from the north looking eastwards



2. information about the proposer of the scheme/applicant for a new crossing and the proposed crossing operator;

The MetroWest Phase 1 project is being promoted by the four West of England unitary councils, Bath & North East Somerset, Bristol City, North Somerset and South Gloucestershire. MetroWest Phase 1 is being led by North Somerset Council on behalf of the four councils. The operator of the level crossing would potentially be Network Rail as the Portishead rail line will return back into the national rail network. However the project is at an early stage of development having recently completed GRIP stages 1 & 2. Should the outcome of this submission be that the ORR determine there are exceptional circumstances for a level crossing, it would be necessary to undertake more detailed work including; engineering design / GRIP requirements, wider operational and safety case considerations and consideration of the likelihood of whether a network change would ultimately be authorised by Network Rail.

3. proposed timescales for any new crossing;

Any new level crossing at Quays Avenue would need to be delivered as part of the MetroWest Phase 1 project. The project timescales in summary are to commence construction in late 2017 and open with passenger train services operating from May 2019.

To achieve this, there are numerous technical processes which the project has to undertake, including the six stage DCO process, the Network Rail GRIP process, the business case development process, statutory consultation processes, procurement of the infrastructure works and train operator, various legal and contractual processes and governance / funding endorsements. The project is being developed in four key stages. Stage 1 'Feasibility' was completed in summer 2014. Stage 2 'Option development and scheme case' is underway and is due to be completed by March 2016, with the submission of a DCO planning application. The overall timescales are shown the following table.

Project Stage	Stage Description	Indicative Timescale
Stage 1	Feasibility (including GRIP 1-2)	April 2013 to September 2014
Stage 2	Option development and scheme case (including GRIP 3-4)	October 2014 to March 2016
Stage 3	Planning powers and procurement (including GRIP 5)	April 2016 to Nov 2017
Stage 4	Construction and opening (including GRIP 6-8)	December 2017 to April 2019 Train services commence May 2019

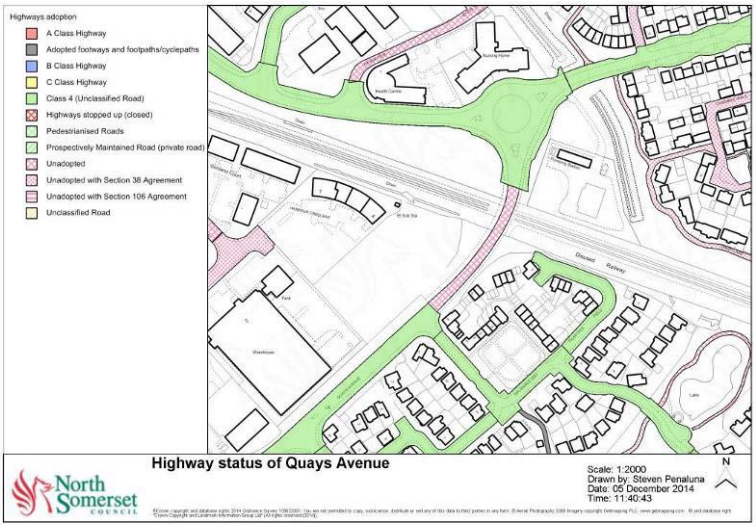
This is a challenging timescale given the requirement for substantial statutory processes including the DCO process. In order for the project to remain 'on programme', the project team request the ORR provide an early response on this matter. The funding and delivery risks of the project are being met by the West of England councils, and the cost of delay (for whatever the reason) falls on the councils.

4. confirmation that there is a right of way, and whether any relevant authorisations/Orders need to be sought through the Transport at Work Act procedures;

Quays Avenue was a developer funded highway link, providing a southern highway connection between the Portishead Vale housing development and the A369 Wyndham Way, and opened in 2000 south of the railway, then later extended over the dis-railway connecting to Harbour Road and Phoenix Way. Most of Quays Avenue is adopted public highway, however the section crossing the dis-used Portishead rail line is un-adopted public highway, see map below. Further information about un-adopted public highways is available from www.parliament.uk/briefing-papers/sn00402.pdf.

As set out in the introduction, the project requires a Development Consent Order for planning powers to build the infrastructure and operate the train service. The planning powers to be acquired relate to the re-building of the 5km of dis-used railway between Portishead and Pill and upgrade works to the existing Portbury freight line. The powers also include consent for associated infrastructure such as new stations, provision to stop up historic easements over the railway and if necessary compulsory purchase of land.

Plan Showing Highway Status of Quays Avenue



5. details of any liaison that has already taken place with other Departments and agencies such as the Department for Transport, Highways Agency or local highway authority, planning authorities and other local bodies and interested stakeholders, including a summary of the responses/views received;

Liaison and correspondence has been ongoing with various government departments and agencies. In addition various consultations have been undertaken with local business and stakeholder groups and the public. A summary is set out in the table below:

Department / agency	Liaison summary	Date(s)
Office of Rail Regulation	Initial approach made from NSC asking whether ORR would be likely to support the delivery of a new level crossing.	17 May 2013
	Response from Paul Wilkinson, ORR Senior Executive Customer Correspondence Team stating "the ORR would not authorise a new crossing at this point."	12 July 2013
	Response from Richard Price, ORR Chief Executive, to Liam Fox MP advising the project of the criteria the ORR use to consider exceptional circumstances for a new level crossing.	31 July 2014
Department for Transport	Liam Fox MP, writes to Patrick McLoughlin MP, asking for enquiring about a new level crossing at Quays Avenue.	12 June 2014
	Response to Liam Fox MP, from Patrick McLoughlin MP advising that "the decision to reject or approve new level crossings remains with ORR as the independent railway safety regulator and Ministers have no locus to intervene". Advises further liaison with the ORR	14 July 2014
	Portishead Town Council write to Patrick McLoughlin MP, asking for assistance in securing a level crossing.	16 July 2014
	Claire Perry MP, responds to Portishead Town Council (on behalf of Patrick McLoughlin MP) stating why level crossings are only allowed in exceptional circumstances, that ministers cannot intervene, and encourages responding to the MetroWest consultation	20 August 2014
North Somerset Council	Initial approach made to Development Management in relation to draft pre-app programme for the DCO	10 February 2014
	Development Management advised of Portishead Station public consultation launch	23 June 2014
	Development Management advised of Preliminary Business Case submission and requested a meeting to discuss both the planning and the highway implications of the project	8 September 2014
	Road Safety Audit commissioned on station site options and at the location of possible level crossing on Quays Avenue	26 September 2014

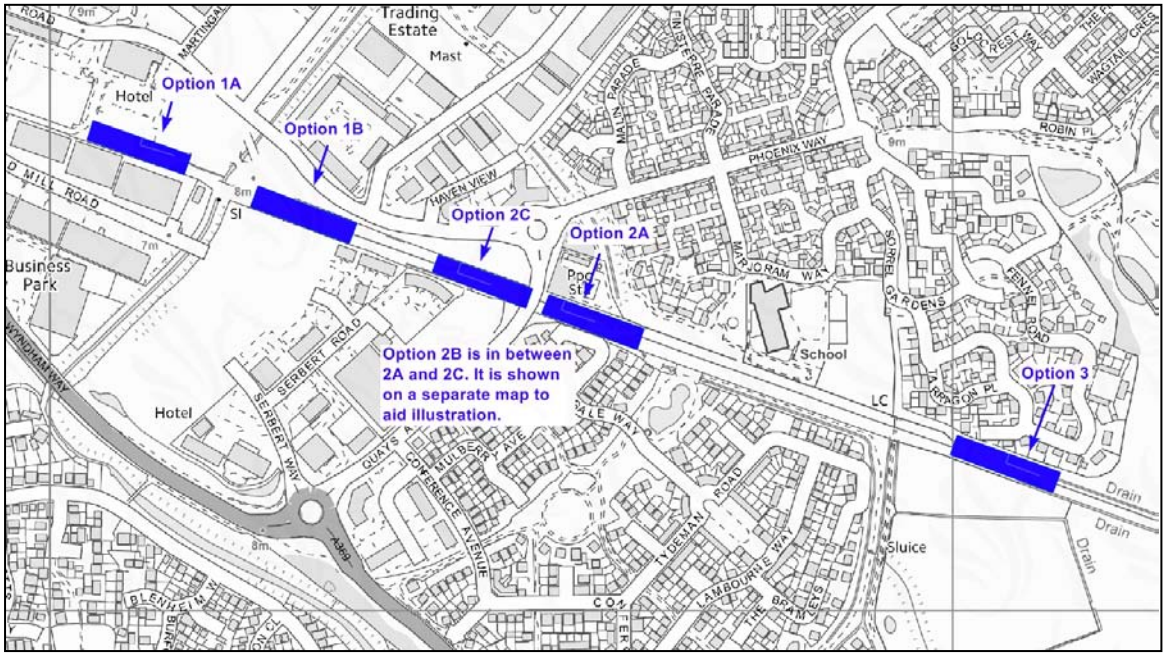
Public consultation / stakeholder engagement	NSC Sites & Policies Development Plan Document Consultation: • Proposed three options for the location of Portishead rail station, a town centre option, an option on Quays Avenue and an edge of town option, • 15 representations were received relating to the general rail policy for North Somerset. 5 supporting the policy and 10 additional comments, • 144 representations received specifically for the Portishead rail link. Strong level of support for the line to re-open, while a small number of respondents raised some concerns, • The town centre option which requires a road bridge or a level crossing is the most popular, • The option on Quays Avenue, without the need for a level crossing was raised 20 times as being the most pragmatic solution given the issues for the town centre option, • Requests that the location for Portishead station should avoid adding to congestion, inconvenience, disturbance, and assess risks to child safety, • Thoughts that the sites that don't require a level crossing (except the out of town option) are too constrained, with inadequate parking, • Varying concerns over possible closure of foot crossings; intrusive impact of a road bridge instead of a level crossing at Quays Avenue; negative impact on congestion; and an adverse impact on local residents, • Support for lobbying to allow a level crossing at Quays Avenue.	February 2013
	Portishead Station Options Appraisal report: • Six station location options appraised taking account of policy fit, environmental & social impact and deliverability • Appraisal shortlisted three viable sites (2A, 2B and 2C) and concluded that three site options were not sufficiently robust to take forward (1A, 1B and 3). Option 1A required a road over rail bridge or a level crossing. Option 1B required stopping up Quays Avenue to all traffic and alterations to the highway network. Option 3 entailed an edge of town site in the green belt, • Options Appraisal Report posted on West of England Travelwest website under 'MetroWest' pages.	June 2014
	Portishead Station location consultation: • Consultation based on the three sites identified in the Options Appraisal Report, • Series of public exhibitions held and consultation material produced and distributed, • Overwhelming support for the reopening of the	June / July 2014

Public consultation / stakeholder engagement	Portishead rail line, • Over 90% would use one of the three station location options, • A small number of respondents including Portishead Town Council expressed a preference for the previous town centre site option 1A with a level crossing at Quays Avenue, rather than a road bridge. • Public Consultation Report published on West of England Travelwest website in October 2014.	
	MetroWest stakeholder events: • Series of presentations and question and answer sessions with campaign groups, stakeholders and members of the public, • Representatives include the four West of England councils, Network Rail, First Great Western and British Transport Police.	• Oct 2013 • April 2014 • September 2014 • December 2014
	Other engagement as required with: • Local MPs and Councillors • National Government departments • Campaign Groups • Neighbourhood and community groups • Parish and Town Councils • Local media • Relevant local government meetings such as scrutiny and transport forums • Universities • Local businesses • Local landowners • Local schools • Environmental groups such as the Environment Agency and Natural England • Bristol Airport • Bristol Port Company • Business groups such as the Chamber of Commerce • Presentations at regional and national conferences such as the Chartered Institution of Highways & Transport etc	Ongoing

6. a description of what other options have been considered, such as bridges and underpasses, the financial costing, and the reasons why these have been discounted;

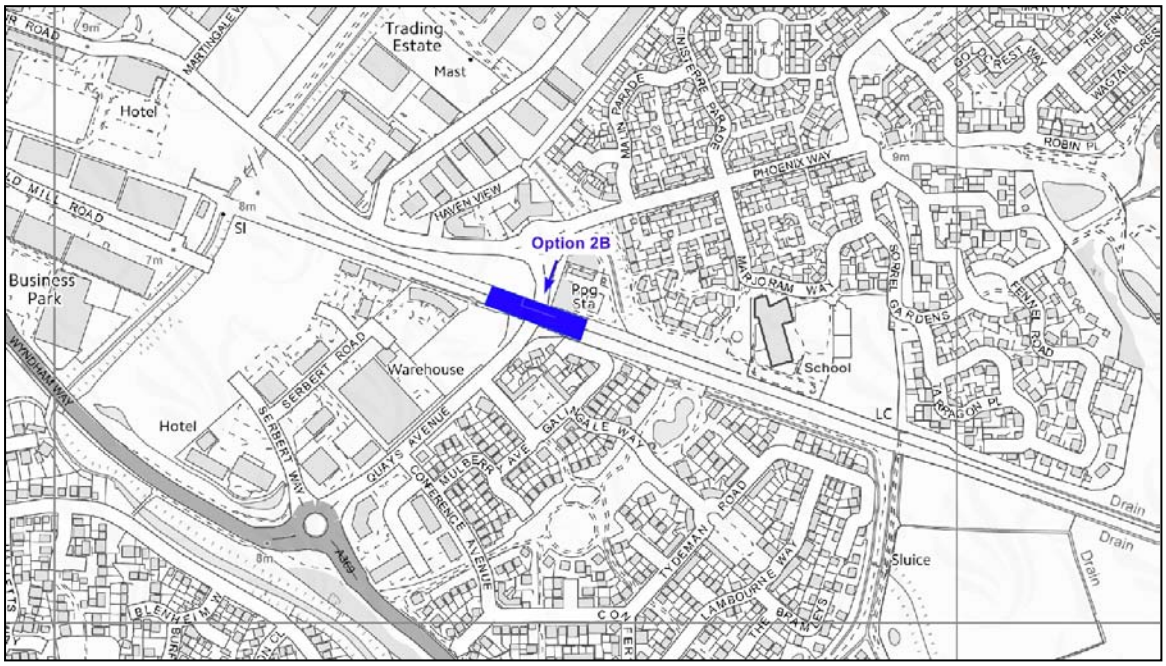
The location of Portishead rail station in 1964 prior to the closure of the line was on land currently owned by Waitrose on Harbour Road. In February /March 2013 North Somerset Council through the Sites and Policies Plan (Consultation Draft) consulted on a town centre site, a site at Quays Avenue and an edge of town site. However, deliverability challenges with these sites resulted in the need for wider assessment of site options to determine the most appropriate and deliverable site for the station. In spring 2014 the MetroWest Phase 1 project team commenced work on this wider assessment and published the Portishead Rail Station Options Appraisal Report in June 2014, online at www.travelwest.info/mw/p1/pbc. The options appraisal considered a total of six station sites, comprising of the three sites previously identified in 2013, plus three further sites, as shown below.

Plan of Site Options Considered in Site Options Appraisal



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



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

The options appraisal assessed the viability of the six station sites in relation to policy fit, environmental & social impact and deliverability, in accordance with technical guidance issued by the Department for Transport.

Site Option 1A – 300 meters from the town centre

The options appraisal discounted a new level crossing on Quays Avenue on the basis of national policy context, the ongoing programme the rail industry has underway to close level crossings and initial liaison with the ORR on the feasibility of a new level crossing. An alternative approach was assessed in the options appraisal which entailed a road over rail bridge at Quays Avenue. A concept design for a bridge was undertaken and is included in the options appraisal report. The space available for a bridge which also has to form a junction between Quays Avenue, Harbour Road and Phoenix Way, is very confined and there is not enough space for a standard road bridge. It therefore would be necessary for the bridge design to have a steep gradient, greater than the maximum allowed under highway design standards. This would also cause issues in respect of compliance with Disability Discrimination Act legislation. Furthermore, the visibility at the brow of the bridge would be very limited and consequently it would be necessary for the elevated junction between Quays Avenue, Harbour Road and Phoenix Way to be predicated on traffic signal control.

The environmental impact of the bridge would be significant given that the Quays Avenue, Harbour Road and Phoenix Way junction would have to be elevated five meters above existing road level. There are residential and commercial properties within a few meters of the highway that would be significantly impacted. The steep gradient of the bridge would also have wider social impacts on specific groups in the community, particularly on people with mobility impairments. Given all issues in relation to design standards, environmental and social impact of the bridge and the cost of the bridge, the overall assessment of the options appraisal was that option 1A was not sufficiently robust to take forward.

Other alternatives such as tunnelling / cuttings were considered by the project team at project inception, for station site option 1A. A range of options were identified including:

- Tunnelling or cutting the railway under Quays Avenue,
- Partial cutting of the railway under Quays Avenue and low level road bridge over Quays Avenue,
- Tunnelling or cutting Quays Avenue under the railway, and
- Partial cutting Quays Avenue under the railway and low level railway bridge over Quays Avenue

All the tunnelling / cutting options would require very substantial engineering interventions. The gradient tolerances of railways mean that in order to lower the railway below the existing road level at Quays Avenue, the railway alignment would require lowering for several hundred metres either side. The lowered track would need to be supported with retaining walls on both sides for the entire length. The cost of this extensive structural engineering would be into the tens of millions and would be beyond the available funding envelope of the project. The option of partial cutting the railway, combined with a low level road bridge would increase the scope of the structural engineering required and hence would be likely increase costs further. Tunnelling or cutting Quays Avenue under the railway is not viable because there is insufficient space north of the railway for a road tunnel to traverse the existing highway level at the junction of Quays Avenue, Harbour Road and Phoenix Way. In addition to all these issues, the water table in Portishead is high and this would potentially increase the flood risk and the amount of engineering required, consequently increasing the cost of any tunnelling option. The increased cost of any tunnelling option would also have a detrimental impact of the project business case, given the appraisal period is 60 years. This would result in a lower project benefit to cost ratio and would increase the risks to the councils in promoting and delivering the project. In conclusion, with added costs of tens of millions, no available funding, environmental impacts and a weakened business case, the project team discounted the all tunnelling options at an early stage.

Site Option 1B – 400 meters from the town centre

This option would require stopping-up Quays Avenue to all traffic and alterations to the local highway network. The loss of a north to south highway connection between Phoenix Way (the Village Quarter area) and Wyndham Way A369 (strategic route to J19 of the M5) would have the effect of routing all traffic via Cabstand (town centre). The town centre already suffers from congestion and has seen some high profile alterations to the Cabstand junction. Option 1B is an attempt to provide an alternative route to Quays Avenue however the route options are very limited and as a result only a very indirect alternative route could be provided. A plan of option 1B is included in the Options Appraisal Report. The lack of a direct north south highway connection would result in a severe traffic impact, as it would increase pressure on key junctions, result in longer journeys times and congestion, direct more traffic into the town centre and reduce the resilience of the highway network. This option would also require significant third party land. The options appraisal assessment found that Option 1B was not sufficiently robust to take forward.

Site Option 2C – 550 meters from the town centre

Option 2C would require partial demolition of an office building and third party land, stopping up Quays Avenue and highway alterations to link Serbert Road to Harbour Road (as an alternative route to Quays Avenue). The width of Serbert Road is narrower than Quays Avenue and this would necessitate the introduction of parking restrictions. The station car park would be located across the road from the station, this would require a new pedestrian crossing on Serbert Road. This option has sufficient space to provide basic interchange facilities with other modes. The options appraisal assessment found that Option 2C was a potentially viable option and recommended it be shortlisted for further consideration. A concept design of option 2C is shown in appendix 2.

Site Option 2B – 600 meters from the town centre

Option 2B would require highway alterations to re-align Quays Avenue, a new junction between Quays Avenue, Harbour Road and Phoenix Way and acquisition of third party land. This option has the main station car park located on the station site and a similar sized overflow car park located on the other side of Quays Avenue. A new pedestrian crossing would be provided on Quays Avenue. This option has sufficient space to provide more comprehensive interchange facilities with other modes. The options appraisal assessment found that Option 2B was a potentially viable option and recommended it be shortlisted for further consideration. A concept design of option 2B is shown in appendix 3.

Site Option 2A – 700 meters from the town centre

This option requires no highway modifications other than a new access for the station car park. The station car park would be located across the road from the station, this would require a new pedestrian crossing on Quays Avenue. This option has sufficient space to provide basic interchange facilities with other modes. The close proximity of this option to existing residential housing would cause some localised environmental impacts, particularly in respect of amenity. The options appraisal assessment found that Option 2A was a potentially viable option and recommended it be shortlisted for further consideration. A concept design of option 2A is shown in appendix 4.

Site Option 3 – 1.3 km from the town centre

This edge of town option is not within easy walking distance of the town centre, is located in the green belt and has a considerably lower population catchment within a 1 km radius. A new highway access road, car park and acquisition of third party land would be needed. This option would necessitate the vast majority of Portishead residents to access the station by car or where practical by bus, taxis, cycle with a relatively limited number of people walking. This would result in a number of undesirable social inclusiveness and social distributional impacts, particularly in respect of the younger and older age groups of the population. Furthermore, the site would not be

convenient for visitors to Portishead, given the requirement for modal inter-change. Consequently the station would be more akin to a park and ride facility than a conventional local rail station. The options appraisal assessment found that Option 3 was not sufficiently robust to take forward.

Options Appraisal Assessment Summary

The following table (Table 6.1 extracted from the Options Appraisal Report), provides an overview of the six options. The full options appraisal report is available at: www.travelwest.info/projects/metrowest/phase1/options appraisal

Overview of Assessed Site Options (Extracted from the Options Appraisal Report)

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 would 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.

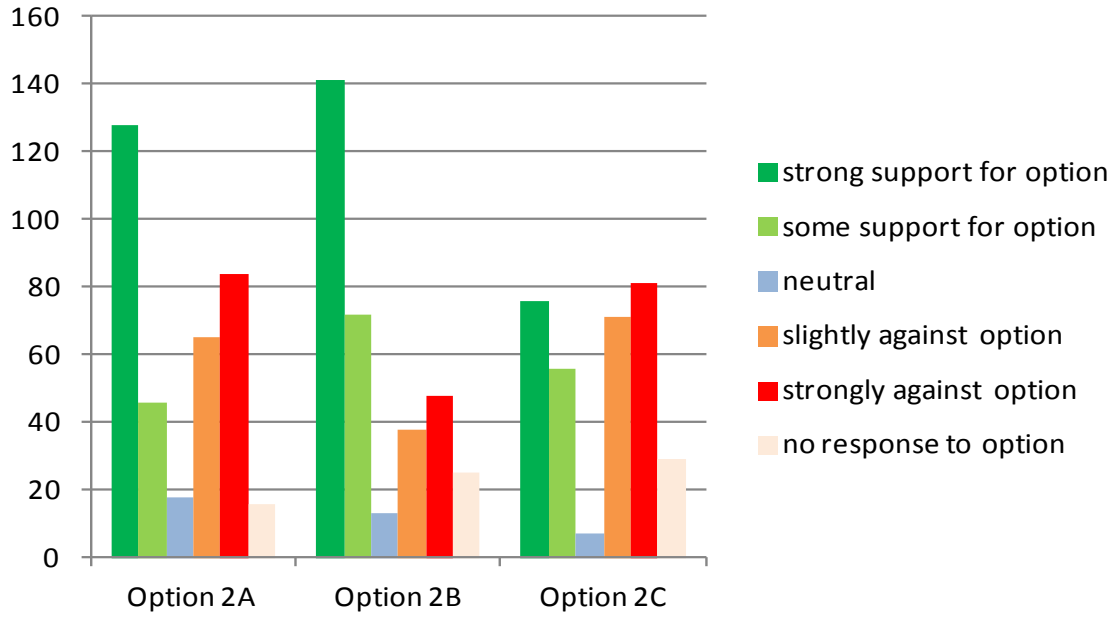
Public Consultation June – July 2014

On the basis of the findings of the options appraisal assessment, the project team undertook a public consultation on the three shortlisted station sites: option 2A, 2B and 2C. The public consultation opened on 16th June for a six week period and closed on 28th July. The consultation included:

- distribution of consultation postcards to every property within 400 metres either side of the station location options,
- distribution of consultation leaflets setting out details on the three station sites with a feedback questionnaire,
- a press release issued to local media before the consultation period began, summarising why the consultation was happening, how to get more
- briefings with local councillors about the consultation proposals
- an online dedicated web page was set up for the consultation period on the TravelWest site at www.travelwest.info/mw/portishead.
- social media - the Twitter accounts of MetroWest, MetroBus, North Somerset Council, AskBristol and Bristol City Council were used to promote the consultation, which was subsequently retweeted by a significant number of accounts.
- a Newsletter about scheme development was also provided through the West of England's quarterly transport newsletter, available as hard copies and via the TravelWest website.
- two public consultation exhibitions were held at Portishead Methodist Church, where stakeholders were able to meet the Project Team. The exhibition took place on Tuesday 24 June (2pm – 6.30pm) and Saturday 28 June (10am – 2pm).
- a programme of public and stakeholder engagement was undertaken. Presentations were made to community and business groups about the consultation proposals and groups were signed posted to how they could provide their feedback.

A total of 407 responses were received to the consultation. The responses gave overwhelming support for the reopening of the Portishead rail line. All three options had a similar number of comments and levels of support. Option 2B was the most popular with the highest number of people supporting and the least against. Option 2A also had more people supporting than against. The response to option 2C was more mixed with a similar number of people supporting and against. See bar chart below, which is extracted from the Portishead Rail Station Location Scheme Consultation Report summarising the consultation process and responses, published on the West of England Travelwest website in September 2014, visit:
www.travelwest.info/projects/metrowest/phase1/Portishead Station Consultation Report.pdf

Bar Chart Summarising Responses to Portishead Station Consultation (Extracted from the Consultation Report)



The consultation questionnaire also asked respondents "On the basis that one of the three station locations is selected, would you use the station" Yes or No? Of the 374 responses to the question, 340 answered "Yes" which is 91%.

A small number of respondents including Portishead Town Council expressed concerns about the three options and gave preference for the previous town centre site option 1A with a level crossing at Quays Avenue, rather than a road bridge.

In light of the interest in the feasibility of a level crossing and the further clarification by the ORR on the criteria used to determine exceptional circumstances for a new level crossing, the project team agreed to undertake further technical assessment. This technical assessment is set out in this document and awaits a response from the ORR.

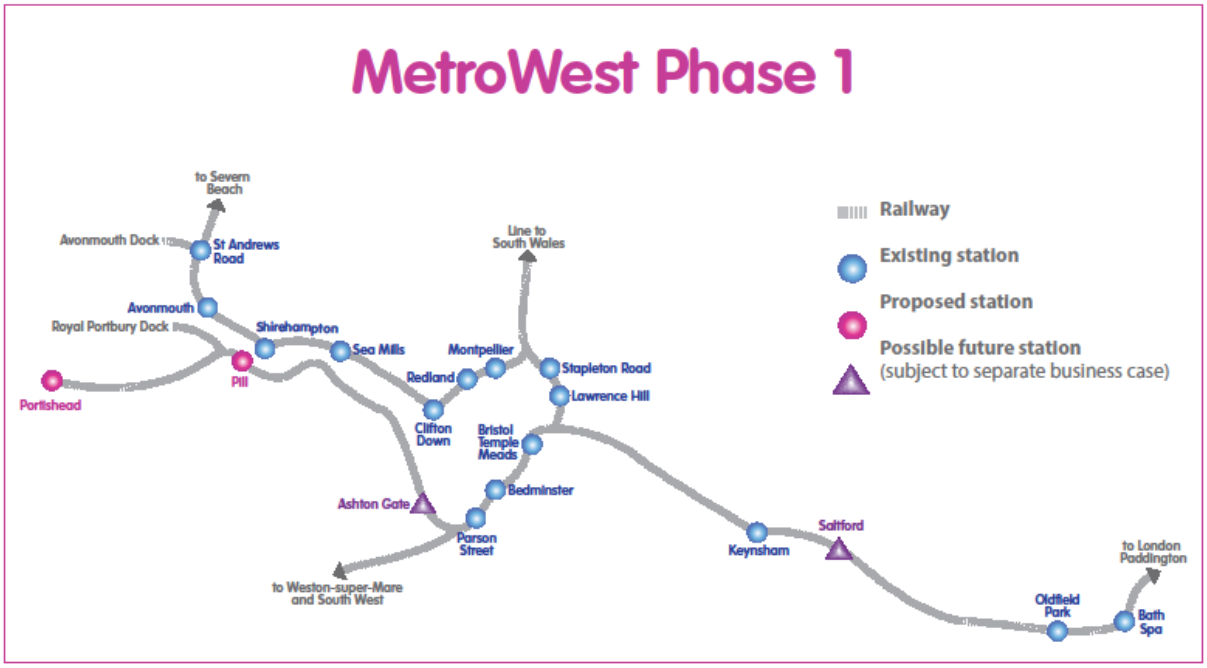
At this stage no decisions have been made regarding a preferred option for the location of Portishead station. The consultation responses as summarised in the consultation report, as well as the ORR's response to the technical assessment for a level crossing will be used to inform decision making.

7. information about the road and rail traffic at any proposed crossing including the results of censuses;

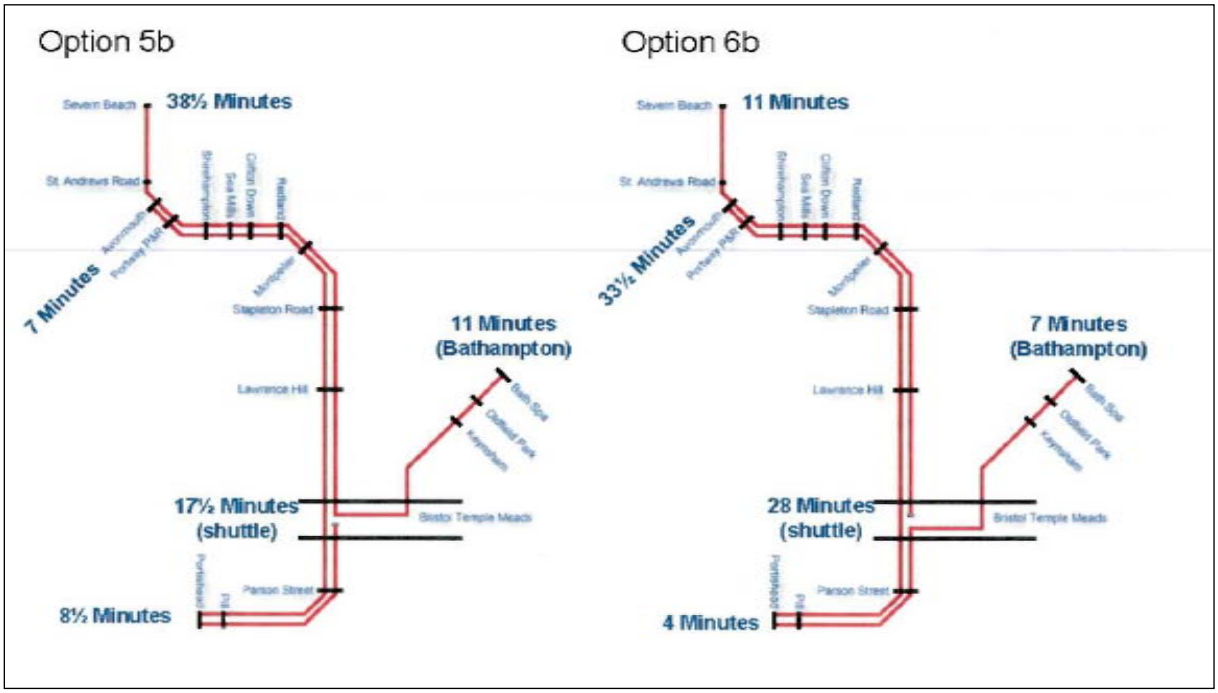
Proposed Rail Traffic

GRIP stage 2 was completed in July 2014, setting out the feasibility of the MetroWest Phase 1 project. The following information is taken from the GRIP 2 deliverables.

Rail Line and Train Service	**Details**
Line configuration	The Portishead line will be a single track line to Pill station, where it will converge with the Portbury freight line at a new junction (Pill Junction) west of Pill tunnel. South of Clifton tunnel no 1 the existing single line will be double tracked through to Ashton Gate. Parson Street junction will be upgraded to form a double track connection with the main line. Other minor works are required elsewhere to facilitate train service enhancements on the Severn Beach line and the Bristol to Bath line, as reported in GRIP 2.
Line speeds	Line speed from Portishead to Pill will be 75 mph, reducing to 25 mph approaching Portishead station, and reducing further approaching the buffer stop.
Train service routes	Two options are being scoped known as option 5B and 6B. Option 5B - links the Portishead line through to the Severn Beach line (to Avonmouth) and provides a Portishead to Bristol Temple Meads shuttle. The Severn Beach line is also linked through to Bath. Option 6B - links the Portishead line through to the Severn Beach line (to Avonmouth) and links the Portishead line through to Bath.
Train service frequency	Both option 5B and 6B entail the provision of a clock-face half hourly passenger train service for; the Portishead line, the Severn Beach line (hourly for St.Andrews Road and Severn Beach) and local stations between Bristol Temple Meads and Bath.
Rolling stock and formations	The passenger train service will be operated using either class 16x or class 15x trains, initially in either 2 car or 3 car formations and in the medium term 4 car formations.
Train operator	The train operator is yet to be confirmed, however discussions are progressing with the incumbent operator First Great Western, who support the MetroWest Phase 1 proposals.
Train capacity (Railsys) modelling	Initial analysis of train pathing and infrastructure constraints has been undertaken through Railsys modelling. This has been reported as part of the GRIP 2 deliverables; Analysis and Forecasting Interim Report November 2013 and Capability Analysis Addendum Report July 2014 (see appendix 5).



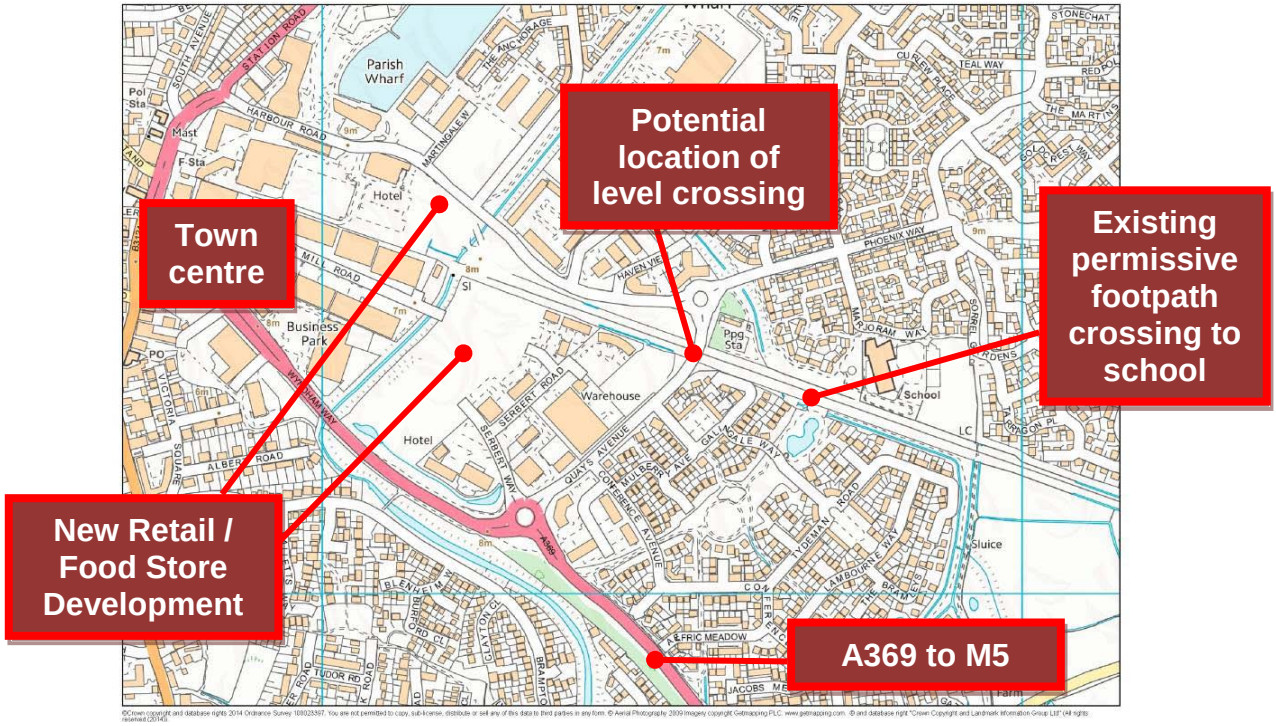
As described above there are two train service route options 5B and 6B, these are shown in the diagram below. Each red line indicates one train per hour. Note the one train per hour shown for the Bristol to Bath line (local service) is to be overlaid with the existing one train per hour. The minutes shown indicate the train turnaround time in accordance with the timetable, which varies for each option due to differences between how the three rail lines are connected together as through routes.



For option 5B trains have a turnaround time of 8½ minutes at Portishead. For option 6B trains have a turnaround time of 4 minutes. For further information about the configuration of the train service refer to appendix 5 Capability Analysis Addendum Report, which reports the findings of Railsys modelling and implications for train service performance.

Road Traffic Context

Site Description and Existing Conditions



The plan above shows the potential location for the level crossing on Quays Avenue in the context of the local road network. The location of the level crossing is approximately 45 metres south of entrance to Quays Avenue from the junction with Harbour Road/ and Phoenix Way. The existing permissive footpath crossing linking Galingale Way with Trinity Primary School will be closed and a DDA compliant footbridge and or enhanced footpath links is proposed. Note this permissive footpath link is not a public right of way and is provided at the discretion of the landowner North Somerset Council.

The information set out in the following pages in respect of road traffic conditions and traffic impact with and without a level crossing is based on available data to date. A more detailed traffic impact assessment will be undertaken to support the project Outline Business Case (November 2015) and the submission of a DCO planning application (March 2016).

Existing Road Traffic Conditions

A full classified traffic turning count was undertaken on Quays Avenue and the junction with Harbour Road and Phoenix Way, in late September 2014, and is summarised in the table below. The full traffic count is attached in appendix 6.

Time	No of Vehicles on Quays Avenue northbound direction	No of Vehicles to Quays Avenue southbound direction	No of Vehicles on Quays Avenue Two way flow
7:00-8:00	229	666	895
8:00-9:00	477	594	1071
9:00-10:00	335	386	721
15:00-16:00	529	388	917
16:00-17:00	616	418	1034
17:00-18:00	782	493	1275
18:00-19:00	762	393	1155

The two way flow on Harbour Road for the am peak hour was 934 vehicles and 1017 vehicles for the pm peak hour. The two way flow on Phoenix Way for the am peak hour was 803 vehicles and 843 vehicles for the pm peak hour.

Quays Avenue is an increasingly busy local distributor road linking directly onto the primary route Wyndway Way (A369) which leads to the national trunk road network, two miles to the east at junction 19 of the M5. The speed limit on Quays Avenue is 30 mph. In the am peak hour there is a flow of 666 vehicles southbound on Quays Avenue heading to Wyndham Way. This equates to 11 vehicles per minute (or one vehicle every 5½ seconds). In the pm peak hour there is a flow of 782 vehicles southbound on Quays Avenue heading to junction of Harbour Road and Phoenix Way. This equates to 13 vehicles per minute (or one vehicle every 4½ seconds). This results in localised traffic congestion southbound on Quays Avenue approaching the junction with Wyndham Way. Queue lengths in the am peak were observed extending back 225 metres, 80 metres short of the site for level crossing.

Phoenix Way is the only road access to a new housing development (known as the village quarter) with a population exceeding 1,500. All the side roads in the village quarter area feed onto Phoenix Way which means Phoenix Way is effectively a large cul-de-sac. Harbour Road is an increasing important local distributor road forming a key route with Quays Avenue to Wyndham Way and serving an area of substantial ongoing residential, commercial and retail development.

Forecast Rail Passenger Demand

MetroWest Phase 1 will result in modal switch, particularly from car to rail. It will also change trip patterns on key roads in Portishead. For example, many residents living close to Portishead station who currently drive a car to Bristol and beyond, will walk to the station and use the train. Residents living further from the station (beyond easy walking distance) will largely drive to the station or be dropped off at the station. This will result in changes in traffic patterns as car trips from residential areas across Portishead via Wyndham Way and Portbury Hundred (A369) to external destinations such as Bristol and beyond, are replaced with shorter trips to Portishead station.

Transport modelling work to date (based a suite of models including the G-BATS3 multimodal modal, a direct demand model and the rail industry MORIA model) has resulted in forecast passenger demand for MetroWest Phase 1. The forecasts passenger demand for Portishead station is 464,778 single passenger trips in the opening year 2019-20. This equates to approximately 1,526 single trips per weekday or approximately 763 return trips per weekday (i.e. 763 rail passengers per week day). Approx 65% of weekday trips will be undertaken in the am and pm peaks (7am to 9am and 4pm to 6pm), with the remaining 35% of trips undertaken in the off peak. The forecast am peak, off peak and pm peak passenger flows to and from Portishead station are:

Time of Day	**Direction of Travel**	**Number of Trips**
AM peak	To Portishead station	496 trips
Off peak	To Portishead station	267 trips
Off peak	From Portishead station	267 trips
PM peak	From Portishead station	496 trips
Total	**Both directions**	**1526 trips**

The modal share for trips originating in Portishead (ie originating from dwellings across Portishead and surrounding villages) to Portishead station is set out in the table below. The table is extracted from MetroWest Phase 1 Forecasting Report appended to the MetroWest Phase 1 Preliminary Business Case, visit www.travelwest.info/mw/p1/pbc.

Rail Users Accessing Portishead Station by Origin Catchment and Access Mode

Catchment	Walk	Bus	Car parked	Car Drop-off	Bicycle	Taxi	ALL
Less than 1 km	150	2	29	9	10	1	200
from 1 to 2 km	209	4	87	47	12	10	369
from 2 to 3 km	10	-	25	16	3	9	62
from 3 to 4 km	-	6	29	14	3	-	52
from 4 to 5 km	-	2	10	12	2	-	25
from 5 to 10 km	-	-	36	7	1	-	44
More than 10 km	-	-	10	1	-	-	11
TOTAL	368	14	225	106	31	19	763
Percentages	48%	2%	29%	14%	4%	3%	

2020 figures (Scenarios 5B enhanced & 6B enhanced – 2 trains per hour all day) *numbers have been rounded*

The table shows that 225 cars will enter the car park and 225 cars will exit the station car park in per weekday. With peak trips accounting for 65% of all trips this equates to approximately 146 cars entering the station car park in the am peak and 146 cars exiting in the pm peak. Similarly there will be 106 car trips to drop people off at the station, which comprises of 69 trips in both the am and pm peaks. Therefore the total car trips to the station in the am peak will be 215 trips and likewise 215 trips in the pm peak.

The traffic impact assessment has been undertaken based on two scenarios. Scenario 1 is the forecast traffic impact with a level crossing at Quays Avenue, based on station option 1A. Scenario 2 is the forecast traffic impact without a level crossing at Quays Avenue, based on station option 2A, 2B and 2C. The analysis for each scenario is set out in detail as follows.

Scenario 1. Forecast Traffic Impact – with a Level Crossing at Quays Avenue

In this scenario Portishead station is option 1A. Portishead station would be a significant trip attractor resulting in changes to trip patterns in both the am and pm peak. In the am peak the following changes to trip patterns are forecast. The number of vehicles exiting Phoenix Way onto Quays Avenue heading southbound, would reduce as some car trips are replaced by walking trips to Portishead station. Likewise the number vehicles exiting Harbour Road onto Quays Avenue heading southbound, would reduce as some car trips are replaced by walking trips to Portishead station. However, this reduction in vehicles would be off-set by an increase in traffic arising from the completion of the Port Marine development, adding several hundred additional dwellings accessed from Newfoundland Way and further development planned in the town centre. Furthermore additional traffic will be generated from development such as the newly opened Sainsburys supermarket which is accessed off the Serbert Way Avenue and Wyndham Way junction. The traffic impact of Sainsburys is not included in the traffic count data shown above, this is because the traffic count was undertaken in September 2014 and Sainsbury opened in October 2014. Several other smaller retail stores are due to be opened on Harbour Road within the next six months.

Of the 368 people walking to Portishead station, each day, some of these trips would replace existing car trips which take the primary route out of Portishead, being Wynhdam Way (A369), rather than via Quays Avenue. The overall position is the number of southbound vehicles on Quays Avenue is expected to remain in the region of 666 in the am peak hour. In the northbound direction traffic on Quays Avenue would increase in the am peak hour as a result of existing car trips via Wyndham Way and Portbury Hundred (A369) to external destinations such as Bristol and beyond, being replaced by shorter trips to Portishead station. This would entail an estimated 215 vehicle trips to Portishead station, accessing the station from the west via Harbour Road and the east via Quays Avenue. The distribution of these trips would be split approximately evenly between Harbour Road and Quays Avenue. The result of this is an additional 107 vehicles northbound on Quays Avenue in the am peak, an increase from 477 to 584 vehicles. Likewise southbound in the pm peak, traffic increases from 493 to 600 vehicles.

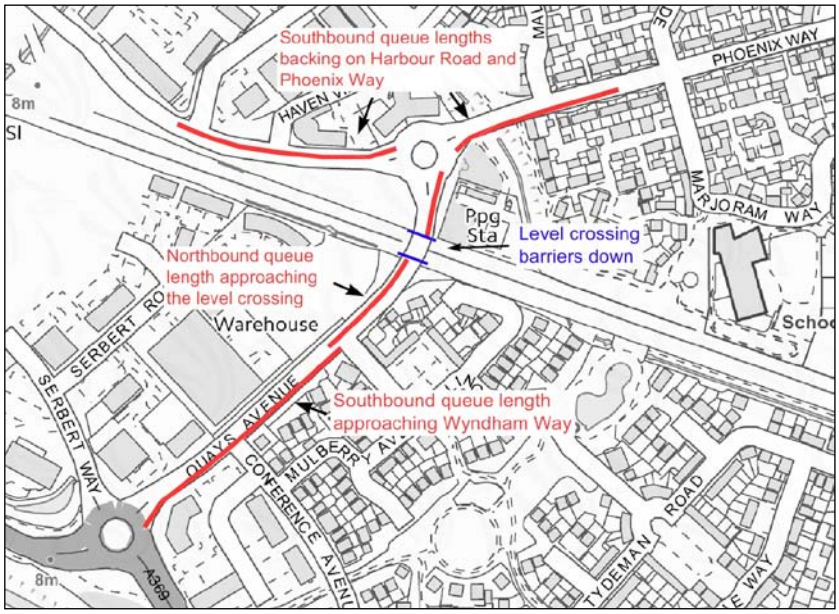
Level Crossing Barrier Down Time

The minimum average barrier down time (during which Quays Avenue would be closed to road and pedestrian traffic) for a controlled full barrier level crossing is 3 minutes. Based on the proposed half hourly train service frequency, this equates to four cycles of the level crossing per hour and a total of sixty cycles per day, six days a week and twenty cycles on a Sunday. With four cycles for the level crossing each being 3 minutes, the barrier down time on Quays Avenue would be a minimum of 12 minutes per hour. This would mean Quays Avenue would be closed to through traffic for 20% of each hour, representing a considerable loss for highway capacity. However if the level crossing sequence required train driver activation, the barrier down time would increase to approximately 16 minutes per hour, equating to a 26% loss of highway capacity of each hour, see page 34 & 35. Furthermore there is a possibility that two long cycles of the level crossing could be needed (rather than four shorter cycles), where the crossing would remain closed for between 10½ to 15 minutes per cycle, see page 34 & 35. This would arise if trains had to clear Portishead station and the level crossing before the level crossing barriers could be raised. This would be subject to further consideration of design standards and signalling design iterations for the entire Portishead line. In such a case Quays Avenue would be closed for between 21 to 30 minutes per hour and this would equate to between 35% to 50% of each hour, causing a dramatic loss of highway capacity. For the purposes of this traffic impact assessment we have assumed the minimum level crossing barrier down time of 12 minutes per hour. Therefore this assessment sets out the most optimistic position in regard to the traffic impact of a level crossing.

Traffic Impact of a Level Crossing

Due to the proximity of the level crossing at Quays Avenue to the junction with Harbour Road, at peak times it would take approximately 50 seconds of closure for the queue created on Quays Avenue to exit block the junction with Harbour Road and Phoenix Way, southbound. At this point traffic on Phoenix Way travelling westbound would be blocked and would not be able to take the alternative road via Harbour Road and Cabstand (town centre). By the end of the 3 minutes of level crossing cycle time, the queue on Quays Avenue extending back onto Harbour Road and Phoenix Way would have increased in length by approximately 167 metres, which added to the existing queues would result in a combined queue length of over 300 metres, distributed between Harbour Road and Phoenix Way, as shown below.

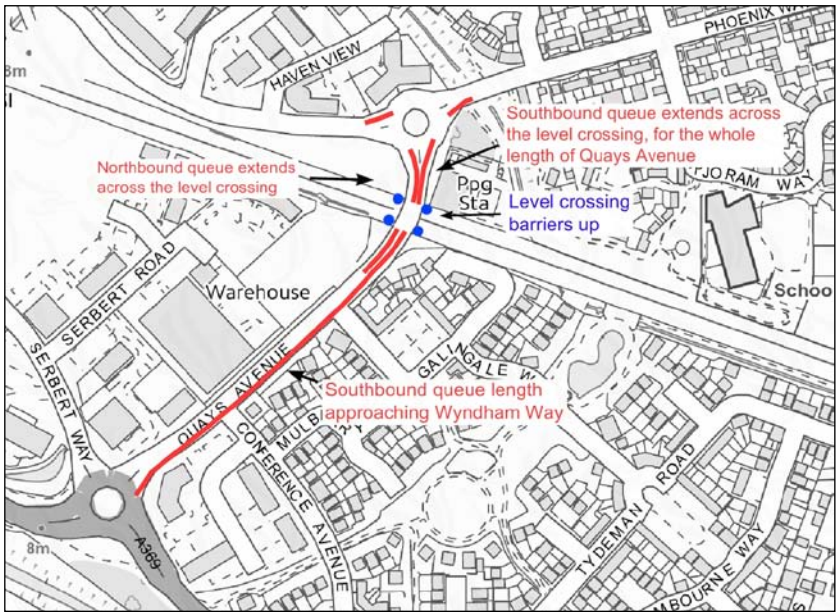
AM Peak Hour - Level Crossing Barriers Down



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When the level crossing barriers are raised the queuing traffic on Quays Avenue would only be able to advance a limited distance southbound due to the remaining queue backing from the junction with Wyndham Way. The effect of this would be a queue extending across the level crossing, towards the Harbour Road / Phoenix Way junction. Traffic queuing across a level crossing would increase the safety risk, particularly in relation to the risk of a vehicle or pedestrian becoming trapped between the barriers. It would also increase the train performance risk, arising from vehicles obstructing the safe operation of the level crossing barriers, resulting in late running of train services. The southbound queue on Quays Avenue would take some time to diminish to a point where traffic no longer queues across the level crossing. However, this would be interrupted by the next cycle of the level crossing, (assuming four cycles of 3 minutes each). This is because two of the cycles occur consecutively within approximately 10 minutes, in order to achieve the required train service pattern.

AM Peak Hour - Level Crossing Barriers Raised



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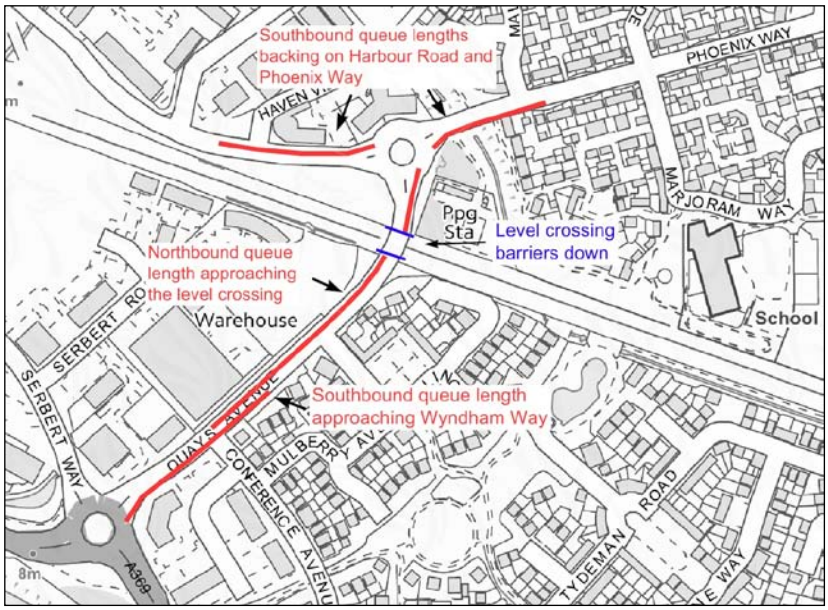
The impact of this would be that Quays Avenue is effectively heavily congested in the southbound direction for extended periods during the morning peak and also results in congestion in the northbound direction. The loss of highway capacity resulting from the level crossing, added to the existing levels of traffic on Quays Avenue, would hamper the restoration of normal traffic conditions. The resulting increased queue lengths would cause wider congestion impacts as a result of exit blocking of key junctions, causing increased journeys time and frustration to all the road users, during the am peak. In the northbound direction traffic would also queue across the level crossing due to the limited distance to the junction with Harbour Road / Phoenix Way. With traffic queuing across the level crossing in both directions in the am peak, this would further increase the safety risks particularly for vehicles and pedestrians, and increase the train performance risk.

At Phoenix Way the traffic impact would result in increased congestion and extended journey times and frustration to all users of this road, who have no other means of access and egress. It would also raise safety concerns and particularly in respect of access and egress for emergency vehicles. A similar situation would arise in respect of traffic on Harbour Road turning onto Quays Avenue. As queue lengths build on Harbour Road, access to the Medical Centre would be affected and queues would extend back towards Newfouland Way (which leads to an area of new residential development of several hundred dwellings). Some traffic would take the alternative route via Cabstand, however this longer route would add more traffic into the existing congested town centre,

adding more traffic pressure to a sensitive area. It would also result in longer journey times and have the effect of reducing the road network level of service for all users.

In the pm peak hour the southbound queue length on Quays Avenue would be slightly shorter than in the am peak, however the northbound queue length would be longer in the pm than in the am peak hour, see below.

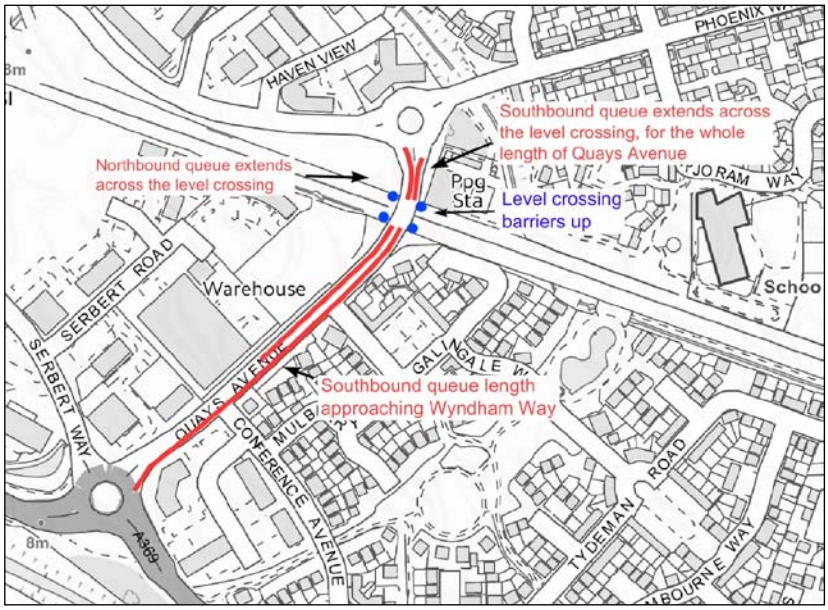
PM Peak Hour - Level Crossing Barriers Down



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As the level crossing barriers are raised the queuing traffic on Quays Avenue would only be able to advance a limited distance southbound due to the remaining queue backing from Wyndham Way. This would result in traffic queuing across the level crossing southbound. In the northbound direction traffic would also queue across the level crossing due to the limited distance to the junction with Harbour Road / Phoenix Way.

PM Peak Hour - Level Crossing Barriers Raised



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With traffic queuing across the level crossing in both directions in the pm peak hour this would further increase the safety risks particularly for vehicles and pedestrians, and increase the train performance risk. The dispersion of traffic queues would be prolonged by further cycles of the level crossing given that two of the four cycles would occur consecutively within 10 minutes. The resulting increased queue lengths would cause wider congestion impacts as a result of exit blocking of key junctions, causing increased journeys time and frustration to all the road users, during the pm peak.

The options for mitigating these highway impacts through road widening and reconfiguration of key junctions are severely limited. This is because there is very limited space available on Phoenix Way, Harbour Road and Quays Avenue to widen the footprint of the highway. Furthermore, road widening on Phoenix Way, Harbour Road and Quays Avenue would not resolve the queuing impacts, it would only have limited benefit through adding additional stacking capacity approaching key junctions. The Quays Avenue/Harbour Road/Phoenix Way junction could potentially be signal controlled with a keep clear box to manage exit blocking of the junction, however this would not address the fundament reduction is highway capacity, the queue lengths and related impacts. The overall traffic impact is primarily the result of a significant loss of highway capacity on a busy local distributor route (Quays Avenue).

A further factor is the underlying traffic growth across the road network between 2014 and 2019-20, the opening year of MetroWest Phase 1. Traffic growth across North Somerset in 2012-13 was 1%. For simplicity the traffic impact analysis set out above has not included provision for future traffic growth, and this will have the effect of marginally understating the traffic impact. Furthermore, the traffic impact analysis set out above does not include provision for potential diversion of existing pedestrian trips to car trips, should for whatever reason a footbridge not be delivered linking Galingale Way with Marjoram Way and Trinity Primary School.

Implications of a Level Crossing for Pedestrians

In addition to the vehicle flows, pedestrians and cyclist flows have been observed on Quays Avenue, as show in the table below. This data was collected over three days in late September 2014. The table below shows the daily average of the three days.

Time	Two-way flow on Quays Avenue			
	Pedestrians	Pushchairs / Wheelchairs	Cyclists	**Total**
06:00 - 07:00	7	0	2	**9**
07:00 - 08:00	16	0	11	**27**
08:00 - 09:00	46	2	18	**66**
09:00 - 10:00	23	3	8	**34**
10:00 - 11:00	15	3	4	**22**
11:00 - 12:00	13	3	5	**21**
12:00 - 13:00	26	2	8	**36**
13:00 - 14:00	32	3	7	**42**
14:00 - 15:00	25	3	5	**33**
15:00 - 16:00	39	4	15	**58**
16:00 - 17:00	29	3	12	**44**
17:00 - 18:00	25	2	22	**49**
18:00 - 19:00	26	2	12	**40**
19:00 - 20:00	21	0	9	**30**
Total	**343**	**30**	**138**	**511**

During the day, the peak hourly flow was 66 pedestrians, pushchairs/wheelchairs and cyclists, equating to 17 pedestrians, pushchairs/wheelchairs and cyclists per 15 minutes or approximately 1 per minute arriving at the level crossing. With a level crossing cycle time of 3 minutes this would mean an average flow of 3 pedestrians, pushchairs/ wheelchairs and cyclists waiting at the level crossing per cycle. A stage 1 road safety audit has been undertaken for station option 1A and is attached in appendix 7. The audit identifies a number of additional safety risks for pedestrians and vehicles. The increased risk to pedestrians is highlighted in the audit with reference to a DfT study that found the risk doubles where a walking trip includes a level crossing compared with a walking trip without a level crossing.

Pedestrian counts were also undertaken of the permissive footpath over-used railway linking Galingale Way with Marjoram Way / Trinity Primary School. The permissive footpath is located 200 meters east of Quays Avenue. It will be necessary to close the permissive footpath permanently in order to re-open the rail line for passenger train services. Pedestrians, pushchairs/wheelchairs and cyclist flows were observed on the permissive footpath over three days in late September 2014, as show in the table below. The data shown is the daily average of the three days.

TIME	Two-way flow on permissive footpath over dis-used railway between Galingale Way and Marjoram Way / Trinity Primary School			
	Pedestrians	Pushchairs / Wheelchairs	Cyclists	**Total**
06:00 – 07:00	4	0	2	**6**
07:00 – 08:00	27	0	6	**33**
08:00 – 09:00	178	3	35	**216**
09:00 – 10:00	15	3	4	**22**
10:00 – 11:00	11	2	5	**18**
11:00 – 12:00	5	0	3	**8**
12:00 – 13:00	11	2	2	**15**
13:00 – 14:00	13	3	3	**19**
14:00 – 15:00	13	3	4	**20**
15:00 – 16:00	142	8	16	**166**
16:00 – 17:00	57	4	7	**68**
17:00 – 18:00	37	1	9	**47**
18:00 – 19:00	30	0	11	**41**
19:00 – 20:00	20	1	8	**29**
Total	**563**	**30**	**115**	**708**

Pedestrians make considerable usage of the permissive footpath link as depicted by the numbers in the table. Much of this is due to the proximity of Trinity Primary School to the housing development either side of the railway line.

The MetroWest Phase 1 project is proposing a fully accessible footbridge with ramps on the site of the permissive crossing. The footbridge would be a relatively large structure within the residential setting and would have some localised environmental impacts particularly in relation to amenity. The delivery of the footbridge is subject to further design, formal public consultation, obtaining planning approval and budget constraints. Therefore, at this stage there is some uncertainty as to whether the footbridge will be

delivered. An alternative to the footbridge is to provide improved footpath links either side of the railway such that pedestrians would be routed a longer (in-direct) route via Quays Avenue. This would mean pedestrians would cross the railway at the level crossing on Quays Avenue. It is estimated that this would increase walking distances by up to 500 metres. As a result some of these pedestrian trips would switch to other modes, however given that the total walking distance would still be less than 1km for most people, the reduction in pedestrian trips would be limited. It is estimated that the longer walking distance would have the effect of reducing the pedestrian trips by around 25%, resulting in approximately 422 pedestrians a day using the level crossing at Quays Avenue (diverted from the permissive footpath). Factoring in the average of 343 daily pedestrian trips observed on Quays Avenue, the total number of pedestrians using the level crossing would be in the region of 765 pedestrians a day.

Scenario 2. Forecast Traffic Impact – without a Level Crossing at Quays Avenue

In this scenario one of the three options at Quays Avenue (option 2A, 2B or 2C) is taken forward for Portishead station. The three stations either adjoin or overlap each other and therefore can be regarded for the purpose of traffic impact assessment, effectively as one option, although option 2C has some differences which are explained below. Portishead station would be a significant trip attractor resulting in changes to trip patterns in both the am and pm peak.

In the am peak the following changes to trip patterns are forecast. The number of vehicles exiting Phoenix Way onto Quays Avenue heading southbound, would reduce as some car trips are replaced by walking trips to Portishead station. Likewise the number vehicles exiting Harbour Road onto Quays Avenue heading southbound, would reduce as some car trips are replaced by walking trips to Portishead station. However, this reduction in vehicles would be off-set by an increase in traffic arising from the completion of the Port Marine development, adding several hundred additional dwellings accessed from Newfoundland Way and further development planned in the town centre. Furthermore additional traffic will be generated from development such as the newly opened Sainsburys supermarket which is accessed off the Serbert Way Avenue and Wyndham Way junction. The traffic impact of Sainsburys is not included in the traffic count data shown above, this is because the traffic count was undertaken in September 2014 and Sainsbury opened in October 2014. Several other smaller retail stores are due to be opened on Harbour Road within the next six months.

Of the 368 people walking to Portishead station, each day, (see page 23), some of these trips would replace existing car trips which take the primary route out of Portishead, being Wynhdam Way (A369), rather than via Quays Avenue. The overall position is the number of southbound vehicles on Quays Avenue is expected to remain in the region of 666 in the am peak hour. In the northbound direction traffic on Quays Avenue would increase in the am peak hour as a result of existing car trips via Wyndham Way and Portbury Hundred (A369) to external destinations such as Bristol and beyond, being replaced by shorter trips to Portishead station. This would entail an estimated 215 vehicle trips to Portishead station, accessing the station from the west via Harbour Road and the east via Quays Avenue. The distribution of these trips would be split approximately evenly between Harbour Road and Quays Avenue. The result of this is an additional 107 vehicles northbound on Quays Avenue in the am peak, an increase from 477 to 584 vehicles. Likewise southbound in the pm peak, traffic increases from 493 to 600 vehicles.

Implications of a Pedestrian Crossing for Pedestrians and Traffic

A pedestrian crossing would be required on Quays Avenue (for option 2C Serbert Road), to cater for the pedestrian flows from the car parks and surrounding pedestrian routes to the station entrance. The crossing would need to be a controlled crossing (i.e. a zebra, puffin, toucan or similar type). A zebra crossing operates on demand and therefore its cycle time will vary. A puffin crossing operates in response to pedestrian activation and its cycle time varies according to pedestrian walking speed, through sensors. A typical

cycle time of around 20 seconds would be expected on average at Quays Avenue, increasing during the peak hour and reducing during the off peak. The pedestrian and cyclists flows at Quays Avenue (for option 2C Serbert Road), would be vary between the three options. For option 2A and 2C where all the car parking provision is separate from the station entrance, all those parking a car would need to cross Quays Avenue. For option 2B, 100 car parking spaces are located on the site of the station, with the remainder across the road, which reduces the number of people crossing the road to 125. A high level assessment has been undertaken on the modal share for trips to Portishead station, using a weighting for the proportion of people likely to use the pedestrian crossing. The assessment is set out in the following table.

Pedestrians Crossing Quays Avenue (Serbert Road Option 2C)	**Option 2A and 2C**		**Option 2B**	
	Weighting	No of People using crossing	Weighting	No of People using crossing
Pedestrians	50%	184	50%	184
Bus passengers	50%	7	50%	7
Car drivers	100%	225	100% Overflow car park	125
Car passengers	50%	53	50%	53
Taxi	50%	10	50%	10
Total		**479**		**379**

The totals in the table cover both the peak and the off peak demand. Therefore the total number of people crossing Quays Avenue or Serbert Road would be 312 (being 65% of 479) for option 2A and 2C, over the two hour am peak period. For option 2B the total number of people crossing Quays Avenue would be 247 (being 65% of 379), over the two hour am peak period. This would equate to 156 people per hour for option 2A and 2C and 124 people per hour for option 2B, then repeated in the pm peak.

Based on one activation of the pedestrian crossing every 3 minutes (or 20 activations per hour), with an average cycle time of 20 seconds, the total delay to traffic would be 6 minutes, 40 seconds per hour, equivalent to 11% red signal time per hour. This is significantly less than the capacity reduction compared to the level crossing and furthermore the short duration of each cycle does not result in any significant queuing problems. It should be noted that in the event that a pedestrian footbridge is not delivered (for whatever reason) at the location of the permissive crossing near Trinity Primary School, this would not result in an increase in the number of pedestrians crossing Quays Avenue. This is because the longer pedestrian route via Quays Avenue (for option 2C Serbert Road) would not require pedestrians to cross the road. A stage 1 road safety audit has been undertaken for all three station options. The audit has not identified any road safety concerns which cannot be adequately addressed through the design iteration process. The road safety audits are attached in appendix 7.

<u>Traffic Impact of options without a Level Crossing at Quays Avenue</u>
For consistency with the scenario 1 assessment, underlying traffic growth up to the project opening year 2019-20, has not been taken into account. Furthermore, the traffic impact analysis set out above does not include provision for potential diversion of existing pedestrian trips to car trips, should for whatever reason a footbridge not be delivered linking Galingale Way with Marjoram Way and Trinity Primary School. For both scenarios this will have the effect of marginally understating the traffic impact.
For option 2C Quays Avenue is replaced by extending Serbert Road through to Harbour Road. The new route would intersect the junction between Sebert Road and Serbert

Way which forms the access to the new Sainsburys store. Should option 2C be taken forward it would be necessary to undertake further traffic impact assessment of the Sebert Road and Serbert Way junction and Sebert Way and Wyndham Way junction.

As set out on page 29, the southbound traffic flow on Quays Avenue in the am peak would be in the region of existing traffic flows and the northbound traffic flow would increase by 107 vehicles. The reduction in road capacity arising from the controlled pedestrian crossing would be significantly less than the level crossing i.e. an 11% reduction of capacity compared with a minimum of 20% reduction in capacity per hour. Crucially the traffic impact on a pedestrian crossing on Quays Avenue would be limited due to the very short cycle times, resulting in short queue lengths which disperse quickly and do not block back to the Phoenix Way and Harbour Road junction.

The additional northbound traffic on Quays Avenue in the am peak could be accommodated with the 11% reduction to existing highway capacity and northbound traffic volume would remain lower than the southbound traffic volume, during the am peak. The overall traffic impact of the option without a level crossing, would be minimal and could be accommodated within slightly reduced highway capacity. However, Option 2C would require further analysis in respect of impact at two specific junctions, should it be taken forward.

Parking – All Options

Parking is not currently an issue in the direct vicinity of the proposed location of the level crossing on Quays Avenue. However site observations have identified a number of parking issues in the local area including parking on Harbour Road around 50-75m (outside the health centre) from the junction with Quays Avenue. Consideration will be needed regarding moving this existing on-street parking provision to a convenient off-street location, irrespective of the location of Portishead station. In addition to the current parking pressures on and around Harbour Road, demand for parking will increase in the future as a result of committed development (development approved but not yet built) and the opening of Portishead rail station. This increased parking demand will be met through a combination of additional off street parking required by the planning process (parking standards), the proposed 225 space Portishead station car park and a further 100 space car park at the rear of Waitrose on Harbour Road, which is partly constructed and will transfer to North Somerset Council when completed.

Development Management

North Somerset Council is a unity authority which means it is both the local planning authority and local highway authority. The Council's Development Management Service is the regulatory body overseeing development in North Somerset. All planning applications are vetted by the Highways & Transport Service in respect of the traffic and transport implications of the proposed development. Planning applications that are found to have a severe traffic or transport impact can be refused, as set out in the national guidance 'National Planning Policy Framework 2012'.

As set out in the introduction, MetroWest Phase 1 requires a Development Consent Order (DCO), for planning powers to build and operate. The DCO will be submitted to the Planning Inspectorate who will determine the application. The project is currently at the pre-application stage and expects to submit the DCO application in 2016. North Somerset Development Management Service is a statutory consultee and as with all planning applications, the views of the Highways & Transport Service (Development Management) are sought for comments on the traffic and transport impacts.

Comments by Highways & Transport (Development Management)

Comments have been requested in relation to a planning proposal which is to be taken forward as a Development Consent Order. In which case the planning application will be determined by the Planning Inspectorate not North Somerset Council, however North Somerset Council is a statutory consultee and these comments are made on this basis.

Quays Avenue performs an important function of distributing traffic between the south east urban area of Portishead and the A369 and M5 corridor. Quays Avenue has become a relatively busy distributor road supporting major residential and commercial development over the last 10 years and this is reflected in the traffic count data provided. Comments are provided for each of the two scenarios set out in the traffic impact assessment in the preceding pages.

Scenario 1. Forecast Traffic Impact – with a Level Crossing at Quays Avenue

Quays Avenue currently experiences some traffic queuing particularly in the southbound direction in the am peak and to a lesser extent in the northbound direction in the pm peak. Scenario 1 results in a 20% reduction in highway capacity and the queue lengths reported are based on this level of capacity reduction. The impact in the morning peak is traffic queuing back the entire length of Quays Avenue over the level crossing and exit blocking Phoenix Way and Harbour Road. This queuing would affect southbound vehicle trips on all three roads, and in particular would block the exit route of Phoenix Way for all trips given this is the only highway route serving this substantial residential area. This would have the effect of severely reducing the highway level of service for local residents and business in the local area. The restoration to normal traffic conditions would be hampered by further cycles of the level crossing during which time queue lengths would increase further. Furthermore there is some uncertainty regarding the level crossing cycle times such that the total barrier down time could be 16 minutes per hour or even more, resulting in a deduction in highway capacity of 26% or more. The reduction in highway capacity and resultant queue lengths would have a detrimental effect on highway network resilience and would result in more traffic routing via Cabstand which is already congested throughout the am and pm peak. In respect of pedestrians, the risks highlighted in the Stage 1 Road Safety Audit in respect of the doubling of risk to pedestrians where a walking trip included a level crossing compared with a trip without a level crossing, is a cause of concern.

Given the lack of available mitigation measures and the resultant traffic queue lengths, reduction in highway level of service and reduced highway network resilience, the resultant traffic impact on the town centre and the increased risks to pedestrians, the highway authority would be minded to recommend an objection to the DCO application due to non compliance with policy T10 of the local plan (retained policy).

Scenario 2. Forecast Traffic Impact – without a Level Crossing at Quays Avenue

Quays Avenue currently experiences some traffic queuing particularly in the southbound direction in the am peak and to a lesser extent in the northbound direction in the pm peak. Scenario 2 results in an 11% reduction in highway capacity, however due to the very short cycle time of the controlled pedestrian crossing, the impact is limited to short queue lengths which disperse quickly and do not exit blocking the Phoenix Way / Harbour Road roundabout. The additional 107 vehicles northbound on Quays Avenue in the am peak and southbound in the pm peak can be accommodated within the existing highway. In respect of the risks to pedestrians, the Stage 1 Road Safety Audit suggests a number of potential mitigation measures. Subject to these pedestrian risks being adequately addressed and subject to more detailed assessment in respect of a full Transport Assessment (required for the DCO planning application), the highway authority at this stage would not be minded to object.

8. details on the features of the proposed crossing and what protective arrangements there would be in place, based on a suitable and sufficient risk assessment;

A high level assessment has been undertaken to identify the most appropriate type of level crossing for the local text at Quays Avenue. The key issues addressed in this assessment are the fundamental implications of a new level crossing. The assessment therefore has kept to high level principles rather than present detailed engineering designs. Essentially the assessment considers the best available level crossing types with the best available protective provisions. Should the ORR support a new level crossing at Quays Avenue, further work would be needed in respect of detailed engineering design and configuration, in order to take the level crossing forward.

The high level assessment has considered the level crossing types set out in the "Level Crossings: A guide for managers, designers and operators, Railway Safety Publication 7", December 2011 by the ORR. The following table is extracted from the ORR guide.

Level crossing types – basic protection and warning arrangements

Figure 1

Protection from train movements	Crossing confirmed clear	Warning arrangements	Full barriers/gates	Half barriers	No barriers	Telephone "protection"
Protected	By signaller or crossing keeper		MCG			
			MCB			
			MCB (CCTV)			
	By obstacle detector		CB-OD			
	By driver			ABCL		
					AOCL	
	By train crew/other		TMO			
Unprotected		Approaching Train		AHB		
					UWC (MSL)	
					FP (MSL)	
		Telephone				UWC (T)
		Line of Sight			OC	
					UWC	
					FP/BW	

MCG: manually controlled gated crossing
MCB: manually controlled barrier crossing
MCB (CCTV): manually controlled barrier crossing with closed circuit television
CB-OD: controlled barrier crossing with obstacle detection
ABCL: automatic barrier crossing locally monitored
AOCL: automatic open crossing locally monitored
TMO: train crew (or other peripatetic railway staff) operated crossing
AHB: automatic half barrier crossing
UWC (MSL): user worked crossing with miniature stop lights
FP (MSL): footpath crossing with miniature stop lights
UWC (T): user worked crossing with telephone
OC: open crossing
UWC: user worked crossing

FP/BW: footpath or bridleway crossing
Protection from train movements ensures that trains are not authorised to pass over the crossing until the crossing is closed and the crossing area has been checked to be clear.

Unprotected crossings depend on a warning being given to crossing users of an approaching train so that they can be clear before the train arrives. It is unlikely that the train can be stopped if the crossing is not clear.

Telephones are fitted to several crossing types for a range of purposes. At a UWC (T) the warning of an approaching train is achieved by contacting the signaller. For this to be effective the user must make the call and the signaller must be able to advise how close the nearest train is.

Office of Rail Regulation | December 2011 | Level crossings: a guide for managers, designers and operators 12 2234207

Given the volume of vehicles and pedestrians that would use the level crossing, a controlled full barrier crossing will be required. The most appropriate type of level crossing for the local context at Quays Avenue would be either:

- CB-OD: controlled barrier crossing with obstacle detection, or
- MCB (CCTV): manually controlled barrier crossing worked remotely with the aid of closed circuit television.

Using the ORR level crossing guidance the following design considerations have been taken into account; the pedestrian category derived from the train pedestrian value (TPV), the traffic volume and traffic speed on Quays Avenue. This has identified the following requirements:

- Road markings for pedestrians over the level crossing,
- Audible warning device,

- Yellow box marked over the level crossing for vehicle drivers
- Double white lines with deflector arrows

As the TPV is less than 150 and the pedestrian category is C, the following optional protective provisions would be considered; pedestrian signals, tactile threshold and guard rails. In respect of the visibility distance of the level crossing road signals on Quays Avenue, it would not be possible to meet the recommended minimum distance of 70 meters (for a 30mph road) in the southbound direction, given the distance between the level crossing and the Harbour Road / Phoenix Way junction is just 45 meters.

CB-OD Level Crossing

A controlled barrier obstacle detection crossing would require the following control systems:

- An additional intermediate signal and axle counters on the approach to the level crossing from the east (for trains travelling to Portishead), and
- An additional intermediate signal and axle counters between Portishead station and the level crossing, to control the activation of the level crossing for trains departing Portishead (this would be subject to meeting design standards, as explained below).
- Obstacle detection systems such as radar linked with the signalling system, where the operation of the level crossing is fully automated.

MCB (CCTV) Level Crossing

A manually controlled barrier crossing with CCTV would require the following control systems:

- An additional intermediate signal and axle counters on the approach to the level crossing from the east (for trains travelling to Portishead), and
- An additional intermediate signal and axle counters between Portishead station and the level crossing, to control the activation of the level crossing for trains departing Portishead (this would be subject to meeting design standards, as explained below).
- Telecommunications to link the CCTV and intermediate signals to the Thames Valley Control Centre, where signal control personnel would active the operation of the level crossing barriers remotely.

Photograph of a Manually Controlled Barrier MCB (CCTV) Level Crossing at Ashton Gate (Ashton Junction)



Configuration of the Level Crossing and Design Standards

In respect of the configuration of the level crossing for trains departing Portishead station, the feasibility of an additional intermediate signal between Portishead station and the level crossing would require further assessment in order to clarify whether such an arrangement would meet current design standards, given the distance between end of Portishead station platform and the level crossing is 350 meters. If such an arrangement were acceptable, it would enable two short cycles of the level crossing, per train arrival and departure. If such an arrangement would not be acceptable, one long cycle of the level crossing rather than two short cycles, per train arrival and departure, would be required. This would have the following implications. When the level crossing sequence is triggered by a train approaching Portishead the following would result; the audible warning starts and the road signals activated, the barriers would be lowered across Quays Avenue and would remain lowered while the train proceeds to Portishead station, passengers alight, the turnaround time in accordance with the timetable is allowed for, the crew undertake turnaround procedures, passengers board the train, the train is despatched and the train clears the intermediate signal (located on the eastern approach).

The result of this would be one long level crossing cycle time of between 10½ and 15 minutes, per train arrival and depature. The cycle time has been calculated as follows:

Level Crossing – sub sequence	**Time**
Standard cycle	3 minutes
Train journey time to Portishead station	1½ minutes
Train turnaround time and crew procedures	4 minutes (for train service option 6B) 8½ minutes (for train service option 5B)
Train is despatched	½ minute
Train journey time to level crossing	1½ minutes
Total	**10½ minutes (for train service option 6B)** **15 minutes (for train service option 5B)**

A variation to the above configuration could be required where the level crossing sequence is activated by the train driver for departures from Portishead station. In this arrangement two short cycles per train arrival and departure would be required and the level crossing sequence would start earlier while the train is at the platform. The barrier down time would increase to approximately 5 minutes (for train departures) to account for the train despatch procedure and train journey time to the level crossing.

Further information about the train turnaround times is set out the appendix 5 Capability Analysis Addendum Report, which reports the findings of Railsys modelling.

In summary the level crossing cycle time is dependent upon a number of factors including design standards and the timetabled turnaround time for the two train service options 5B and 6B, both of which remain in consideration by the project. The overall position in respect of level crossing cycle time and total barrier down time per hour is set out in the following table.

Level Crossing Configuration	Train Service option 6B		Train Service option 5B	
	Level crossing cycle time (barrier down time)	Total barrier down time per hour	Level crossing cycle time (barrier down time)	Total barrier down time per hour
With intermediate signal between Portishead station and level crossing - enabling 4 short cycles of level crossing per hour	3 minutes per cycle	12 minutes per hour	3 minutes per hour	12 minutes per hour
With train driver activation of level crossing sequence enabling 4 cycles of level crossing per hour	3 minutes per cycle - arrivals 5 minutes per cycle - departures	16 minutes per hour	3 minutes per cycle - arrivals 5 minutes per cycle - departures	16 minutes per hour
Without intermediate signal between Portishead station and level crossing - 2 long cycles of level crossing per hour	10½ minutes per cycle	21 minutes per hour	15 minutes per cycle	30 minutes per hour

Train Service Performance Risk Considerations

A level crossing whether an CB-OD or MCB (CCTV) poses a considerable additional train service performance risk, over and above the train performance risks identified in the Capability Analysis Addendum Report (see appendix 5). Train service performance would be directly affected by road driver and pedestrian behaviour irrespective of whether the level crossing is an CB-OD or MCB (CCTV). An CB-OD level crossing uses radar to scan for obstructions such as a stationary car or pedestrian on the level crossing. Where an object is detected the level crossing sequence cannot be triggered and the result is the barriers remain up and the railway signals remain red. An MCB (CCTV) level crossing is activated by signal control personnel at the Thames Valley Control Centre. If signal control personnel can see an object such as a vehicle or a pedestrian on the crossing, he or she cannot activate the level crossing sequence. Consequently the train is locked at a red signal until the obstruction moves.

Given the traffic impact set out in section 7, showing road vehicle queue lengths across the level crossing in both directions and significant volumes of pedestrians, the likelihood of vehicles or pedestrians obstructing the level crossing is high. Note the queue lengths set out in section 7 are based on the most optimistic scenario in relation to barrier down time per hour, i.e. 12 minutes per hour. With protective measures such as a yellow box marked on the level crossing, a traffic order put in place and enforcement implemented etc, the frequency of vehicle or pedestrian obstruction of the level crossing could be reduced, however these measures would not eradicate the occurrences of obstruction.

The impact of delays to trains would not be limited just to the Portishead line, it would cause a ripple effect to the other rail lines which are part of the MetroWest Phase 1 network, which are being explored through the two train service options 5B and 6B. The train service options 5B and 6B are configured based on the availability of train paths across a three railway routes, the available capacity at Bristol Temple Meads and other key junctions such as Bristol East Junction. Delays caused by the behaviour of vehicle drivers or pedestrians of more than a few minutes would have a ripple effect

resulting in late running of trains and cancellation of train services across the MetroWest Phase 1 network.

For information is respect of risk assessment refer to section 10.

9. financing costs and economic case for proposed level crossing, including funding of installation and on-going maintenance;

The capital cost of a full barrier level crossing could potentially be accommodated within the MetroWest Phase 1 budget, pending identification of the capital cost of the additional signalling required to control the level crossing. The project Preliminary Business Case (September 2014) makes provision for Portishead station and associated civil engineering works, within the overall £58.2million capital budget. The project capital cost is to be funded from the DfT devolved major schemes grant, the Local Growth Fund and funding from the four councils. The total operating costs will not be fully met from the forecast train service revenue in the early years, consequently the train service will require public subsidy during the first three years of £1.141m to £1.765m pa. In simple terms the project requires a combination of both capital and revenue investment. The project has a sound economic case, with benefit to cost ratios ranging from 2.28 to 5.99 and net present value ranging from £135m to £237m. The Preliminary Business Case is available at www.travelwest.info/mw/p1/pbc

The capital cost of the signalling control interface for a level crossing would be subject to design iterations of the signalling control for the whole Portishead line at GRIP stages 3, 4 and 5. Consequently, this is a potential additional capital cost risk. The operational costs of a full barrier crossing would also need to be estimated through design iterations at GRIP 3, 4 and 5. The operational costs would need to include the maintenance and inspection costs of the level crossing, the safety systems, telecommunications costs and signal control monitoring costs, including available capacity within Thames Valley Signalling Centre. Consequently, this is a potential additional operating cost risk.

The operating costs of a level crossing would increase the overall costs for operating passenger trains on the Portishead line, compared with the options set out in section 6 which don't require a level crossing. Furthermore, all operating costs are appraised over a 60 year period in the assessment of the business case and the additional operating costs would have the effect of weakening the business case, i.e. the value for money of the project investment would be slightly lower.

10. any other information that the expert panel considers might be relevant or helpful.

High Level Risk Assessment

The project will require either a level crossing at Quays Avenue or a pedestrian crossing (highway crossing) at Quays Avenue/Serbert Road. Therefore a high level risk assessment has been undertaken comparing the likely occurrence of specific risks and the severity of the outcome, in relation to a level crossing vs a pedestrian crossing on Quays Avenue. Risks have been assessed using the risk assessment matrix below:

Likely Occurrence / **Severity**	**Frequent**	**Probable**	**Occasional**	**Remote**
Catastrophic	Very High Risk	High Risk	High Risk	Medium Risk
Critical	High Risk	High Risk	Medium Risk	Medium Risk
Marginal	High Risk	Medium Risk	Medium Risk	Low Risk
Negligible	Medium Risk	Medium Risk	Low Risk	Low Risk

The high level assessment is shown in the table on page 40. In respect of the pedestrian crossing, the table shows that of the five specific risks assessed, all five scored a medium risk rating. In respect of the level crossing, the table shows that of the seven specific risks assessed (including two railway specific risks), five result a high risk rating and two result a medium risk rating. In respect of severity, a comparison of the force (Newtons) arising from a collision with an average sized family car vs a passenger train (diesel multiple unit), is set out in appendix 8.

Wider Risk Context - Level Crossing Compared with Pedestrian Crossing (Highway Crossing)

In addition to the key risks set out in the high level risk assessment, is the wider risk context of both a level crossing compared with a pedestrian crossing (highway crossing). Key factors associated a level crossing that could increase risks to highway users (vehicle drivers / passengers, cyclists and pedestrians), train passengers and train crew, are:

- Traffic queues extended back across the level crossing, occurring in both the southbound and northbound direction on Quays Avenue. Extended traffic queuing will cause frustration to vehicle drivers and this increases the likelihood of risk taking behaviour and contravention of driving rules i.e. driving through a level crossing red light, obstructing the level crossing by not observing a yellow box etc.
- The proximity of the level crossing to Trinity Primary School, resulting in young children being exposed to additional risks when using walking routes along Quays Avenue. The Stage 1 Road Safety Audits (appendix 7) references a DfT study that found the risk to a pedestrian doubles where a walking trip involves a level crossing compared with a trip without a level crossing.
- Pedestrian volumes increasing, in the event that a footbridge is not delivered at the location of the permissive footpath crossing between Galingale Way and Marjoram Way / Trinity School. An increase of pedestrians using the level crossing increases the probability of a accident occurring involving a pedestrian and pedestrians becoming frustrated leading to risk taking behaviour. This is in a context where the severity of an accident is more likely to result in the pedestrian being killed or seriously injured.

- Regular frequency train services and or low speed train services are known to increase risk taking behaviour by vehicle drivers, cyclists and pedestrians (eg proceeding to cross when the level crossing barriers are being lowered etc), arising from a misplaced perception of familiarisation of the level crossing.
- Proximity of level crossing to Portishead station could increase risk taking behaviour by vehicle drivers, cyclist and pedestrians (eg proceeding to cross when the level crossing barriers are being lowered etc) in their haste to arrive at the station in time for their train.

The above wider risk context could not be addressed through the design or extent of protective provisions provided with a level crossing. These are fundamental risks that highway users (motorist, cyclists and pedestrians), train passengers and train crew would be exposed to over the short, medium and long term.

Key factors associated a pedestrian crossing (highway crossing) that could increase risks to highway users (vehicle drivers / passengers, cyclists and pedestrians) are:

- Proximity of level crossing to Portishead station could increase risk taking behaviour by vehicle drivers, cyclist and pedestrians such as not observing the crossing sequence eg a vehicle driver crossing on a red light or a pedestrian crossing without a green light.

The stage 1 road safety audits attached in appendix 7 have not identified any risks that cannot be adequately addressed through the design iteration process. The wider context of controlled pedestrian crossings is they are part and parcel of urban public realm and as a result the general public are highly familiar with there use. There are in fact 223 controlled pedestrian crossings in North Somerset (controlled crossing include zebra, puffin, toucan etc crossing types), recorded in the highway asset database. With the population of North Somerset being 220,000, this equates to approximately to 1 pedestrian crossing per 1,000 population.

Management of Level Crossing Risk

Level crossing risk assessment and inspection is overseen and regulated by the Office of Rail Regulation. Level crossing operational risk is managed by Network Rail using the All Level Crossing Risk Model (ALCRM) and the Level Crossing Risk Management Toolkit (LXRMTK). ALCRM scores level crossings in relation to the 'individual risk' and the 'collective risk'. The 'individual risk' relates to crossing users and it presented as a score A to M where, A is the highest risk and M is the lowest risk. The 'collective risk' considers the overall risk of an accident to people including road vehicle occupants, train staff, train passengers and pedestrians and is presented as a score 1 to13, where 1 is the highest risk and 13 is the lowest risk. The 'collective risk' score is the most important part when prioritising crossings for enhanced controls or decision making for elimination of crossings. LXRMTK is a rail industry tool used to identify human factors, risks and mitigations systematically, to aid the safe operation of level crossings.

Both level crossing risk assessment and risk management is a complex and specialist area. Based on the information provided in this submission, there is sufficient information for the ORR to undertake its own risk assessment and determine whether the risk of a new level crossing at Quays Avenue is acceptable or not.

High Level Risk Assessment of Pedestrian Crossing vs Level Crossing at Quays Avenue

	Pedestrian crossing on Quays Avenue (Highway Crossing)				Level crossing on Quays Avenue (Railway Crossing)			
Risk Type	**Description and potential for mitigation (over and above any educational initiatives)**	**Frequency**	**Severity**	**Risk Factor**	**Description and potential for mitigation (over and above any educational initiatives)**	**Frequency**	**Severity**	**Risk Factor**
Queues from Level Crossing/ pedestrian crossing	Road traffic blocking back to Harbour Road junction. Mitigation - Keep clear line marking.	Occasional	Marginal	Medium	Road traffic blocking back to Harbour Road junction. Mitigation – Yellow box marking over level crossing	Frequent	Marginal	High
Queues from Quays Avenue/ Harbour Road	Road traffic blocking back through pedestrian crossing. Mitigation - junction design could seek to minimise queuing	Occasional	Marginal	Medium	Road traffic blocking back to level crossing. Mitigation – uncertain as loss of highway capacity is cause of traffic queue lengths	Probable	Catastrophic	High
User error - pedestrian	Pedestrian use of crossing when traffic signals display “green” for vehicles. Mitigation - peer review of design, including further consideration of sight lines etc	Occasional	Critical	Medium	Pedestrian use of crossing when level crossing barriers are down / closing. Mitigation – high level of protective features, including location of warning signs and audible devises	Occasional	Catastrophic	High
User error – road vehicles	Road vehicle use of crossing when traffic signals display “red” for vehicles**.** Mitigation - peer review of design, including further consideration of crossing width and utilisation of raised table	Occasional	Critical	Medium	Road vehicle use of crossing when level crossing barriers are down / closing. Mitigation – high level of protective features, including location of warning signs and audible devices	Occasional	Catastrophic	High
User error – train driver	Not applicable				Train driver misses a signal or fails to stop. Mitigation could include measures that reduce likelihood of human errors	Remote	Catastrophic	Medium
System failure	Errors in the equipment installed at the pedestrian crossing. This would result in traffic not being controlled.	Remote	Critical	Medium	Errors in the equipment installed at the level crossing. Systems are highly regulated and designed to “fail safe”	Remote	Catastrophic	Medium
Level crossing specific	Not applicable				Suicides, access to railway for vandalism, trespass / short cutting walking routes	Occasional	Catastrophic	High

Appendices

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OFFICE OF **RAIL REGULATION**

Rt Hon Liam Fox MP
House of Commons
London
SW1A 0AA

31 July 2014

Dear Mr Fox,

Thank you for your recent letters regarding Bristol to Portishead services.

Great Britain's level crossings, although among the safest in Europe, pose a significant rail safety risk to the public. ORR therefore supports the closure and removal of crossings wherever possible and promotes the need for railway operators' risk assessments to always consider closure first.

In respect of new level crossings we have a policy that no new level crossings should be installed, unless there are exceptional circumstances. We do not define the term 'exceptional circumstances' but consider each case on its merits.

If a new crossing is being considered, we ask that the applicant engages with ORR as early as possible and liaises with the Department for Transport, since an order under the Transport and Works Act 1992 may be required. There may also be rights of way issues that would need to be clarified.

An initial approach was made by letter to ORR in May 2013, from North Somerset Council, asking whether ORR would be likely to support the creation of a new level crossing by Network Rail. The letter outlined three possible options that were being considered for the re-opening of the Portishead rail line to passenger train services. Based on the limited information provide at the time, we stated that since Quays Avenue is a busy road, introducing a new crossing would mean there would be high levels of safety risk and ORR would not authorise a new crossing at this point. To make a more informed decision ORR expects an applicant to provide sufficiently compelling evidence to demonstrate that there is an exceptional case. When a case for a new crossing is submitted to ORR for a safety review an expert panel will review the application based on the evidence below.

Head Office: One Kemble Street, London WC2B 4AN T: 020 7282 2000 F: 020 7282 2040 www.rail-reg.gov.uk

The applicant would need to submit:

- the location of the proposed crossing including photographs and diagrams;
- information about the proposer of the scheme/applicant for a new crossing and the proposed crossing operator;
- proposed timescales for any new crossing;
- confirmation that there is a right of way, and whether any relevant authorisations/Orders need to be sought through the Transport at Work Act procedures;
- details of any liaison that has already taken place with other Departments and agencies such as the Department for Transport, Highways Agency or local highway authority, planning authorities and other local bodies and interested stakeholders, including a summary of the responses/views received;
- a description of what other options have been considered, such as bridges and underpasses, the financial costing, and the reasons why these have been discounted;
- information about the road and rail traffic at any proposed crossing including the results of censuses;
- details on the features of the proposed crossing and what protective arrangements there would be in place, based on a suitable and sufficient risk assessment;
- financing costs and economic case for proposed level crossing, including funding of installation and on-going maintenance;
- any other information that the expert panel considers might be relevant or helpful

Were such information to be submitted to ORR we would be in a position to review our initial decision and consider the case for a new level crossing. I hope this information is helpful.

Yours sincerely,

Richard Price

RICHARD PRICE
Chief Executive

CONSENTED HIGHWAY ACCESS

CONNECTS TO EXISTING WALKING / CYCLE PATHS

STATION CAR PARK 150 SPACES

WALKING AND CYCLING PROMENADE WITH TREE LINED BUFFER

TWO WAY VEHICLE ENTRANCE

PEDESTRIAN CROSSING

CONNECTS TO EXISTING WALKING / CYCLE PATHS

SAINSBURYS DEVELOPMENT

SAINSBURYS DELIVERY ACCESS ROAD

SAINSBURYS PUBLIC ACCESS ROAD

STATION FORECOURT AND KISS AND DROP AREA

VEHICLE ENTRANCE / EXIT KISS AND DROP / TAXIS

QUAYS AVENUE STOPPED UP

STATION PLATFORM AND BUILDINGS

PROPOSED BUS STOPS

COMMERCIAL BUILDING REDUCED IN SIZE TO MAKE WAY FOR NEW HIGHWAY LINK

PROPOSED PEDESTRIAN AND CYCLE LINK

PROPOSED FOOTBRIDGE

NEWFOUNDLAND WAY

MALIN PARADE

BISCAY DRIVE

WIGHT ROW

CAMOMILE WALK

TANSY LANE

SERBERT CLOSE

SERBERT WAY

HARBOUR CRESCENT

QUAYS AVENUE

GALINGALE WAY

MULBERRY AVENUE

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4. Land boundaries shown are indicative only.

Key:

- PROPOSED FOOTBRIDGE
- PROPOSED PEDESTRIAN LINK / CYCLEWAY
- PROPOSED PEDESTRIAN CROSSING
- PROPOSED HIGHWAY LINK
- PROPOSED STATION PLATFORM AND BUILDINGS
- NSC RAIL LAND
- PHOTOGRAPH TAKEN FROM THIS POINT

Rev	By	Chkd	Apprvd	Date	Description

North Somerset Council
Wolfbroote Grove Road
Weston-super-Mare, BS23 1UJ
tel +44 (0)1934 888 888
www.n-somerset.gov.uk

Project

METROWEST
HIGHWAY REALIGNMENT OPTIONS

Drawing

OPTION 2c

CONSEPTUAL ARRANGEMENT

Drawn by: DCF	Date: MAY 2014
Checked by: JW	Date: MAY 2014
Approved by: IW	Date: MAY 2014
Drawing No. METRO/HR0/2c	Revision 0

Drawing Scale: NTS

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CONNECTS TO EXISTING
WALKING / CYCLE PATHS

CONNECTS TO EXISTING
WALKING / CYCLE PATHS

SAINSBURYS
DEVELOPMENT

OVERFLOW CAR PARK
ENTRANCE

OVERFLOW CAR PARK
50+ SPACES

WALKING AND CYCLING PROMENADE WITH TREE LINED BUFFER

LEFT TURN LANE ONTO QUAYS
AVENUE

'KISS AND DROP'
LAY-BYS

STATION CAR PARK
100 SPACES

STATION FORECOURT

AREA FOR
TAXI RANK

PROPOSED PEDESTRIAN
AND CYCLE LINK

PEDESTRIAN CROSSING

BUS STOPS
(OPTION FOR LAY-BYS)

SAINSBURYS PUBLIC ACCESS
ROAD

AREA OF PUBLIC OPEN SPACE
WITH LANDSCAPING

PROPOSED
FOOTBRIDGE

NEWFOUNDLAND WAY

MALIN PARADE

FINISTERRE PARADE

BISCAY DRIVE

WIGHT ROW

CAMOMILE WALK

TANSY LANE

HARBOUR CRESCENT

SERBERT CLOSE

SERBERT ROAD

SERBERT WAY

QUAYS AVENUE

MULBERRY AVENUE

MULBERRY

GALINGALE WAY

PEARTREE

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tel +44 (0)1934 888 888
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Project

METROWEST
HIGHWAY REALIGNMENT OPTIONS

Drawing

OPTION 2b

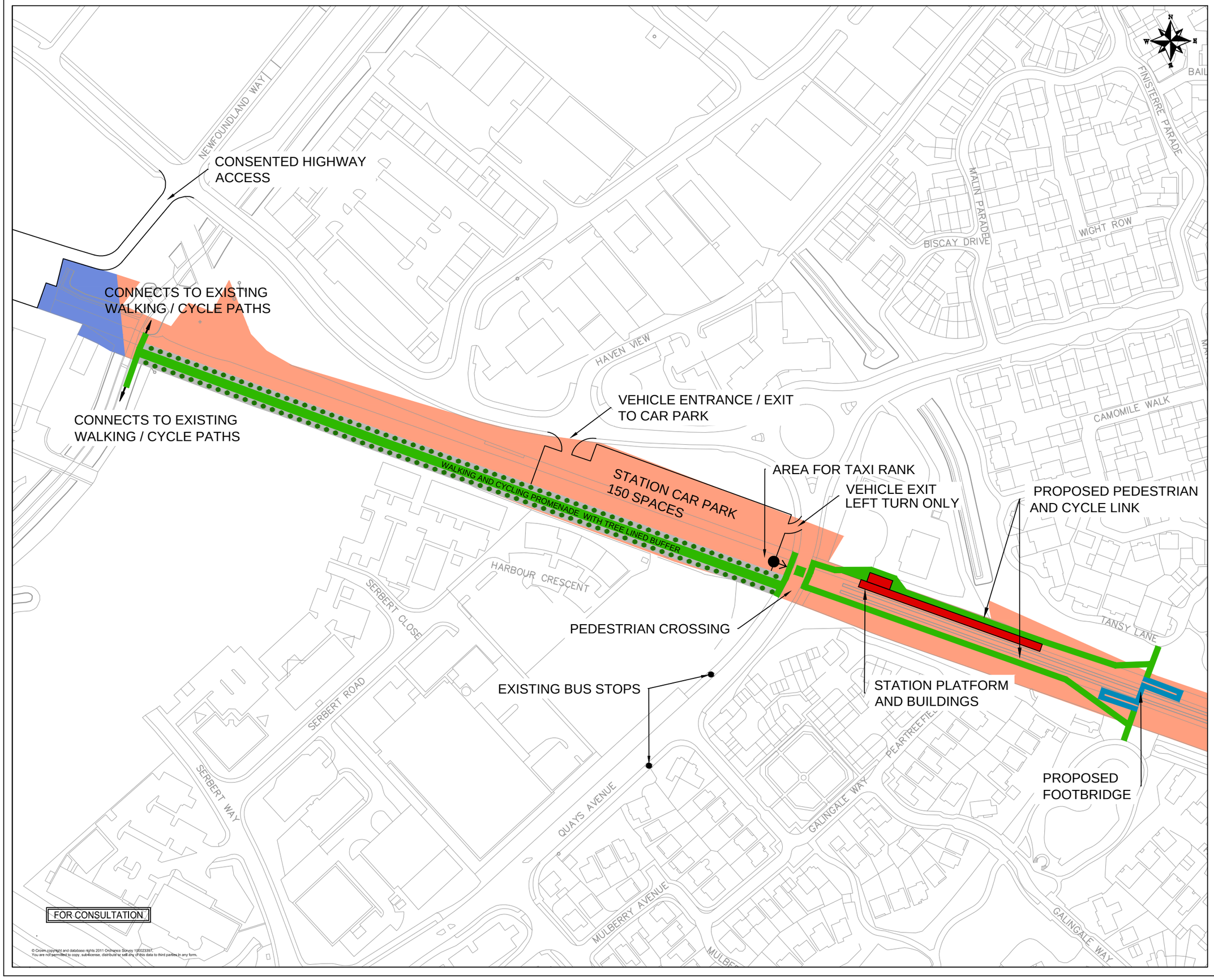
CONSEPTUAL ARRANGEMENT

Drawn by: DCF	Date: MAY 2014
Checked by: JW	Date: MAY 2014
Approved by: IW	Date: MAY 2014

Drawing No.	Revision
METRO/HR0/2b	0

Drawing Scale: NTS

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- PROPOSED HIGHWAY LINK
- PROPOSED STATION PLATFORM AND BUILDINGS
- NSC RAIL LAND
- PHOTOGRAPH TAKEN FROM THIS POINT

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Project

METROWEST
HIGHWAY REALIGNMENT OPTIONS

Drawing

OPTION 2a

CONSEPTUAL ARRANGEMENT

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Checked by: JW	Date: MAY 2014
Approved by: JW	Date: MAY 2014
Drawing No. METRO/HR0/2a	Revision 0

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Network Strategy and Planning: Capability Analysis
MetroWest Phase 1 Addendum Report

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Lee Mowle Signature 17/7/14 Date

Project Manager - Capability Analysis (Document Owner)

James Willcock Signature Date

Project Manager MetroWest Phase 1

Andrew Holley Signature Date

Senior Development Manager – Network Rail

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DOCUMENT CONTROL & ADMINISTRATION

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1.0	16/07/14	Rhys Bowen	Final for issue

Reviewers

Version	Date	Name	Review notes

References

Ref.	Document Name	Doc. Ref. No.	Date	Rev.
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Stakeholders

Name of stakeholder	Company / Business
James Willcock	Phase One Project Manager, West of England councils.
Andrew Holley	Strategic Planning, Network Rail

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1. EXECUTIVE SUMMARY

The MetroWest Phase One project is the first step in a scheme that will radically alter the passenger connections in Bristol and the surrounding areas. It focuses on the increased frequency of services on the Severn Beach line and Bath corridor, and reopening of the Portishead line to passenger trains.

This report details the continuation of previous work conducted by Capability Analysis, Economic Analysis and Halcrow. It focuses on the analysis of two service specification scenarios on the background of Crossrail/IEP Iteration 5 timetable. Both options are assessed for their operational feasibility and infrastructure requirements, with a focus on providing inputs to the investment case for the proposals.

Some minor infrastructure changes above the core proposals are required to construct either timetable. However given these interventions, a relatively even pattern can be constructed for both options. Both options require a theoretical minimum of six units to achieve a viable timetable. The structure of the Crossrail and IEP timetable dictates the operational working of the services. This, together with short turnarounds at the terminal locations, may have an impact on the performance of MetroWest and other services.

It is recommended that both service specification options are taken forward as potential outputs for the scheme and the associated infrastructure progressed to GRIP 3, where further analysis of their connectional benefits, unit requirement and operational strategy will be conducted.

2. INTRODUCTION & OBJECTIVES

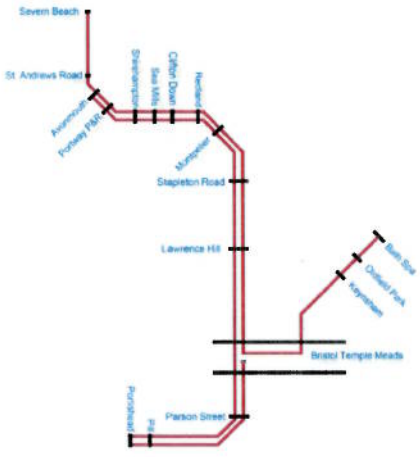
Chronologically, this report details the work that this team has untaken since the issue of the MetroWest Interim Report Final Issue v1, where an introduction to the background and objectives of the MetroWest scheme can be found. The purposes of this particular iteration are:

- to determine whether a suitable MetroWest phase 1 service level can be delivered given the latest timetable and infrastructure assumptions.
- to analyse the timetable structure of the proposed service level options.
- to compare the operational suitability of these timetables, with regard to service regularity, journey times, required unit numbers and connectivity.
- to feed these indicative timetables into the business case studies to be conducted by the Economic Analysis team.
- to inform of any potential infrastructure changes necessary to deliver the required service level.

The assumptions for this analysis can be found in Appendix A

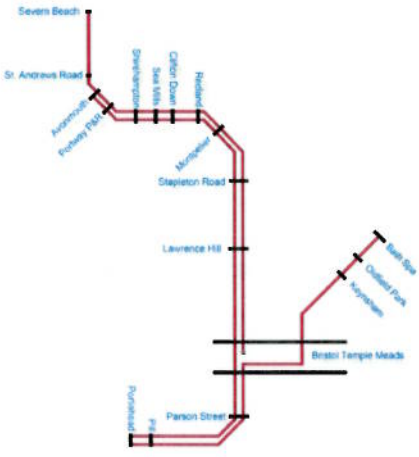
The train service specifications tested are defined as Option 5b and Option 6b; the details of the scenarios are as follows:

Option 5b



•Portishead – Avonmouth : 1 tph
•Severn Beach - Bath : 1tph
•Portishead – Bristol Temple Meads : 1 tph

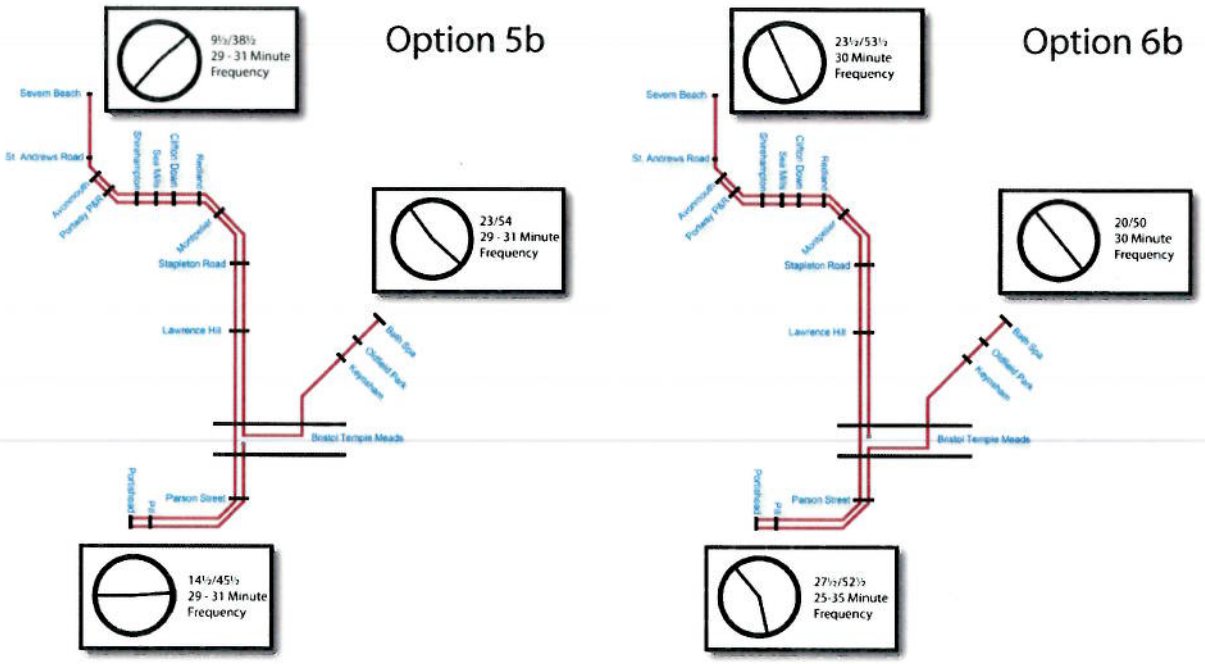
Option 6b



•Portishead – Avonmouth : 1 tph
•Severn Beach - Portishead : 1tph
•Severn Beach - Bristol Temple Meads : 1tph

3. PROJECT FINDINGS

The diagrams below are a visual representation of the timetable findings of both options:

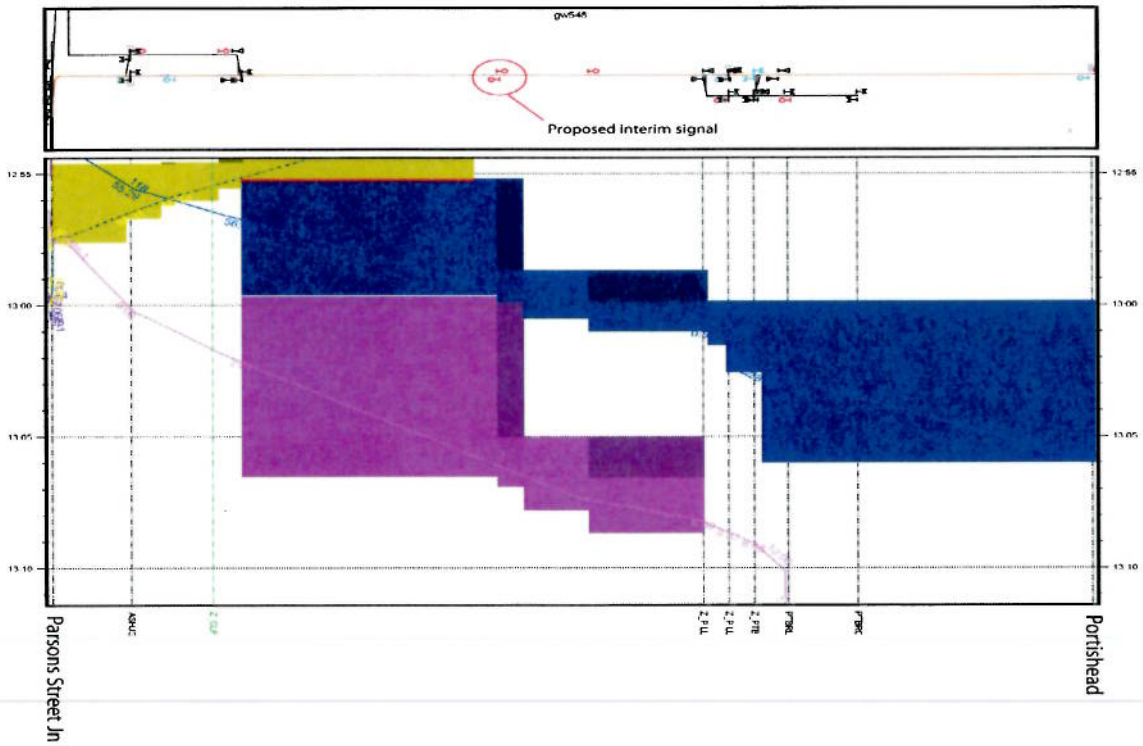


They demonstrate primarily that in both scenarios it has been possible to produce a test timetable that meets the required service specification. Due to the connectivity of the services there are some necessary compromises on regularity of services.

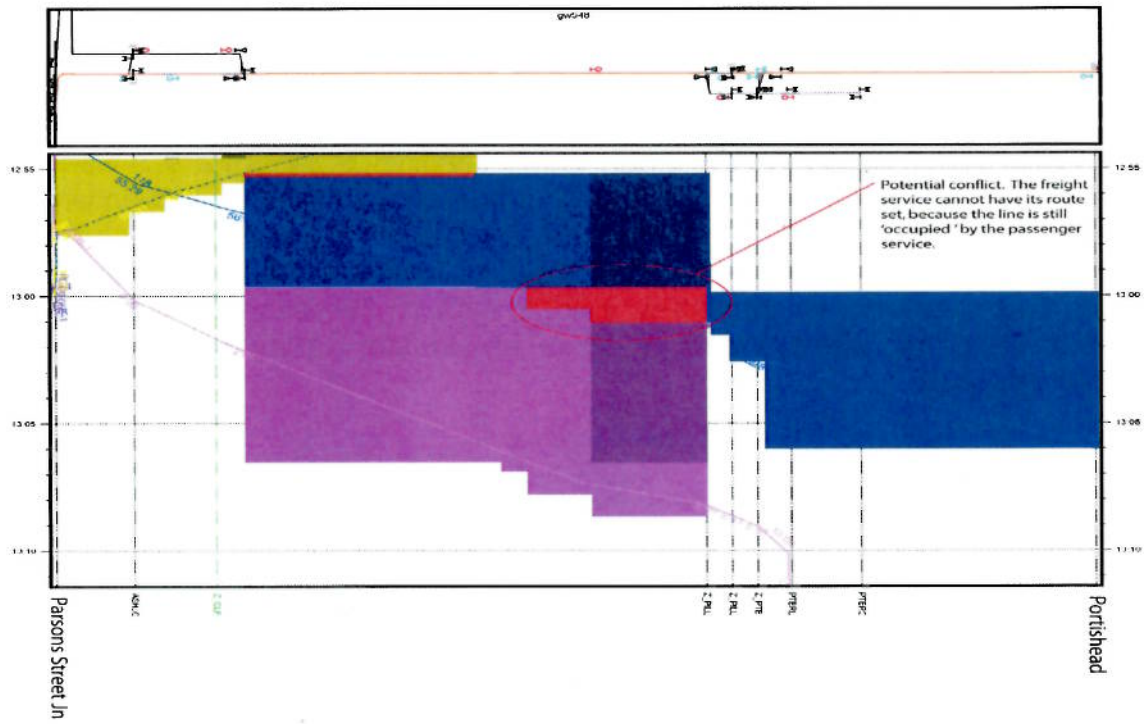
The following infrastructure findings are common to both indicative timetable scenarios.

Portishead Branch intermediate signal

The addition of an intermediate signal on the Portishead Branch has been assumed for this work. The diagram overleaf demonstrates the requirement for this signal.



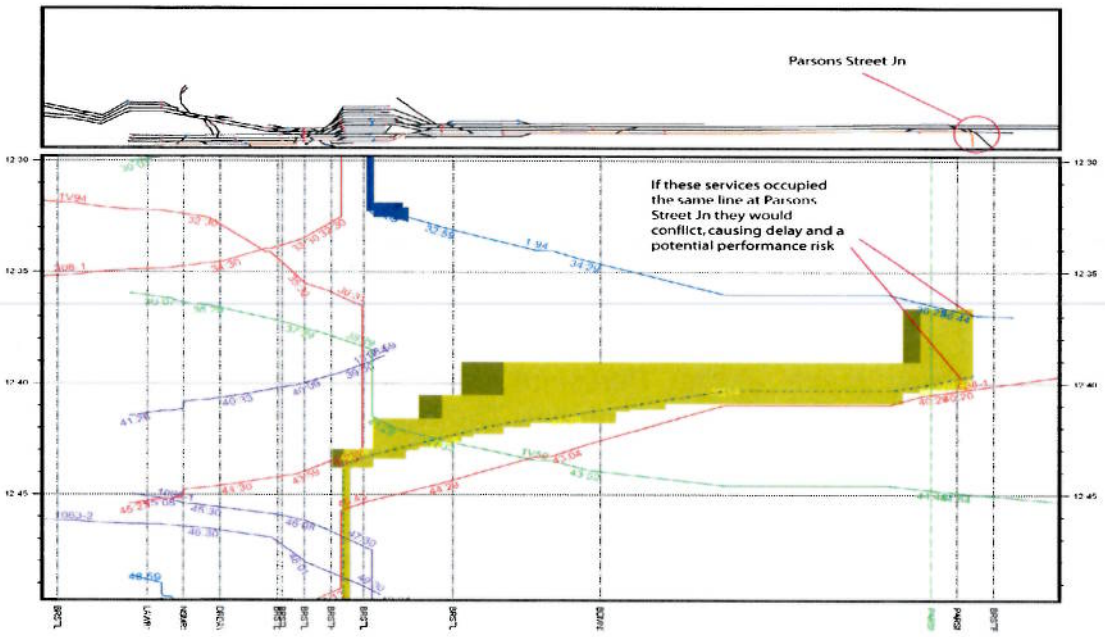
This shows a train graph of the Portishead line with a freight service (lilac) immediately following a passenger train (blue). The blue and lilac boxes surrounding the services represent the required block occupation, as calculated by Railsys. If the intermediate signal is not present, the block occupation of the passenger service increases. This is shown in the diagram below.



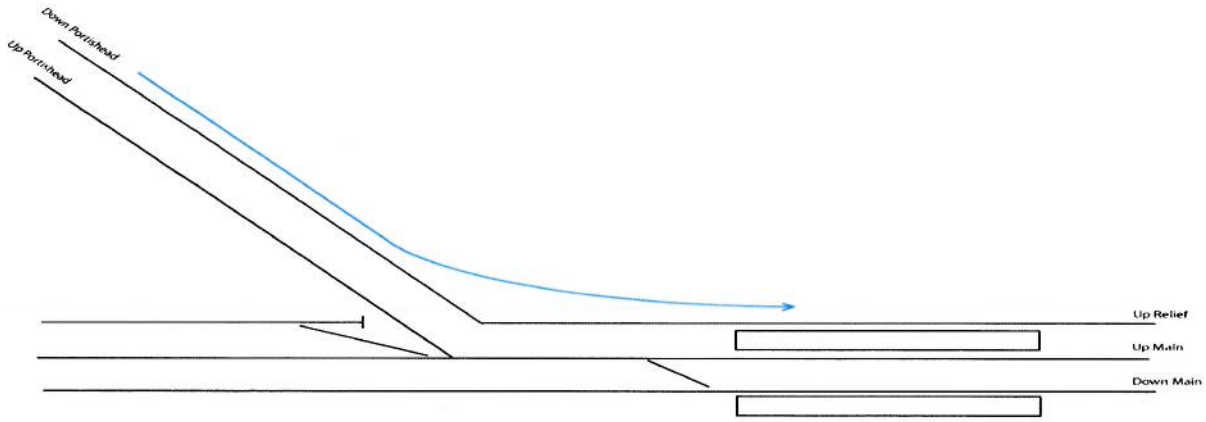
The conflict is marked and labelled on the diagram overleaf, and demonstrates that the passenger and freight service specification is not achievable without an additional signal.

Doubling of Parson St junction

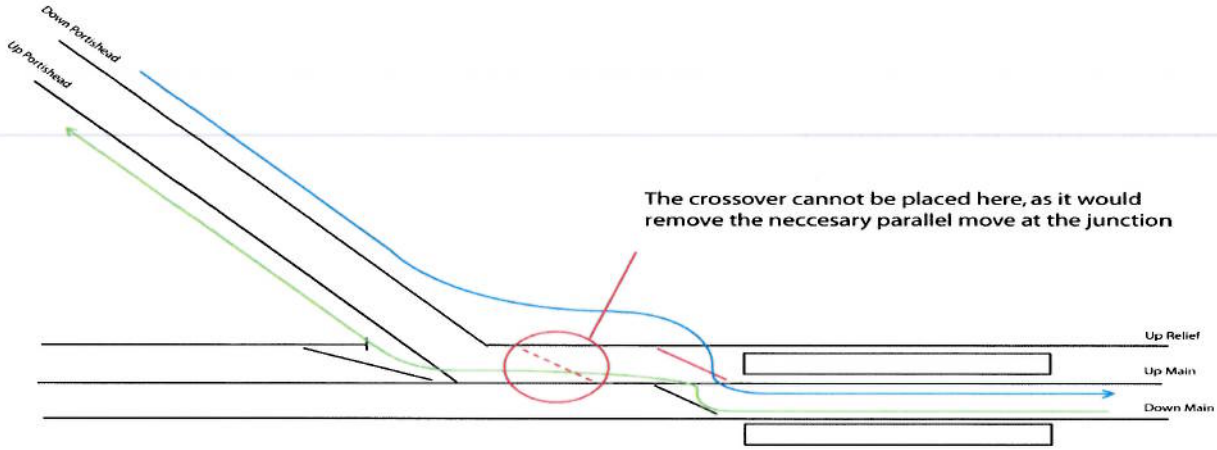
The work conducted has also demonstrated the need to provide a double junction at Parson Street Jn. This will allow a parallel move for services entering and exiting the Portishead branch, which is essential for achieving a regular pattern of MetroWest services.



The diagram above shows a train graph where services cross at Parson Street Jn, making use of a double junction. The yellow box shows the line occupation of a down Portishead train. The marked blue line is an up Portishead Metro service in a parallel move with the down Portishead train. If it were to remain a single lead junction, these services would conflict. It would then be necessary to retime at least one of these trains, which would result in an uneven calling pattern for these Portishead services.



It should be noted that on the layout provided a service leaving the Portishead line must run on the up relief line through Parsons Street.



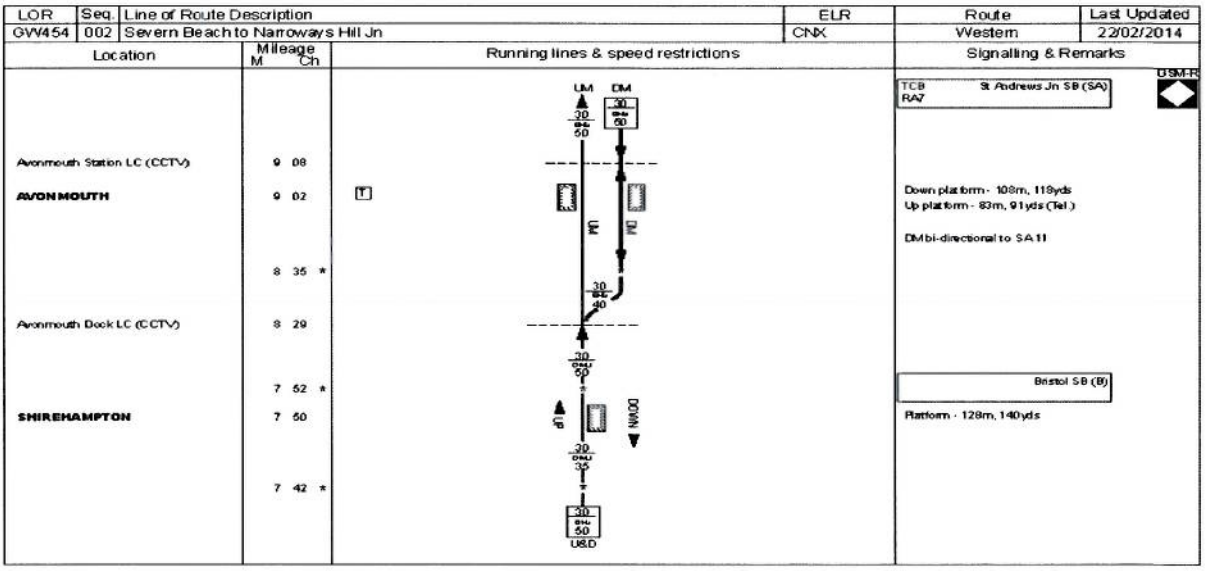
If the layout enabled services to diverge to the Up Main as shown above (whilst maintaining a parallel move with an Up Portishead service) it would provide greater timetable and operational flexibility for both freight and passenger services. This in turn mitigates the performance risk of perturbed services.

Signalling enhancements at Avonmouth (6b) or North of Avonmouth (5b)

At present the capability of Avonmouth station is:

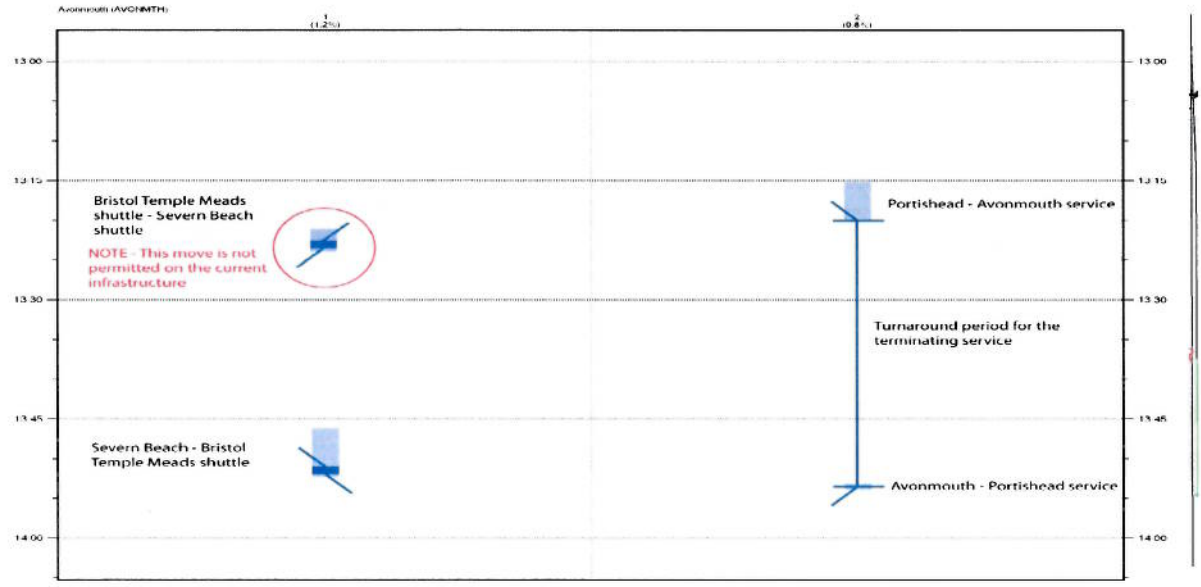
- 1 up Severn Beach line
- 1 bi-directional line/Down Severn beach line

This is shown in the diagram below.



This situation does not allow for a Down Severn Beach service to pass a train that is turning around at Avonmouth.

This diagram shows a platform graph of Avonmouth station. The blue markers represent the MetroWest services. It demonstrates that it is necessary to permit bi-directional running on the up Severn Beach line, in order to achieve a uniform service pattern in Option 6b.



A further advantage of two bidirectional lines is that it allows better access for passengers to Avonmouth station, as it would be possible to depart all up Bristol

services from platform 2. This means that it would not be necessary to cross the level crossing to board the train. This would require extra unit miles to achieve, but would not affect unit numbers.

Given the construction of the timetable, Option 5b timetable does not require the services to cross at Avonmouth, which removes the immediate requirement for signalling enhancements at this location. However, Option 5b has a long service dwell at Severn Beach, which blocks the ability of freight services to enter and leave the LPG freight terminal for a significant proportion of the hour. Here signalling enhancements north of Avonmouth would enable these moves to be performed independently.

It is recommended that the potential for signalling enhancements at either Avonmouth or north of Avonmouth are explored in order to make the best use of capacity for freight and passenger services in this area.

Commentary on Bristol East jn

As stated in the assumptions, these timetable scenarios have been developed using the current Bristol East Jn. Should Bristol East Junction be enhanced (assumed as per option version 5.4.2), the improved layout would allow:

- More efficient usage of Bristol Temple Meads platform capacity
- Potential journey time, service regularity benefits
- Improved performance of the MetroWest scheme and in the wider Bristol area

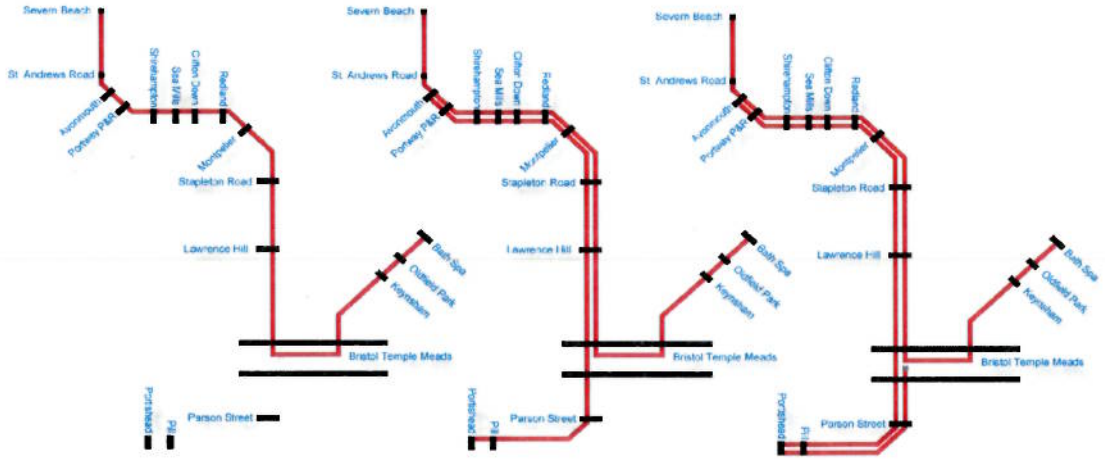
Commentary on rolling stock

All the timetabling work conducted for this report has assumed Class 150 rolling stock for the MetroWest trains. All SRTs, whether previously available or calculated, are for Class 150. There is a proposal to make Class 165 units available for use as MetroWest services. Given the superior acceleration/braking characteristics of Class 165s, this work is valid in both cases.

Timetable comparisons

Given the connective nature of the MetroWest service specification, the development of both scenarios has been a process of 'fixing' a MetroWest service on one route and cascading the broad effect of this to the rest of the area. An example of how this has been achieved is shown overleaf:

Option 5b

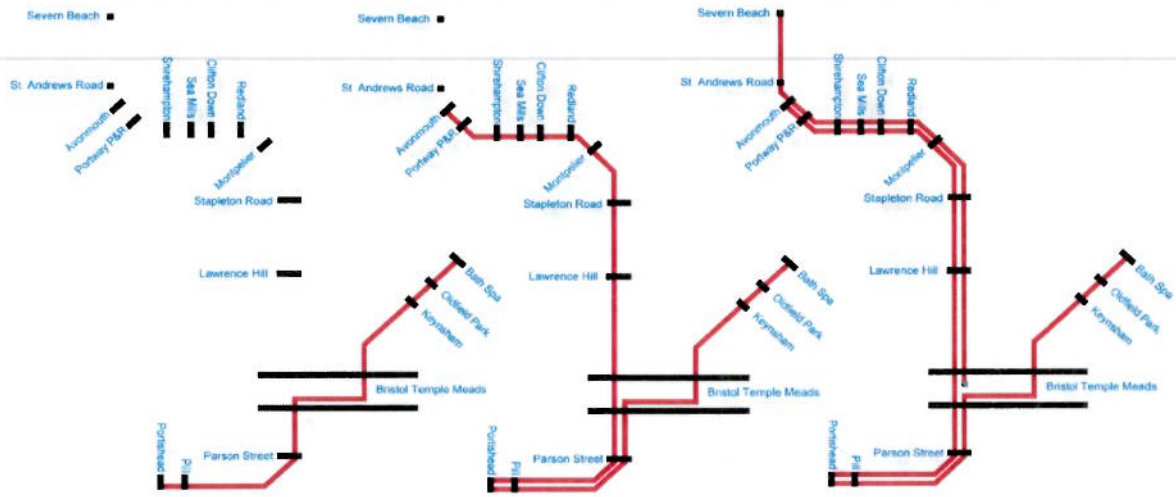


1. Bath - Severn Beach service fixed in both directions, in order to create an even pattern for interim Bath corridor stations

2. Avonmouth - Portishead services can now be fixed in both directions, to ensure an even pattern.

3. Portishead shuttle services can now be added in both directions. The available paths result in the segregation of service groups

Option 6b



1. Bath - Portishead service fixed in both directions, in order to create an even pattern for interim Bath corridor stations

2. Avonmouth - Portishead services can now be fixed in both directions, to ensure an even pattern. Due to the journey time disparity between the Portishead and Severn beach branches, this is necessarily in the opposing half hour from its counterpart in Option 5b

3. Severn beach shuttle services can now be fixed in both directions. Again, to ensure an even pattern, the available paths result in the requirement for service interworking

Furthermore, the different service specifications have resulted in the direction interaction of different services in both cases. This drives a requirement to manipulate the paths in different ways, in order to achieve a balanced timetable.

These two factors have resulted in a number of differences between the two scenarios, which are detailed below:

Portbury dock freight traffic

The proposed reinstatement of passenger services to the Portishead line results in the need to examine the capability of this route to accommodate mixed traffic. The

capacity for one standard path freight train per hour in each direction has been assumed, as agreed with Peter Willey, Senior Freight Manager for Network Rail (Western route).

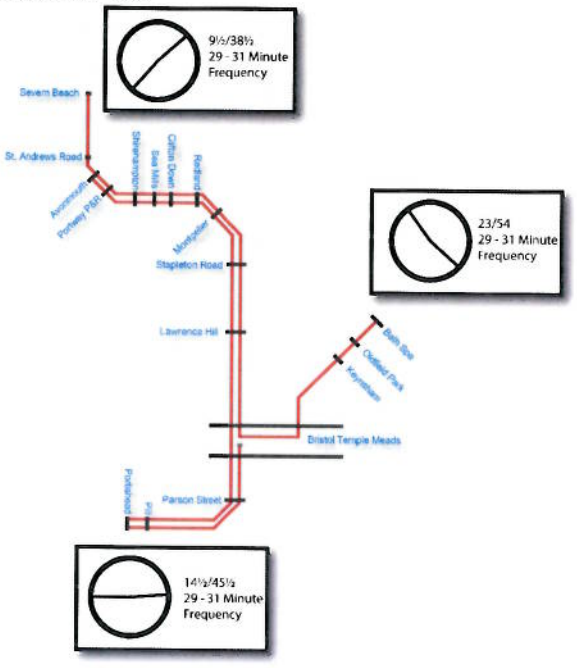
It is possible to accommodate this assumption with both MetroWest scenarios. Both options would require any regulation of freight services to take place away from the Portishead line (assumed to take place either within the Port itself or on both the up and down through lines at Bristol Temple Meads or in the wider area).

It should be noted we have calculated new preliminary SRTs (Sectional running times) for the freight services based on the TRTs (theoretical running times) produced by Railsys. Network Rail Operational Planning 'own' the SRTs and as such the update and/or acceptance of these calculated SRTs for both freight and passenger services, will be required at a later GRIP stage.

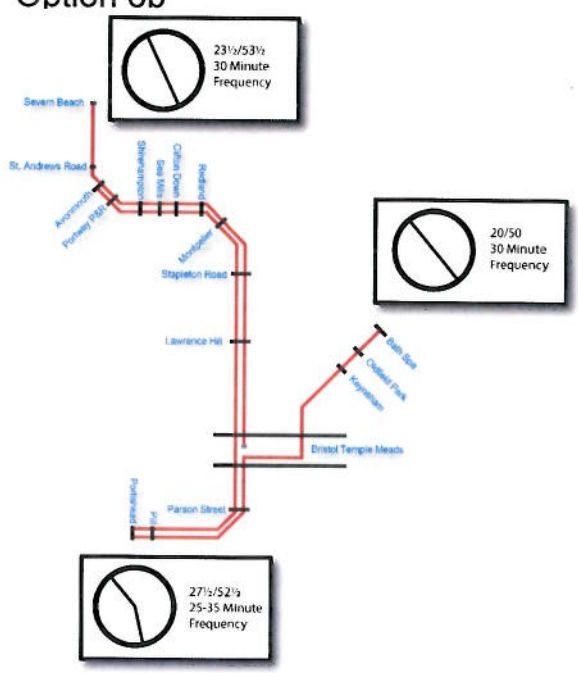
Regularity of pattern

It has been possible to manipulate both timetables to achieve an acceptable clockface pattern on departures from origin stations to Bristol Temple Meads, as shown below

Option 5b



Option 6b



Unit usage

In order to achieve an economy of units whilst fitting within the structure of other services in the area, the requirements of the two service specifications drive different operational strategies. This is due to the fixed nature of each specification scenario and journey time difference on all branches.

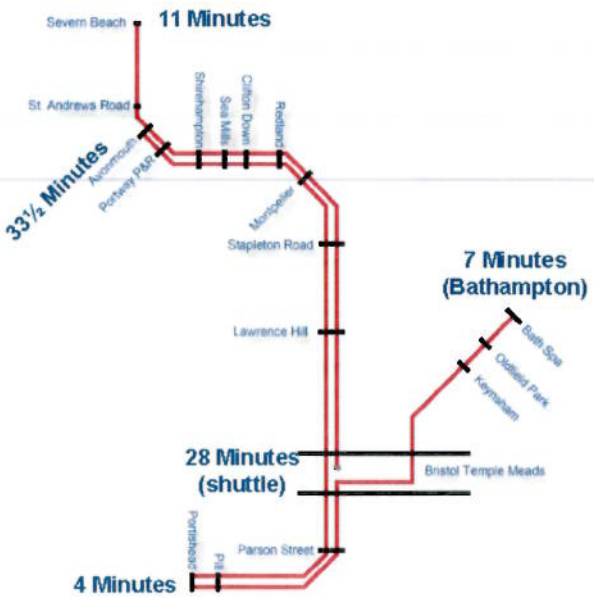
Turnaround time at outer locations

The fixed nature of these timetables has resulted in the following turnaround times.

Option 5b



Option 6b



It should be noted that, given the segregation of services in option 5b, the short turnarounds at both Avonmouth and Portishead are a critical factor in terms of unit numbers.

The above diagram also shows the length of the turnarounds at Severn Beach and Avonmouth are inverted in both options. This drives the necessary signalling intervention at Avonmouth, as discussed in the 'Signalling enhancements at Avonmouth (6b) or North of Avonmouth (5b)' section above.

Journey times

Option 5b

	To Bristol	From Bristol
Bath Spa	17	16.5
Avonmouth	33/31	26/26½
Portishead	17½/18½	16½/16½

Option 6b

	To Bristol	From Bristol
Bath Spa	17	16.5
Avonmouth	30/35½	25½/27½
Portishead	17/15½	16½/16½

The journey times overleaf have been calculated. The differences between the two scenarios are again due to the formation of uniform timetables around the surrounding services.

Unit numbers

These two scenarios, operated in different ways, have resulted in the following minimum unit numbers:

	Option 5b	*Option 6b*
Required unit numbers	6	6

These unit numbers are intrinsically linked to the journey, dwell and turnaround times of all MetroWest services and as a result are only indicative of the theoretical minimum number of units needed to timetable the proposed service levels. Due to the (relatively) short turnarounds and dwell times at Temple Meads it can be deduced that both scenarios involve using six units extremely efficiently, which may not be achievable in the course of normal operations. Furthermore, because recovery opportunities are limited in both scenarios, there are performance risks with minimum unit number operation.

The table below demonstrates the operational risks of operating this. It shows the estimated efficiency of the units on the various routes. In this case the estimated efficiency is calculated as the percentage of time the units are in use plus minimum turnaround allowances.

		Unit Efficiency	
	Service Pattern	**6 total units**	**7 total units**
Option 5b	Portishead – Avonmouth	94.2%	62.8%
	Severn Beach – Bath Spa	77.2%	57.9%
	Portishead – Temple Meads	75.8%	37.9%
Option 6b	Bath Spa – Portishead - Avonmouth	86.5%	69.2%
	Severn Beach – Temple Meads	70.8%	47.2%

As can be seen, the addition of another unit on any route results in significantly lower unit efficiency. This would mitigate the performance risk of perturbed services on that route. It should be noted that this is an indicative measure, as the feasibility of interworking an additional ECS move into the timetable, particularly on the single line sections, would need to be explored.

The differences in interworking of services between the two options mean that there are different performance implications. In Option 5b, which is segregated by service, any primary delay will likely be similarly segregated. This will be of particular importance on the Avonmouth – Portishead route, as there are short turnarounds at both ends. Conversely, any delay experienced by the metro services in Option 6b will potentially spread across the connected service groups. This is potentially mitigated by the longer turnaround at Avonmouth, which will provide recovery time for delayed services.

Robustness – Unit usage

The impact of the structure of the timetable on performance can be deduced from these two scenarios. The fact that the connectivity of units vary between scenarios demonstrates that the decision on service specification will have performance, capability and timetable implications. Factors that may mitigate these risks are:

- Enhanced Bristol East Jn – To allow greater flexibility to the timetable, potential recovery opportunities and journey time benefits.
- Further timetable development which will take place as the proposals progress through the GRIP stages, in particular with regards to other services in the area. This will provide a more accurate view on how the timetable will be formed in the future. Better integration of MetroWest services into the timetable will reduce the performance risks.

- The use of Class 165 units would potentially provide some performance benefits, however this cannot be quantified with the present analysis.

4. CONCLUSIONS & RECOMMENDATIONS

The following infrastructure interventions are necessary to deliver the required MetroWest service level in both scenarios:

- Parson Street Junction doubling
- Intermediate signal on the Portishead branch
- Signalling adjustments, at Avonmouth for Option 6b and north of Avonmouth of Option 5b
- Bathampton turnback siding

The enhancement of Bristol East Jn is desirable for the development of this project, due to the increased number of moves across Bristol Temple Meads Eastern throat under MetroWest. Delivery of this scheme would have performance, timetabling and operational benefits for both the MetroWest project and the wider Bristol area.

The nature of the service level in the wider Bristol area and the required connectivity of the MetroWest service drive whether the services are segregated by route or interconnected. Both options have potential performance benefits and drawbacks.

It is recommended that the ability of the project to procure Class 165 units for MetroWest services be explored as thoroughly as possible. Whilst it is not anticipated that this rolling stock will provide journey time benefits, it has the potential to mitigate performance risk inherent in the scheme.

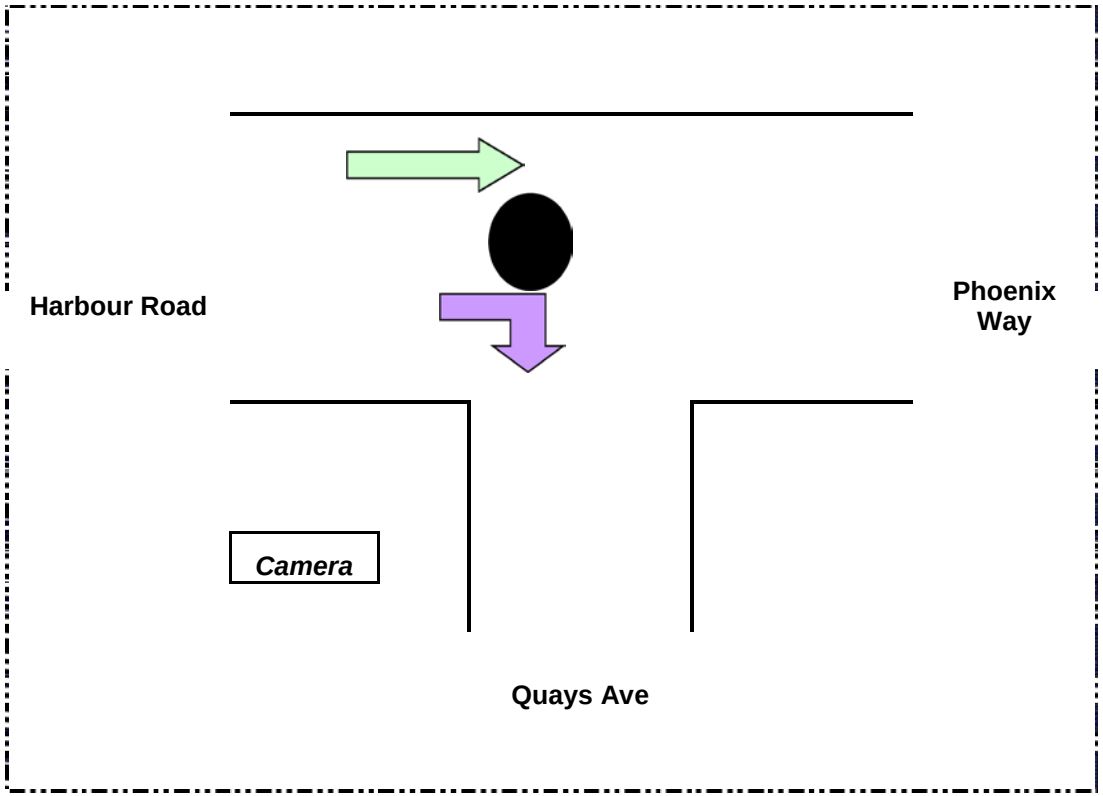
Further timetable development is recommended as the project progresses through the GRIP stages in order to continue to ensure that the required outputs can be delivered in a timetable context.

APPENDIX A. SERVICE SPECIFICATION

Core Timetable Train Service Specification				
Ref.	**Origin**	**Destination**	**Calling Pattern**	**Timing Load**
IE1	London Paddington	Taunton / Weston-Super-Mare	Bristol Parkway, Nailsea & Backwell, Yatton, (Western Milton or Worle), Highbridge & Burnham, Bridgewater	2x5-car Class 800 5-car Class 800
IE2	London Paddington	Bristol Temple Meads	Bristol Parkway	2x5-car Class 800 5-car Class 800
IE3	London Paddington	Bristol Temple Meads	Reading, Didcot Parkway, Swindon, Chippenham, Bath Spa	9-car Class 801
IE4	London Paddington	Bristol Temple Meads	Reading, Didcot Parkway, Swindon, Chippenham, Bath Spa	9-car Class 801
IE5	London Paddington	Carmarthen / Swansea	Didcot Parkway, Bristol Parkway, Newport, Cardiff Central, Bridgend, Port Talbot Parkway, Neath	9-car Class 801
IE6	London Paddington	Swansea / Cardiff Central	Reading, Swindon, Bristol Parkway, Newport, Cardiff Central, Bridgend, Port Talbot Parkway, Neath	9-car Class 801
XC1	Newcastle (North)	Plymouth (South-West)	...Bham, Cheltenham, Bristol Parkway, Bristol Temple Meads, Taunton...	5-car Class 221
XC2	Manchester Piccadilly (North)	Bristol Temple Meads / Paignton (South-West)	...Bham, Cheltenham, Bristol Parkway, Bristol Temple Meads, Western-Super-Mare	5-car Class 221

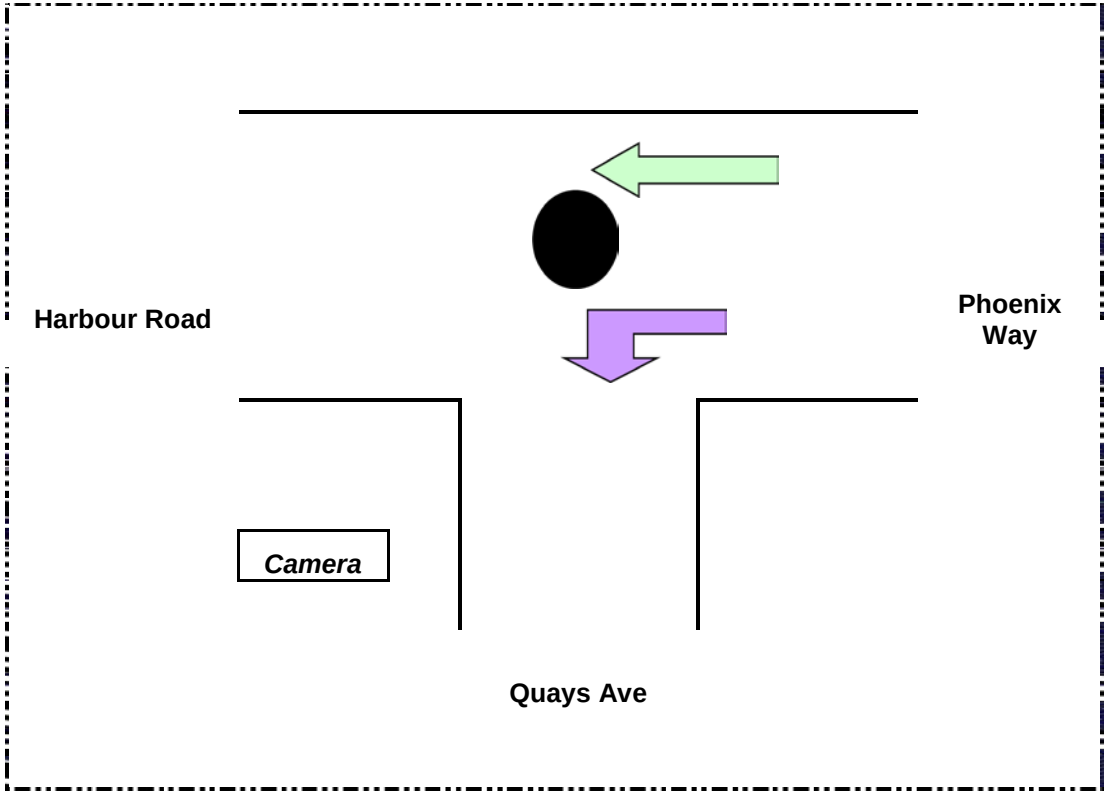
Core Timetable Train Service Specification				
Ref.	**Origin**	**Destination**	**Calling Pattern**	**Timing Load**
			(1tpD), Taunton...	
LOC1	London Waterloo	Bristol Temple Meads	...Bath Spa, Keynsham **(4tpd)**	3-car Class 159
LOC2	Portsmouth Harbour	Cardiff Central	...Bradford-on-Avon, Bath Spa, Bristol Temple Meads, Filton Abbey Wood, Newport	3-car Class 158
LOC3a	Taunton / Weston-Super-Mare	Cardiff Central / Yate/Gloucester*	...Nailsea & Backwell, Bristol Temple Meads, Filton Abbey Wood, Patchway, Severn Tunnel Jn, Newport, Cardiff Central, Filton Abbey Wood, Patchway	2-car Class 150
LOC3b	Weston-Super-Mare	Cardiff Central / Bristol Parkway*	...Nailsea & Backwell, Parson Street, Bedminster, Bristol Temple Meads, Filton Abbey Wood, Patchway...	3-car Class 158
LOC4a	Westbury (South)	Gloucester	...Bradford-on-Avon, Avon Cliff, Freshford, Bath Spa, Oldfield Park, Keynsham, Bristol Temple Meads, Filton Abbey Wood, Bristol Parkway, Yate...**(0.5tph)**	3-car Class 158
LOC4b	Westbury (South)	Great Malvern	...Bradford-on-Avon, Avoncliff, Freshford, Bath Spa, Oldfield Park, Keynsham,Bristol Temple Meads, Filton Abbey Wood, Bristol Parkway, Yate... **(0.5tph)**	3-car Class 158

Core Timetable Train Service Specification				
Ref.	**Origin**	**Destination**	**Calling Pattern**	**Timing Load**
BM1	Severn Beach	Bristol Temple Meads^	All Stations	4-car Class 150
BM2	Avonmouth	Bristol Temple Meads^	All Stations	4-car Class 150
BM3	Bath Spa	Bristol Temple Meads^	All Stations	4-car Class 150
BM4	Portishead	Bristol Temple Meads^	Pill Only	4-car Class 150
BM5	Portishead	Bristol Temple Meads^	Pill Only	4-car Class 150
FR1	Portbury	Severn Tunnel Jn	1tph each way off peak 1tph one way peak	Class 6 GLW:2000tn from Portbury Class 4 TARE to Portbury



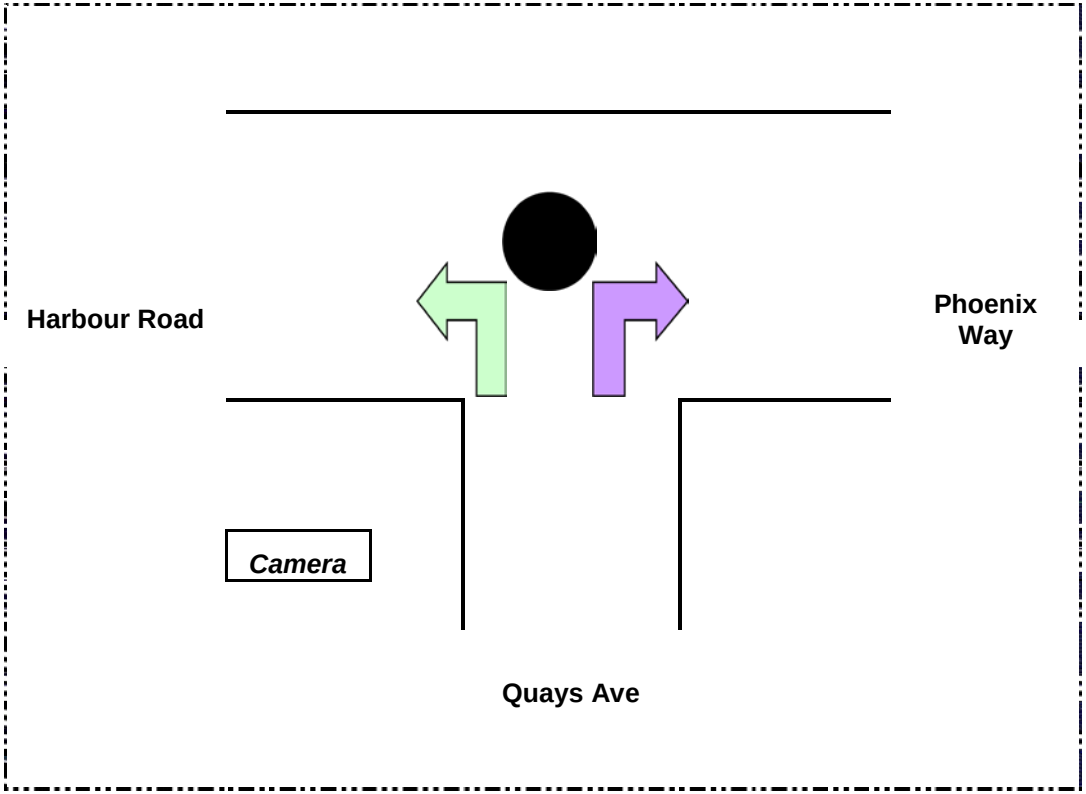
	Straight On						Right						From Harbour Road							To Harbour Road						
TIME	CAR	LGV	HGV	BUS	MCL	PCL	CAR	LGV	HGV	BUS	MCL	PCL	CAR	LGV	HGV	BUS	MCL	PCL		CAR	LGV	HGV	BUS	MCL	PCL	
07:00	3	0	0	0	0	1	57	10	1	0	0	1	60	10	1	0	0	2	73	25	12	1	0	0	0	38
07:15	2	1	0	0	0	3	59	6	1	0	0	0	61	7	1	0	0	3	72	41	9	1	0	1	1	53
07:30	10	0	0	0	0	0	50	8	0	0	1	0	60	8	0	0	1	0	69	87	9	3	0	1	4	104
07:45	12	2	0	0	0	1	43	8	1	0	1	1	55	10	1	0	1	2	69	94	10	0	0	1	3	108
Hr/Total	**27**	**3**	**0**	**0**	**0**	**5**	**209**	**32**	**3**	**0**	**2**	**2**	**236**	**35**	**3**	**0**	**2**	**7**	**283**	**247**	**40**	**5**	**0**	**3**	**8**	**303**

08:00	16	1	0	0	0	0	49	3	2	1	0	2	65	4	2	1	0	2	74	115	12	2	0	0	3	132
08:15	13	0	0	0	0	0	46	3	1	0	0	1	59	3	1	0	0	1	64	148	15	0	0	0	3	166
08:30	19	4	0	0	0	0	38	7	1	1	1	0	57	11	1	1	1	0	71	150	9	1	0	1	6	**167**
08:45	27	1	0	0	0	4	66	7	0	0	0	1	93	8	0	0	0	5	**106**	142	7	1	0	0	4	154
Hr/Total	**75**	**6**	**0**	**0**	**0**	**4**	**199**	**20**	**4**	**2**	**1**	**4**	**274**	**26**	**4**	**2**	**1**	**8**	**315**	**555**	**43**	**4**	**0**	**1**	**16**	**619**
09:00	11	2	0	0	0	1	57	4	1	0	0	0	68	6	1	0	0	1	76	85	7	2	0	0	4	98
09:15	12	2	0	0	0	0	59	8	0	1	0	0	71	10	0	1	0	0	82	79	6	0	0	0	0	85
09:30	12	1	0	0	0	0	43	5	1	0	0	0	55	6	1	0	0	0	62	57	5	1	0	0	1	64
09:45	13	0	0	0	0	0	29	5	2	0	0	1	42	5	2	0	0	1	50	48	5	0	0	0	0	53
Hr/Total	**48**	**5**	**0**	**0**	**0**	**1**	**188**	**22**	**4**	**1**	**0**	**1**	**236**	**27**	**4**	**1**	**0**	**2**	**270**	**269**	**23**	**3**	**0**	**0**	**5**	**300**
15:00	25	1	0	0	0	0	53	10	0	0	0	1	78	11	0	0	0	1	90	83	14	1	0	0	1	99
15:15	13	2	0	0	0	4	52	12	1	0	0	0	65	14	1	0	0	4	84	91	7	0	0	0	1	99
15:30	30	1	0	0	0	7	50	8	1	0	0	2	80	9	1	0	0	9	99	83	3	1	0	1	1	89
15:45	24	2	0	0	0	1	60	7	0	0	0	2	84	9	0	0	0	3	96	107	12	1	0	1	1	122
Hr/Total	**92**	**6**	**0**	**0**	**0**	**12**	**215**	**37**	**2**	**0**	**0**	**5**	**307**	**43**	**2**	**0**	**0**	**17**	**369**	**364**	**36**	**3**	**0**	**2**	**4**	**409**
16:00	28	4	0	0	0	2	64	12	2	0	0	2	92	16	2	0	0	4	114	68	13	0	0	0	2	83
16:15	16	0	0	0	1	1	37	12	0	0	1	0	53	12	0	0	2	1	68	75	13	1	0	2	6	97
16:30	34	1	0	0	2	0	65	12	0	0	1	2	99	13	0	0	3	2	117	96	7	0	1	3	1	108
16:45	25	1	0	0	0	0	46	14	0	0	0	1	71	15	0	0	0	1	87	131	2	0	0	1	1	135
Hr/Total	**103**	**6**	**0**	**0**	**3**	**3**	**212**	**50**	**2**	**0**	**2**	**5**	**315**	**56**	**2**	**0**	**5**	**8**	**386**	**370**	**35**	**1**	**1**	**6**	**10**	**423**
17:00	38	1	0	0	1	2	113	4	2	0	0	4	151	5	2	0	1	6	**165**	100	7	0	0	1	5	113
17:15	30	1	0	0	1	4	77	5	0	0	0	1	107	6	0	0	1	5	119	92	7	1	0	0	6	106
17:30	32	1	0	0	0	2	82	6	0	0	2	1	114	7	0	0	2	3	126	131	3	0	1	1	3	139
17:45	39	1	0	0	0	3	50	4	1	0	0	1	89	5	1	0	0	4	99	133	7	0	1	3	6	**150**
Hr/Total	**139**	**4**	**0**	**0**	**2**	**11**	**322**	**19**	**3**	**0**	**2**	**7**	**461**	**23**	**3**	**0**	**4**	**18**	**509**	**456**	**24**	**1**	**2**	**5**	**20**	**508**
18:00	44	0	0	0	0	3	67	2	0	0	0	0	111	2	0	0	0	3	116	105	6	1	0	1	3	116
18:15	42	0	0	0	1	3	49	4	0	0	0	0	91	4	0	0	1	3	99	122	4	0	0	1	4	131
18:30	32	1	0	0	0	0	38	3	0	0	0	1	70	4	0	0	0	1	75	121	3	0	0	0	0	124
18:45	33	0	0	0	0	2	38	0	0	0	0	1	71	0	0	0	0	3	74	103	6	0	0	2	6	117
Hr/Total	**151**	**1**	**0**	**0**	**1**	**8**	**192**	**9**	**0**	**0**	**0**	**2**	**343**	**10**	**0**	**0**	**1**	**10**	**364**	**451**	**19**	**1**	**0**	**4**	**13**	**488**



	Straight On						Left						From Phoenix Way							To Phoenix Way						
TIME	CAR	LGV	HGV	BUS	MCL	PCL	CAR	LGV	HGV	BUS	MCL	PCL	CAR	LGV	HGV	BUS	MCL	PCL		CAR	LGV	HGV	BUS	MCL	PCL	
07:00	9	1	0	0	0	0	84	6	0	0	0	0	93	7	0	0	0	0	100	9	2	0	1	0	1	13
07:15	21	4	0	0	0	0	88	8	1	1	1	1	109	12	1	1	1	1	125	11	6	1	0	0	3	21
07:30	44	0	1	0	0	1	120	13	0	0	0	0	164	13	1	0	0	1	**179**	26	3	0	1	0	0	30
07:45	47	1	0	0	0	1	82	10	0	1	2	0	129	11	0	1	2	1	144	22	4	0	0	0	1	27
Hr/Total	**121**	**6**	**1**	**0**	**0**	**2**	**374**	**37**	**1**	**2**	**3**	**1**	**495**	**43**	**2**	**2**	**3**	**3**	**548**	**68**	**15**	**1**	**2**	**0**	**5**	**91**

08:00	67	3	0	0	0	3	94	7	0	0	0	2	161	10	0	0	0	5	176	37	4	0	0	0	0	41
08:15	71	3	0	0	0	1	88	4	0	1	0	2	159	7	0	1	0	3	170	32	4	0	1	0	0	37
08:30	63	2	0	0	0	4	79	6	0	0	0	1	142	8	0	0	0	5	155	52	7	0	0	0	0	**59**
08:45	28	1	0	0	0	2	74	3	0	1	0	2	102	4	0	1	0	4	111	44	4	0	1	1	4	54
Hr/Total	**229**	**9**	**0**	**0**	**0**	**10**	**335**	**20**	**0**	**2**	**0**	**7**	**564**	**29**	**0**	**2**	**0**	**17**	**612**	**165**	**19**	**0**	**2**	**1**	**4**	**191**
09:00	23	0	0	0	0	1	50	5	0	0	1	1	73	5	0	0	1	2	81	44	5	0	0	0	1	50
09:15	16	0	0	0	0	0	52	0	1	0	1	1	68	0	1	0	1	1	71	34	5	0	1	0	0	40
09:30	9	0	0	0	0	0	24	3	0	1	0	0	33	3	0	1	0	0	37	26	6	0	0	0	0	32
09:45	14	2	0	0	0	0	26	6	0	0	0	0	40	8	0	0	0	0	48	26	5	0	1	0	0	32
Hr/Total	**62**	**2**	**0**	**0**	**0**	**1**	**152**	**14**	**1**	**1**	**2**	**2**	**214**	**16**	**1**	**1**	**2**	**3**	**237**	**130**	**21**	**0**	**2**	**0**	**1**	**154**
15:00	23	0	0	0	0	1	25	4	0	0	0	0	48	4	0	0	0	1	53	72	5	1	0	0	0	78
15:15	24	1	0	0	0	1	24	2	0	0	1	0	48	3	0	0	1	1	53	61	10	0	1	2	4	78
15:30	22	0	0	0	1	1	42	2	1	1	0	0	64	2	1	1	1	1	70	83	5	1	0	0	7	96
15:45	24	2	0	0	0	1	22	5	0	0	0	0	46	7	0	0	0	1	54	71	5	0	1	1	1	79
Hr/Total	**93**	**3**	**0**	**0**	**1**	**4**	**113**	**13**	**1**	**1**	**1**	**0**	**206**	**16**	**1**	**1**	**2**	**4**	**230**	**287**	**25**	**2**	**2**	**3**	**12**	**331**
16:00	14	0	0	0	0	1	35	3	1	1	0	0	49	3	1	1	0	1	55	77	14	0	0	0	3	94
16:15	18	4	0	0	0	2	32	2	0	0	0	0	50	6	0	0	0	2	58	69	6	0	1	3	1	80
16:30	19	0	0	0	0	1	35	4	0	1	3	0	54	4	0	1	3	1	63	92	5	0	0	2	0	99
16:45	32	0	0	0	0	1	27	2	0	0	1	0	59	2	0	0	1	1	63	111	12	0	1	3	0	127
Hr/Total	**83**	**4**	**0**	**0**	**0**	**5**	**129**	**11**	**1**	**2**	**4**	**0**	**212**	**15**	**1**	**2**	**4**	**5**	**239**	**349**	**37**	**0**	**2**	**8**	**4**	**400**
17:00	16	1	0	0	0	5	26	4	0	1	0	0	42	5	0	1	0	5	53	117	7	0	0	1	2	127
17:15	18	0	0	0	0	3	32	3	0	0	0	0	50	3	0	0	0	3	56	120	8	0	1	2	5	136
17:30	29	1	0	0	1	1	36	2	0	1	1	0	65	3	0	1	2	1	72	115	9	0	0	2	2	128
17:45	37	1	0	0	1	4	31	3	0	0	0	0	68	4	0	0	1	4	77	145	7	0	0	1	4	**157**
Hr/Total	**100**	**3**	**0**	**0**	**2**	**13**	**125**	**12**	**0**	**2**	**1**	**0**	**225**	**15**	**0**	**2**	**3**	**13**	**258**	**497**	**31**	**0**	**1**	**6**	**13**	**548**
18:00	15	0	0	0	0	0	44	2	0	1	0	0	59	2	0	1	0	0	62	144	3	0	1	1	5	154
18:15	33	1	0	0	0	2	50	2	0	0	0	0	83	3	0	0	0	2	**88**	131	3	0	0	3	3	140
18:30	24	2	0	0	0	0	30	3	0	0	2	0	54	5	0	0	2	0	61	130	5	0	1	1	1	138
18:45	29	2	0	0	0	1	52	3	0	1	0	0	81	5	0	1	0	1	**88**	107	2	0	1	0	2	112
Hr/Total	**101**	**5**	**0**	**0**	**0**	**3**	**176**	**10**	**0**	**2**	**2**	**0**	**277**	**15**	**0**	**2**	**2**	**3**	**299**	**512**	**13**	**0**	**3**	**5**	**11**	**544**



	Left						Right						From Quays Ave							To Quays Ave						
TIME	CAR	LGV	HGV	BUS	MCL	PCL	CAR	LGV	HGV	BUS	MCL	PCL	CAR	LGV	HGV	BUS	MCL	PCL		CAR	LGV	HGV	BUS	MCL	PCL	
07:00	16	11	1	0	0	0	6	2	0	1	0	0	22	13	1	1	0	0	37	141	16	1	0	0	1	159
07:15	20	5	1	0	1	1	9	5	1	0	0	0	29	10	2	0	1	1	43	147	14	2	1	1	1	166
07:30	43	9	2	0	1	3	16	3	0	1	0	0	59	12	2	1	1	3	78	170	21	0	0	1	0	**192**
07:45	47	9	0	0	1	2	10	2	0	0	0	0	57	11	0	0	1	2	71	125	18	1	1	3	1	149
Hr/Total	**126**	**34**	**4**	**0**	**3**	**6**	**41**	**12**	**1**	**2**	**0**	**0**	**167**	**46**	**5**	**2**	**3**	**6**	**229**	**583**	**69**	**4**	**2**	**5**	**3**	**666**

08:00	48	9	2	0	0	0	21	3	0	0	0	0	69	12	2	0	0	0	83	143	10	2	1	0	4	160
08:15	77	12	0	0	0	2	19	4	0	1	0	0	96	16	0	1	0	2	115	134	7	1	1	0	3	146
08:30	87	7	1	0	1	2	33	3	0	0	0	0	120	10	1	0	1	2	134	117	13	1	1	1	1	134
08:45	114	6	1	0	0	2	17	3	0	1	1	0	131	9	1	1	1	2	**145**	140	10	0	1	0	3	154
Hr/Total	**326**	**34**	**4**	**0**	**1**	**6**	**90**	**13**	**0**	**2**	**1**	**0**	**416**	**47**	**4**	**2**	**2**	**6**	**477**	**534**	**40**	**4**	**4**	**1**	**11**	**594**
09:00	62	7	2	0	0	3	33	3	0	0	0	0	95	10	2	0	0	3	110	107	9	1	0	1	1	119
09:15	63	6	0	0	0	0	22	3	0	1	0	0	85	9	0	1	0	0	95	111	8	1	1	1	1	123
09:30	48	5	1	0	0	1	14	5	0	0	0	0	62	10	1	0	0	1	74	67	8	1	1	0	0	77
09:45	34	3	0	0	0	0	13	5	0	1	0	0	47	8	0	1	0	0	56	55	11	2	0	0	1	69
Hr/Total	**207**	**21**	**3**	**0**	**0**	**4**	**82**	**16**	**0**	**2**	**0**	**0**	**289**	**37**	**3**	**2**	**0**	**4**	**335**	**340**	**36**	**5**	**2**	**2**	**3**	**388**
15:00	60	14	1	0	0	0	47	4	1	0	0	0	107	18	2	0	0	0	127	78	14	0	0	0	1	93
15:15	67	6	0	0	0	0	48	8	0	1	2	0	115	14	0	1	2	0	132	76	14	1	0	1	0	92
15:30	61	3	1	0	0	0	53	4	1	0	0	0	114	7	2	0	0	0	123	92	10	2	1	0	2	107
15:45	83	10	1	0	1	0	47	3	0	1	1	0	130	13	1	1	2	0	147	82	12	0	0	0	2	96
Hr/Total	**271**	**33**	**3**	**0**	**1**	**0**	**195**	**19**	**2**	**2**	**3**	**0**	**466**	**52**	**5**	**2**	**4**	**0**	**529**	**328**	**50**	**3**	**1**	**1**	**5**	**388**
16:00	54	13	0	0	0	1	49	10	0	0	0	1	103	23	0	0	0	2	128	99	15	3	1	0	2	120
16:15	57	9	1	0	2	4	53	6	0	1	2	0	110	15	1	1	4	4	135	69	14	0	0	1	0	84
16:30	77	7	0	1	3	0	58	4	0	0	0	0	135	11	0	1	3	0	150	100	16	0	1	4	2	123
16:45	99	2	0	0	1	0	86	11	0	1	3	0	185	13	0	1	4	0	203	73	16	0	0	1	1	91
Hr/Total	**287**	**31**	**1**	**1**	**6**	**5**	**246**	**31**	**0**	**2**	**5**	**1**	**533**	**62**	**1**	**3**	**11**	**6**	**616**	**341**	**61**	**3**	**2**	**6**	**5**	**418**
17:00	84	6	0	0	1	0	79	6	0	0	0	0	163	12	0	0	1	0	176	139	8	2	1	0	4	**154**
17:15	74	7	1	0	0	3	90	7	0	1	1	1	164	14	1	1	1	4	185	109	8	0	0	0	1	118
17:30	102	2	0	1	0	2	83	8	0	0	2	0	185	10	0	1	2	2	200	118	8	0	1	3	1	131
17:45	96	6	0	1	2	2	106	6	0	0	1	1	202	12	0	1	3	3	**221**	81	7	1	0	0	1	90
Hr/Total	**356**	**21**	**1**	**2**	**3**	**7**	**358**	**27**	**0**	**1**	**4**	**2**	**714**	**48**	**1**	**3**	**7**	**9**	**782**	**447**	**31**	**3**	**2**	**3**	**7**	**493**
18:00	90	6	1	0	1	3	100	3	0	1	1	2	190	9	1	1	2	5	208	111	4	0	1	0	0	116
18:15	89	3	0	0	1	2	89	3	0	0	2	0	178	6	0	0	3	2	189	99	6	0	0	0	0	105
18:30	97	1	0	0	0	0	98	4	0	1	1	1	195	5	0	1	1	1	203	68	6	0	0	2	1	77
18:45	74	4	0	0	2	5	74	2	0	1	0	0	148	6	0	1	2	5	162	90	3	0	1	0	1	95
Hr/Total	**350**	**14**	**1**	**0**	**4**	**10**	**361**	**12**	**0**	**3**	**4**	**3**	**711**	**26**	**1**	**3**	**8**	**13**	**762**	**368**	**19**	**0**	**2**	**2**	**2**	**393**

Non Motorised Users Count on Quays Avenue

TIME	22/09/2014			23/09/2014			24/09/2014			Average for 3 days		
	PED	PCh	PCL	PED	PCh	PCL	PED	PCh	PCL	PED	PCh	PCL
06:00	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00
06:15	0	0	0	0	0	0	1	0	0	0.33	0.00	0.00
06:30	3	0	1	1	0	0	2	0	3	2.00	0.00	1.33
06:45	5	0	1	2	0	1	7	0	1	4.67	0.00	1.00
Hr/Total	**8**	**0**	**2**	**3**	**0**	**1**	**10**	**0**	**4**	**7.00**	**0.00**	**2.33**
07:00	1	0	0	1	0	2	4	0	2	2.00	0.00	1.33
07:15	1	0	2	3	0	1	1	0	2	1.67	0.00	1.67
07:30	3	0	6	2	0	6	3	0	4	2.67	0.00	5.33
07:45	8	0	3	12	0	4	9	0	1	9.67	0.00	2.67
Hr/Total	**13**	**0**	**11**	**18**	**0**	**13**	**17**	**0**	**9**	**16.00**	**0.00**	**11.00**
08:00	11	3	2	8	0	5	9	0	6	9.33	1.00	4.33
08:15	27	1	7	20	0	4	19	1	4	22.00	0.67	5.00
08:30	6	0	3	5	0	6	15	0	6	8.67	0.00	5.00
08:45	4	1	3	7	0	3	7	1	5	6.00	0.67	3.67
Hr/Total	**48**	**5**	**15**	**40**	**0**	**18**	**50**	**2**	**21**	**46.00**	**2.33**	**18.00**
09:00	6	0	3	8	1	4	5	0	3	6.33	0.33	3.33
09:15	6	0	3	4	1	0	8	1	3	6.00	0.67	2.00
09:30	7	1	2	5	1	1	6	2	1	6.00	1.33	1.33
09:45	4	1	2	2	0	1	7	0	0	4.33	0.33	1.00
Hr/Total	**23**	**2**	**10**	**19**	**3**	**6**	**26**	**3**	**7**	**22.67**	**2.67**	**7.67**
10:00	2	0	3	6	1	2	6	2	1	4.67	1.00	2.00
10:15	3	1	1	1	1	1	1	0	0	1.67	0.67	0.67
10:30	3	1	1	7	1	1	4	0	0	4.67	0.67	0.67
10:45	2	0	2	3	2	0	8	1	0	4.33	1.00	0.67
Hr/Total	**10**	**2**	**7**	**17**	**5**	**4**	**19**	**3**	**1**	**15.33**	**3.33**	**4.00**
11:00	3	1	1	4	1	1	5	1	0	4.00	1.00	0.67
11:15	5	3	1	3	0	1	3	1	3	3.67	1.33	1.67
11:30	1	0	1	1	0	2	5	0	1	2.33	0.00	1.33
11:45	2	0	3	5	1	0	1	0	1	2.67	0.33	1.33
Hr/Total	**11**	**4**	**6**	**13**	**2**	**4**	**14**	**2**	**5**	**12.67**	**2.67**	**5.00**
12:00	2	0	2	5	0	1	4	0	0	3.67	0.00	1.00
12:15	3	0	0	4	1	3	1	0	2	2.67	0.33	1.67
12:30	9	1	4	10	1	4	9	0	2	9.33	0.67	3.33
12:45	10	1	0	9	1	4	12	0	3	10.33	0.67	2.33
Hr/Total	**24**	**2**	**6**	**28**	**3**	**12**	**26**	**0**	**7**	**26.00**	**1.67**	**8.33**
13:00	9	0	0	8	2	1	8	0	4	8.33	0.67	1.67
13:15	14	0	2	13	1	2	12	0	3	13.00	0.33	2.33
13:30	2	0	1	11	1	2	4	0	2	5.67	0.33	1.67
13:45	3	1	1	5	1	1	7	2	2	5.00	1.33	1.33
Hr/Total	**28**	**1**	**4**	**37**	**5**	**6**	**31**	**2**	**11**	**32.00**	**2.67**	**7.00**
14:00	9	1	2	10	2	1	6	0	2	8.33	1.00	1.67
14:15	2	0	3	3	0	1	8	1	1	4.33	0.33	1.67
14:30	2	0	2	4	1	0	2	1	0	2.67	0.67	0.67
14:45	8	1	2	11	2	2	9	1	0	9.33	1.33	1.33
Hr/Total	**21**	**2**	**9**	**28**	**5**	**4**	**25**	**3**	**3**	**24.67**	**3.33**	**5.33**

15:00	7	2	2	3	1	3	5	2	3	5.00	1.67	2.67
15:15	4	0	7	2	0	4	6	0	1	4.00	0.00	4.00
15:30	17	5	7	14	1	3	23	0	8	18.00	2.00	6.00
15:45	13	0	5	12	0	0	11	0	1	12.00	0.00	2.00
Hr/Total	**41**	**7**	**21**	**31**	**2**	**10**	**45**	**2**	**13**	**39.00**	**3.67**	**14.67**
16:00	4	0	1	10	1	2	10	0	2	8.00	0.33	1.67
16:15	18	3	5	10	3	1	4	1	4	10.67	2.33	3.33
16:30	5	1	5	3	0	4	2	1	4	3.33	0.67	4.33
16:45	8	0	6	8	0	1	6	0	0	7.33	0.00	2.33
Hr/Total	**35**	**4**	**17**	**31**	**4**	**8**	**22**	**2**	**10**	**29.33**	**3.33**	**11.67**
17:00	8	0	8	8	0	6	4	0	6	6.67	0.00	6.67
17:15	8	1	10	2	1	1	8	0	5	6.00	0.67	5.33
17:30	12	1	5	7	0	5	5	0	3	8.00	0.33	4.33
17:45	8	2	7	3	0	6	3	0	4	4.67	0.67	5.67
Hr/Total	**36**	**4**	**30**	**20**	**1**	**18**	**20**	**0**	**18**	**25.33**	**1.67**	**22.00**
18:00	9	0	6	6	1	2	5	1	2	6.67	0.67	3.33
18:15	5	0	6	2	0	0	6	0	7	4.33	0.00	4.33
18:30	2	0	0	6	0	0	4	2	2	4.00	0.67	0.67
18:45	13	0	4	5	1	2	15	0	4	11.00	0.33	3.33
Hr/Total	**29**	**0**	**16**	**19**	**2**	**4**	**30**	**3**	**15**	**26.00**	**1.67**	**11.67**
19:00	4	0	3	4	0	4	4	0	2	4.00	0.00	3.00
19:15	10	1	2	4	0	0	0	0	4	4.67	0.33	2.00
19:30	11	0	3	5	0	0	4	0	2	6.67	0.00	1.67
19:45	6	0	5	8	0	1	4	0	0	6.00	0.00	2.00
Hr/Total	**31**	**1**	**13**	**21**	**0**	**5**	**12**	**0**	**8**	**21.33**	**0.33**	**8.67**
Total	**358**	**34**	**167**	**325**	**32**	**113**	**347**	**22**	**132**	**343.33**	**29.33**	**137.33**

Non Motorised Users Count - Marjoram to Gallingale Permissive Footpath Count

	22/09/2014			23/09/2014			24/09/2014			Average of the 3 days		
TIME	PED	PCh	PCL	PED	PCh	PCL	PED	PCh	PCL	PED	PCh	PCL
0600 -0700	5	0	4	2	0	0	4	0	2	3.7	0.0	2.0
0700 - 0800	27	0	9	26	0	3	29	0	5	27.3	0.0	5.7
0800 - 0900	187	5	36	167	1	32	181	4	36	178.3	3.3	34.7
0900 - 1000	17	4	5	15	3	2	12	2	4	14.7	3.0	3.7
1000 - 1100	11	2	5	12	4	4	9	2	7	10.7	2.7	5.3
1100 - 1200	8	1	4	3	0	1	4	0	3	5.0	0.3	2.7
1200 - 1300	10	2	3	13	2	1	10	2	3	11.0	2.0	2.3
1300 - 1400	9	2	3	16	3	0	14	5	6	13.0	3.3	3.0
1400 - 1500	15	3	3	9	2	3	15	3	7	13.0	2.7	4.3
1500 - 1600	142	9	25	135	6	16	148	10	7	141.7	8.3	16.0
1600 - 1700	49	3	9	66	3	7	57	5	4	57.3	3.7	6.7
1700 - 1800	55	1	13	19	0	8	36	2	7	36.7	1.0	9.3
1800 - 1900	33	0	15	24	0	9	33	0	9	30.0	0.0	11.0
1900 - 2000	26	1	14	14	0	7	19	1	4	19.7	0.7	8.3
Total	594	33	148	521	24	93	571	36	104	562	31	115

Stage 1
Road Safety Audit

MetroWest Phase 1 Portishead Rail Station
Options 1A, 2A, 2B and 2C

Stage 1 Road Safety Audit

December 2014

North Somerset Council

THINK! Road Safety

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1 Introduction

This report forms a Stage 1 Road Safety Audit of highway alterations proposed as part of the provision of a new railway station in Portishead. The scheme comprises alterations to existing highways, the creation of new junctions and accesses, the provision of car parks, and the construction of facilities for pedestrians and cyclists.

Four alternative locations are being considered for the station, identified as Option 1A, Option 2A, Option 2B and Option 2C, with different highway alterations. Option 1A would include the installation of a level crossing where the re-opened railway line crosses Quays Avenue.

In this report, the team has examined and reported only on the road safety implications of the works, and have not examined or verified the compliance with any other criteria. No members of the audit team have been involved in the design of the scheme. The report format is based upon the checklist contained in Annex A of HD 19/03.

A site visit was undertaken on the morning of Monday 13 October 2014. The weather at the time was overcast with showers, the road surface was wet and traffic flow was moderate. No detailed design has been prepared yet, so there are no comments on matters such as surface water drainage, signs, road markings, street lighting, etc.

The speed limit on Harbour Road is 20mph to the west of Newfoundland Way junction and 30 mph to the east. The speed limit on Quays Avenue is 30mph.

A list of the information supplied to the audit team in advance of the audit is contained in Appendix A.

A location plan for the scheme is shown in Appendix B.

Each of the problems identified by the audit team has been allocated a reference number, which is shown on the plan extracts in Appendix C.

The Audit Team comprised the following people:

John Painter – Principal Engineer – Audit Team Leader

Paul Watkins – Senior Engineer – Audit Team Member

2 Items raised at previous audits

There have been no previous Road Safety Audits of any of the proposed options.

2.1 Departures from Standards

No departures from Standards have been notified for any of the proposed options.

3 Option 1A (Drawing METRO/HR0/1a)

3.1 Priority Junctions and Accesses

3.1.1 Problem: Risk that all road users could sustain personal injury from head on/side swipe/nose to tail/shunt type collisions due to conflicting traffic movements.

Location: Proposed access to station car park off Harbour Road.

Summary: The access to the proposed new station car park is shown as being directly opposite the existing Newfoundland Way T-junction, creating a crossroads. Turning movements, particularly right turns to/from the car park will conflict with right turns and/or straight across movements to/from Newfoundland Way increasing risk of collision.

Recommendation: Either relocate the proposed station access away from Newfoundland Way to the north-west of Harbour Road or provide a traffic signal junction.

3.1.2 Problem: Risk that all road users could sustain personal injury from head on/side swipe/nose to tail/shunt type collisions due to conflicting traffic movements.

Location: Proposed access to station overflow car park off Harbour Road.

Summary: The access to the proposed new station overflow car park is shown as being directly opposite the existing access to Harbour Road Trading Estate, creating a crossroads. Turning movements, particularly right turns to/from the car park will conflict with right turns to/from the Trading Estate.

Recommendation: Relocate the proposed new access away from Harbour Road Trading Estate to the north-west of Harbour Road.

3.1.3 Problem: Increased risk of vehicular conflict due to on street parking and additional traffic volumes.

Location: Harbour Road (near Health Centre and junction with Haven View)

Summary: Road users may incur personal injury from head on, side swipe or nose to tail/shunt type collisions due to increases in traffic volume and existing on street parking provision, requiring vehicles to pass in the opposing lane.



Recommendation: Ensure all parking/waiting restrictions are reviewed along Harbour Road (to include all side roads and Quays Avenue). Ensure additional parking/waiting restrictions are provided where required to reduce vehicular conflict or improve intervisibility between road user groups.

3.2 Roundabouts

3.2.1 Problem: Risk of personal injury collisions from queuing traffic across/over roundabout.

Location: All entry/exit points of Quays Avenue/Harbour Road roundabout.

Summary: All road user groups may come into conflict with each other at the roundabout of Quays Avenue/Harbour Road where vehicles queue blocking entries/exists when the level crossing is in operation. This may lead to nose to nose to tail/shunt type collisions resulting in personal injury.

Recommendation: Where practicable the requirement for a level crossing should be eliminated. However, if this is not possible, provide keep clear road markings on roundabout circulatory to ensure entries and exits are kept clear.

3.3 Level Crossing

3.3.1 Problem: Risk that all road users may incur serious personal injury due to direct conflict with moving trains.

Location: Quays Avenue level crossing.

Summary: A collision may result from a vehicle crossing the railway line at the same time that a train was approaching or leaving the station. A recent study[1] has shown that “overall, there is an increase of around 8% in the risk of a fatality during an average car journey that includes a level crossing, compared with one that does not”. This is an average figure for all existing crossings, which takes no account of the speed of the trains. At Quays Avenue, trains will be travelling at low speed, reducing both the likelihood and severity of any collision.

Recommendation: Where practicable the requirement for a level crossing should be eliminated. However, if this is not possible any level crossing provided should be in accordance with the most up to date guidance/regulations, ensuring full width vehicle barriers and fail safe interlock systems that prevent barriers being opened at inappropriate times are provided.

3.3.2 Problem: Risk of personal injury to cyclists and riders of powered two-wheeled vehicles due to loss of control.

Location: Proposed level crossing at Quays Avenue.

Summary: Riders of two-wheeled vehicles may skid and lose control whilst crossing the railway tracks due the curved road alignment at the crossing, the low skid resistance of the metal rails, and the gaps between the rails and the adjacent crossing.

Recommendation: Realign the road to provide a straight and perpendicular crossing of the railway track, and ensure that the skid resistance of the crossing is similar to that of the approaches.

3.3.3 Problem: Risk that pedestrians may be killed or seriously injured due to direct conflict with moving trains.

Location: Quays Avenue level crossing.

Summary: A fatal or serious collision could result from a pedestrian crossing the railway line at the same time that a train is approaching or leaving the station. A recent study[1] has shown that "if an average walking trip includes a level crossing, the fatality risk to a pedestrian is about double the risk of an average walking trip without a level crossing". This is an average figure for all existing crossings, which takes no account of the speed of the trains. At Quays Avenue, trains will be travelling at low speed, reducing both the likelihood and severity of any collision. This risk is further increased where a primary School is located in close proximity.

Recommendation: Where practicable the requirement for a level crossing should be eliminated. However, if this is not possible any level crossing provided should ensure that fail-safe interlock systems that prevent barriers being opened at inappropriate times are provided. In addition audible warning devices to cater for large pedestrian volumes and/or partially sighted user groups should be provided.

3.4 Public Utilities / Services Apparatus

3.4.1 Problem: Maintenance operatives could sustain serious injury due to collisions with vehicles.

Location: Proposed access to station car park.

Summary: There is a large access chamber and services located in the grass area opposite the existing Newfoundland Way junction. The entry manhole would be located within the new access road to the car park, creating risk of conflict between maintenance operatives and traffic entering or leaving the proposed car park.





Recommendation: Relocate the proposed access away from Newfoundland Way to the north-west of Harbour Road.

3.4.2 Problem: Risk that all road users may incur personal injury due to collisions occurring on the existing road network.

Location: Harbour Road, Cabstand junction and Wyndham Way.

Summary: When the proposed level crossing on Quays Avenue is closed to traffic, some drivers will divert to the alternative route of Harbour Road, Cabstand junction and Wyndham Way, creating additional traffic and conflict on these routes.

Recommendation: Where practicable the requirement for a level crossing should be eliminated. However, if this is not possible improvements may be required to existing roads and junctions to accommodate diverted traffic.

3.4.3 Problem: Risk that all road users may incur personal injury due to side swipe/nose-to-tail collisions arising from drivers making U-turns or three-point turns.

Location: Quays Avenue to the south of the proposed level crossing.

Summary: Drivers travelling northwards along Quays Avenue may decide to turn round to find an alternative route when the level crossing is closed to traffic.

Recommendation: Where practicable the requirement for a level crossing should be eliminated. However, if this is not possible provide adequate advance electronic warning signs/systems that barriers are in operation.

4 **Option 2A** (Drawing METRO/HR0/2a)

4.1 Priority Junctions and Accesses

4.1.1 Problem: Risk that all road users could sustain personal injury from head on/side swipe/nose to tail/shunt type collisions due to conflicting traffic movements.

Location: Proposed access/egress to/from station car park.

Summary: The entrance/exit for the new station car park is shown as being directly opposite the existing Haven View T-junction, creating a crossroads. Right turns to/from the car park will conflict with right turns to/from Haven View.

Recommendation: Relocate the proposed access away from Newfoundland Way to the north-west of Harbour Road.

4.1.2 Problem: Risk that all road users could sustain personal injury from head on/side swipe/nose to tail/shunt type collisions due to conflicting traffic movements.

Location: Proposed exit from station car park onto Quays Avenue.

Summary: The car park exit onto Quays Avenue is designated to be “Left turn only”. It will be difficult to ensure compliance which may cause confusion/uncertainty leading to side impact/nose to tail/shunt type collisions between road users.

Recommendation: Either provide adequate physical measures to prevent right turns out of the car park or enlarge the roundabout to accommodate an exit directly onto it.

4.2 Non-motorised User Provision

4.2.1 Problem: Pedestrians may incur injury due to collisions with vehicles exiting the car park onto Quays Avenue.

Location: “Left turn only” exit from car park onto Quays Avenue.

Summary: It is proposed that drivers exiting the car park onto Quays Avenue will only be allowed to turn left. Drivers may therefore only look to their right when joining Quays Avenue, and may not see any pedestrians who are to their left (i.e. walking from north to south along the Quays Avenue footway.

Recommendation: Either highlight the footway crossing at the proposed exit to make drivers aware pedestrians may be present or divert the footway via the proposed station car park.

4.3.1 Problem: Pedestrians could sustain injury due to collisions with vehicles when crossing Quays Avenue to get from the car park to the station or vice-versa.

Location: Proposed pedestrian crossing Quays Avenue, between the car park and the station.

Summary: The scheme drawing indicates that a pedestrian crossing is to be provided across Quays Avenue to connect the car park and the station, but does not indicate what type of crossing this will be. If the crossing type is not appropriate for the likely level of usage, pedestrians may take risks when crossing the road or when in a hurry to catch a train.

Recommendation: Where practicable provide a pedestrian footbridge over Quays Avenue linking the car park directly to the station platform. If a pedestrian crossing is to be provided ensure that the type of crossing and measures installed are appropriate for the likely level of usage.

5 Option 2B (Drawing METRO/HR0/2b)

5.1 Carriageway Alignment and Visibility

5.1.1 Problem: All road users could be at risk of sustaining injury due to nose-to-tail collisions resulting from sub-standard forward visibility.

Location: Realigned section of Quays Avenue

Summary: The proposed realignment of Quays Avenue appears to be quite “tight”, although the plan does not indicate what radius is proposed. Forward visibility along the road and to the bus stops and pedestrian crossing point may be compromised.

Recommendation Ensure that forward visibility is appropriate to the design speed of the realigned road, and that any verge widening required is kept free from structures or planting.

5.2 Priority Junctions and Accesses

5.2.1 Problem: Risk that all road users could sustain personal injury from head on/side swipe/nose to tail/shunt type collisions due to conflicting traffic movements.

Location: Proposed access to station overflow car park.

Summary: The access to the proposed station overflow car park is shown as being directly opposite the existing access to Harbour Road Trading Estate, creating a crossroads. Right turns to/from the car park will conflict with right turns to/from the Trading Estate.

Recommendation: Relocate the proposed access away from Harbour Road trading estate to the north-west of Harbour Road.

5.3 Roundabouts

5.3.1 Problem: Road users could sustain injury due to side swipe/nose-to-tail collisions resulting from inadequate design of proposed roundabout.

Location: Proposed roundabout where realigned Quays Avenue connects to Harbour Road (located at the existing Haven View junction).

Summary: The proposed four-arm roundabout is significantly smaller than the existing three-arm Quays Avenue/Harbour Road/Phoenix Way roundabout, so may be too small to safely accommodate traffic flows/movements (which will increase as a result of the proposed station).

Recommendation: Ensure that the size and geometry of the new roundabout is appropriate to accommodate predicted traffic flows and movements (swept paths etc) safely.

5.3.2 Problem: Road users could sustain personal injury due to side swipe/nose-to-tail type collisions resulting from inadequate design of proposed roundabout.

Location: Proposed roundabout where realigned Quays Avenue connects to Harbour Road (located at the existing Haven View junction).

Summary: The proposed roundabout includes a segregated left-turn from Phoenix Way to Quays Avenue. This movement may encourage high speeds, which may lead to conflicts with vehicles exiting the roundabout.

Recommendation: Ensure that the size and geometry of the new roundabout is appropriate to accommodate predicted traffic flows/movements safely.

6 Option 2C (Drawing METRO/HR0/2c)

6.1 Basic Design Principles

6.1.1 Problem: Road users could sustain personal injury due to nose-to-tail/head-on type collisions.

Location: Serbert Road/Serbert Way/Serbert Close.

Summary: Quays Avenue is to be stopped up and traffic diverted along Serbert Road, which is proposed to be extended through to Harbour Road. Serbert Road is restricted in width and has a number of accesses and a lot of on-street parking. Two new bus stops are also proposed along the same route, with a further significant retail development entrances/exits currently under construction on Serbert Way and Serbert Close. This route may be unable to safely accommodate proposed traffic flows. Turning movements in/out of the retail entrance/exits will further compound this problem.



Recommendation: Undertake traffic flow capacity and turning movement assessments (to include traffic/pedestrian trip generations to/from the new retail development – Sainsbury's) for Serbert Road, Serbert Way and the new roundabout where Serbert Way is proposed to link with Harbour Road. Introduce parking/waiting restrictions to ensure the main carriageway is kept free from obstruction.

6.1.2 Problem: Risk that all road users could sustain personal injury from head on/side swipe/nose to tail/shunt type collisions due to conflicting traffic movements.

Location: Proposed access to trading estate off Harbour Road.

Summary: The access to the proposed station car park is shown as being directly opposite the existing trading estate T-junction, creating a crossroads. Turning movements, particularly right turns to/from the car park will conflict with right turns and/or straight across movements to/from the trading estate increasing risk of collision.

Recommendation: Relocate the proposed station access away from the existing trading estate access to the north-west of Harbour Road.

6.2 Roundabouts

6.2.1 Problem: Risk that all road users could sustain personal injury from nose-to-tail collisions arising from driver confusion and uncertainty.

Location: Existing roundabout at the junction of Quays Avenue /Harbour Road/Phoenix Way & severed section of Quays Avenue.

Summary: The stopping up and diversion of Quays Avenue will make the existing roundabout redundant. Drivers may be confused by the road layout. In addition, drivers may use the “dead” areas of road for parking, which could obstruct pedestrian movements.

Recommendation: Remove the redundant roundabout to ensure road users are clear about the route ahead. Provide formalised parking and waiting restrictions along Quays Avenue.

6.2.2 Problem: Road users could sustain injury due to side swipe/nose-to-tail collisions resulting from inadequate design of proposed roundabout.

Location: Proposed roundabout where realigned Quays Avenue connects to Harbour Road (located at the existing Haven View junction).

Summary: The proposed four-arm roundabout is significantly smaller than the existing three-arm Quays Avenue/Harbour Road/Phoenix Way roundabout, so may be too small to safely accommodate traffic flows (which will increase as a result of the new station).

Recommendation: Ensure that the size and geometry of the new roundabout is appropriate to accommodate predicted traffic flows safely.

7 General (applicable to all options)

7.1 Non – Motorised Users

7.1.1 Problem: Increase in pedestrian/cycle and vehicle flows may increase the potential for conflict between all user groups.

Location: Throughout localised area.

Summary: All road users but particularly vulnerable user groups may be at increased risk of conflict leading to personal injury due to the increase in pedestrian/cycle and/or vehicle activity within the vicinity of the proposed station.

Recommendation: Extend existing 20mph zone to encompass additional pedestrian/cycle/vehicle movements/flows in/around each of the proposed options. Review all pedestrian and cycle provisions/facilities as part of an NMU audit to be undertaken for the option taken forward to detailed design.

7.2 Road Layout

7.2.1 Problem: All road users could be at risk of personal injury due to side swipe or nose-to-tail type collisions.

Location: Harbour Road

Summary: Existing bus stops along Harbour Road have not been identified as part of the proposals. Sudden unexpected stopping or changes of direction may occur if the bus stops are poorly sited in relation to the revised road layouts.

Recommendation: Ensure that bus stop locations are reviewed and changed if necessary.

8 Audit Team Statement

I certify that this audit has been carried out following the principles of HD19/03.

Audit Team Leader

Name: John Painter, BSc, CEng, MICE, MCIHT

Position: Principal Engineer
North Somerset Council

Signed:  Dated: 22/12/2014

Audit Team Member

Name: Paul Watkins, MIHE, regRSA

Position: Senior Engineer
North Somerset Council

9 Appendix A

Drawings and information supplied for Audit

Un-numbered drawing entitled Option 1A with Level Crossing (number assumed to be METRO/HR0/1a)

Drawing number METRO/HR0/2a Option 2a Conceptual Arrangement

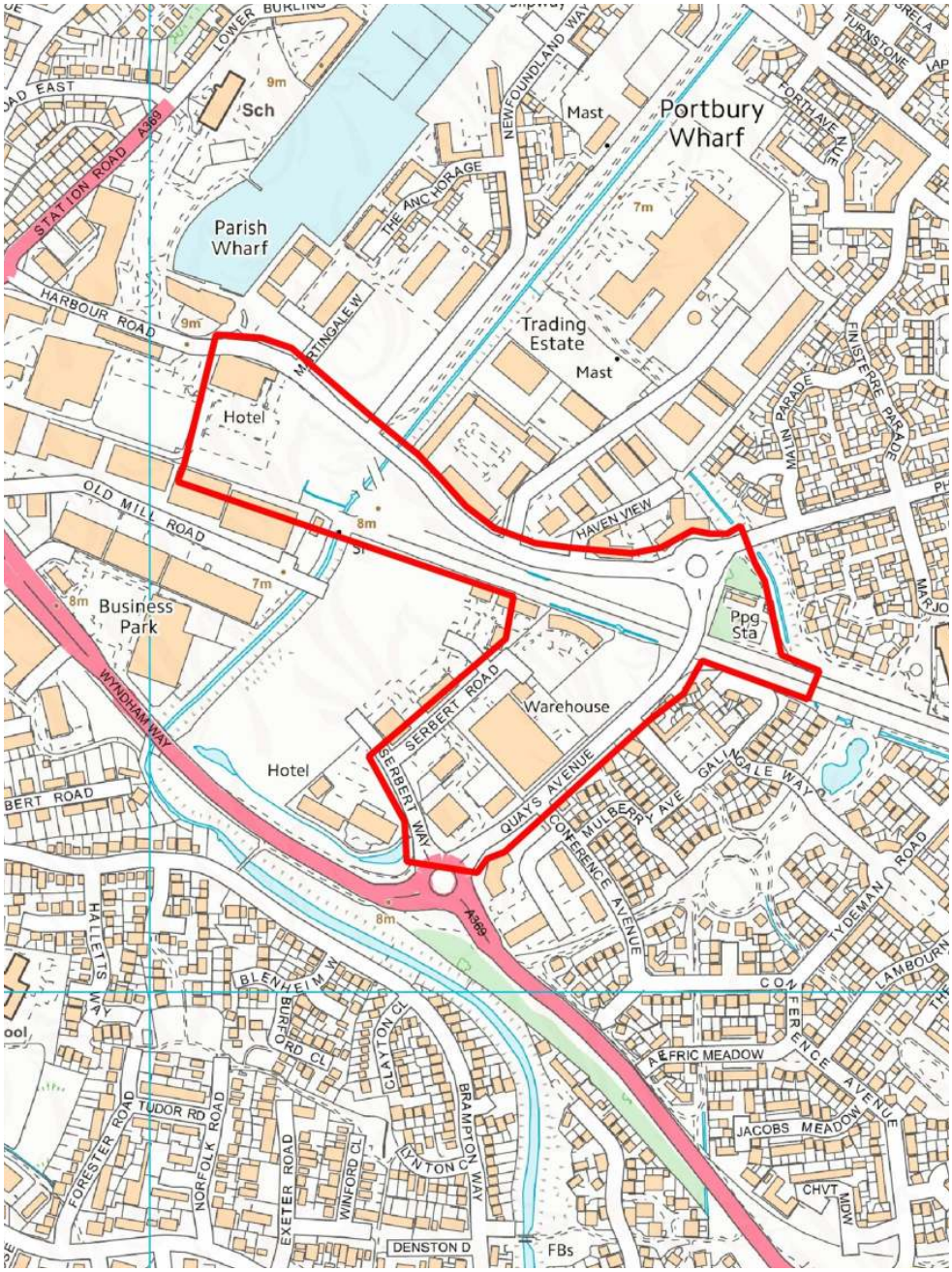
Drawing number METRO/HR0/2b Option 2b Conceptual Arrangement

Drawing number METRO/HR0/2c Option 2c Conceptual Arrangement

[1] "Safety at level crossings Eleventh Report of Session 2013 – 14" House of Commons Transport Committee February 2014.

10 Appendix B

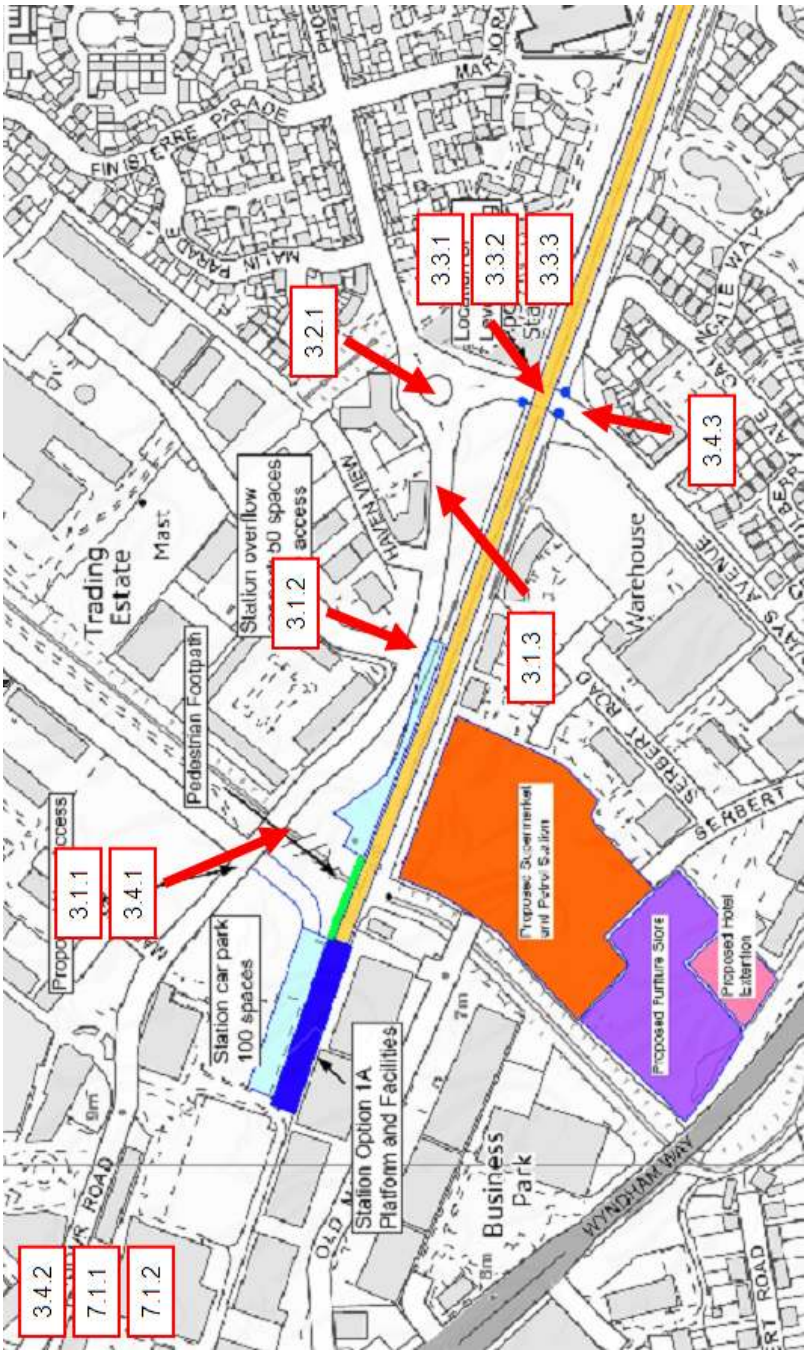
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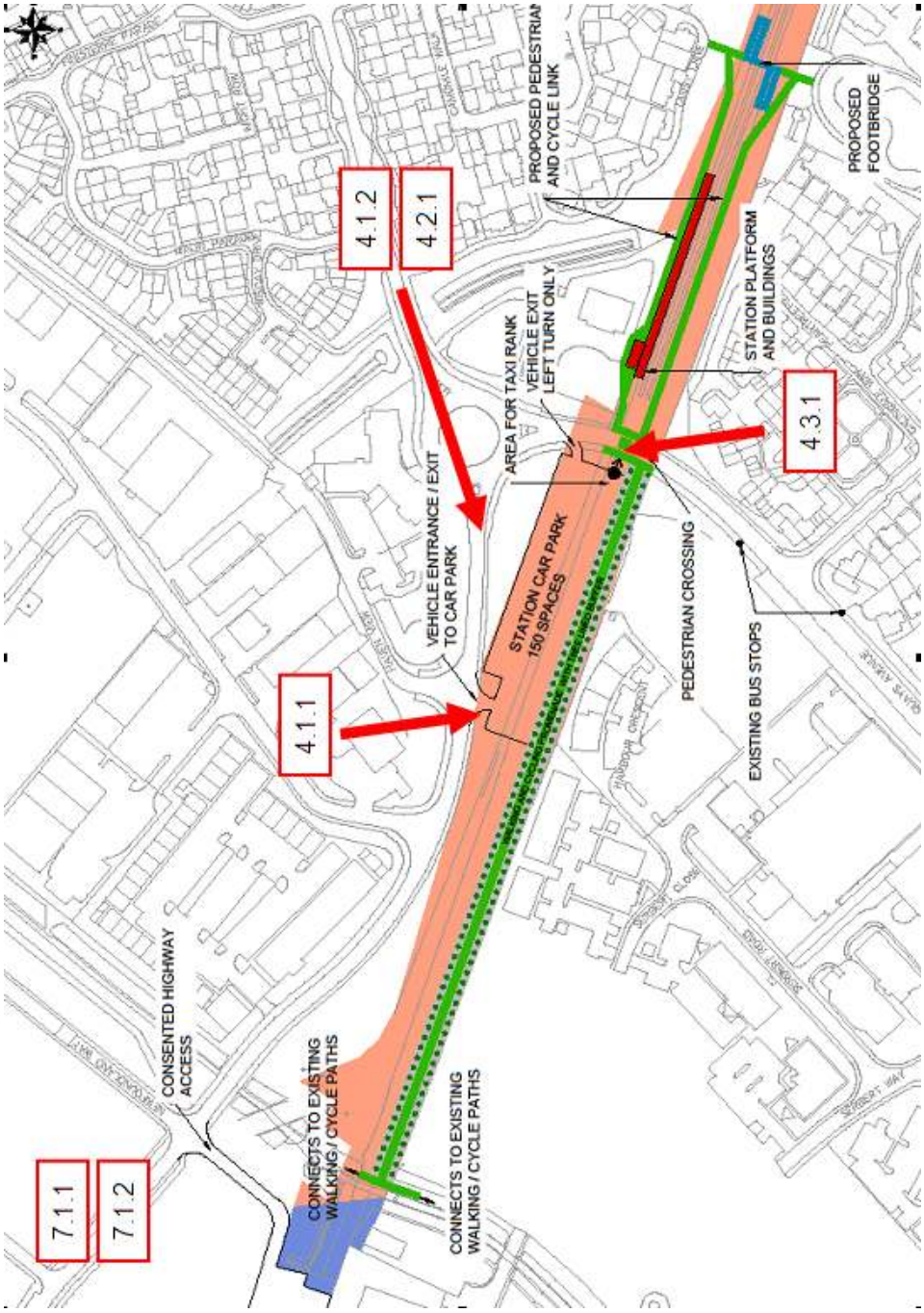
11 Appendix C

Audit Drawings

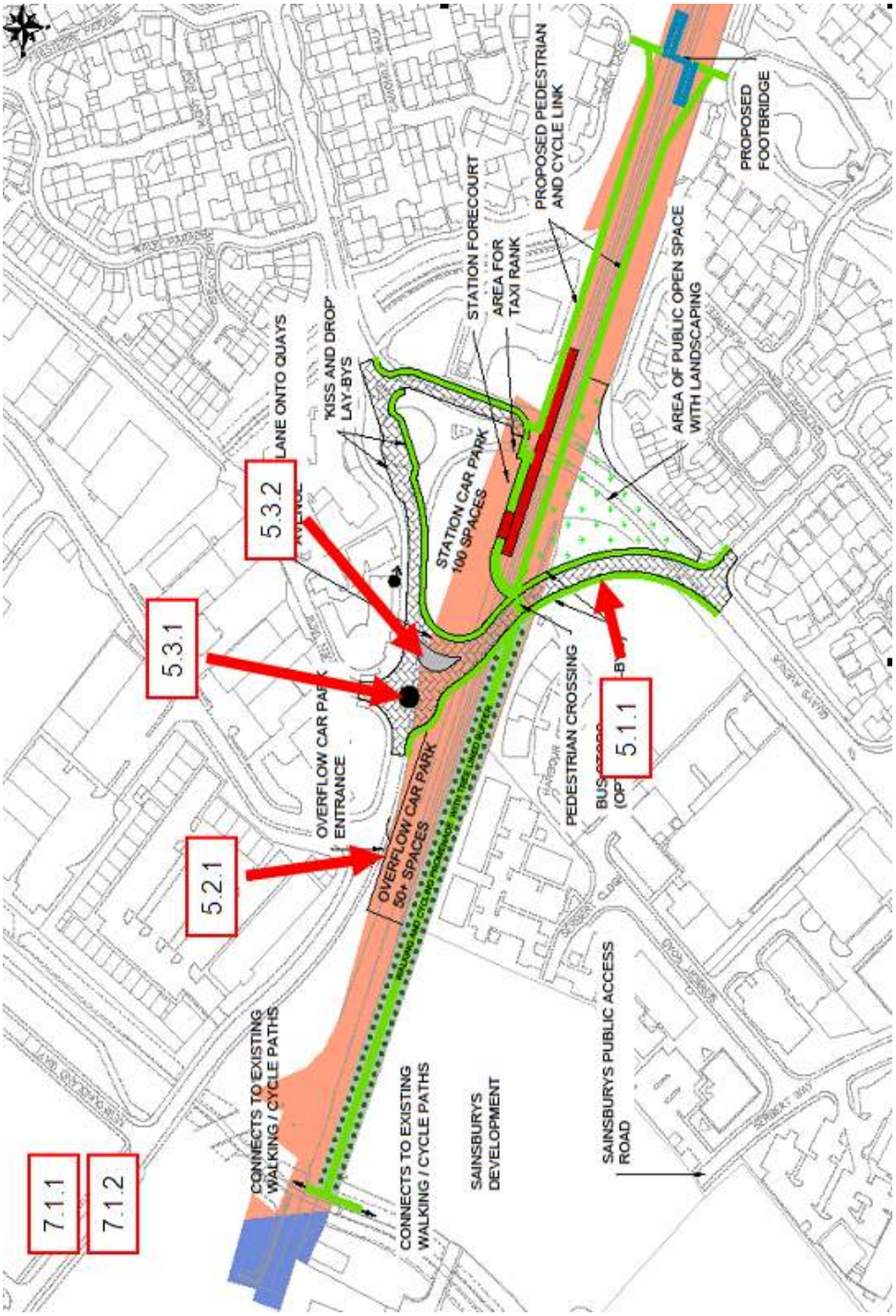
Option 1A



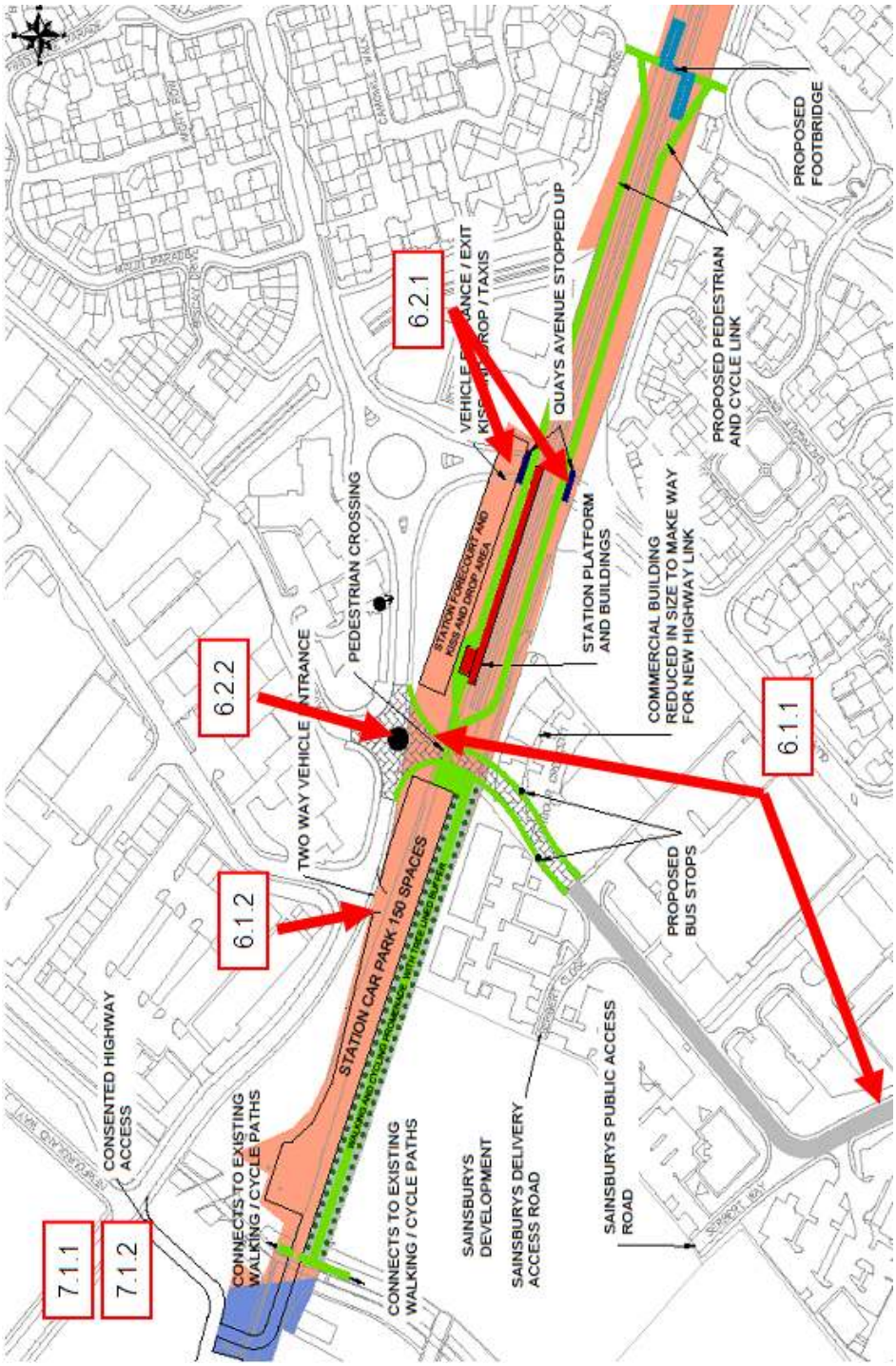
Option 2A


4.1.2
4.2.1
PROPOSED PEDESTRIAN AND CYCLE LINK
PROPOSED FOOTBRIDGE
STATION PLATFORM AND BUILDINGS
AREA FOR TAXI RANK
VEHICLE EXIT LEFT TURN ONLY
4.3.1
VEHICLE ENTRANCE / EXIT TO CAR PARK
STATION CAR PARK 150 SPACES
4.1.1
PEDESTRIAN CROSSING
EXISTING BUS STOPS
CONSENTED HIGHWAY ACCESS
CONNECTS TO EXISTING WALKING / CYCLE PATHS
CONNECTS TO EXISTING WALKING / CYCLE PATHS
7.1.1
7.1.2

Option 2B


5.3.2
5.3.1
5.2.1
5.1.1
7.1.1
7.1.2
LANE ONTO QUAYS
'KISS AND DROP' LAY-BYS
STATION FORECOURT
AREA FOR TAXI RANK
PROPOSED PEDESTRIAN AND CYCLE LINK
PROPOSED FOOTBRIDGE
AREA OF PUBLIC OPEN SPACE WITH LANDSCAPING
STATION CAR PARK 100 SPACES
OVERFLOW CAR PARK ENTRANCE
OVERFLOW CAR PARK 50+ SPACES
PEDESTRIAN CROSSING
CONNECTS TO EXISTING WALKING / CYCLE PATHS
CONNECTS TO EXISTING WALKING / CYCLE PATHS
SAINSBURYS DEVELOPMENT
SAINSBURYS PUBLIC ACCESS ROAD

Option 2C


6.2.1
6.2.2
6.1.2
6.1.1
7.1.1
7.1.2
PROPOSED FOOTBRIDGE
PROPOSED PEDESTRIAN AND CYCLE LINK
QUAYS AVENUE STOPPED UP
STATION PLATFORM AND BUILDINGS
COMMERCIAL BUILDING REDUCED IN SIZE TO MAKE WAY FOR NEW HIGHWAY LINK
PROPOSED BUS STOPS
PEDESTRIAN CROSSING
TWO WAY VEHICLE ENTRANCE
STATION CAR PARK 150 SPACES
CONSENTED HIGHWAY ACCESS
CONNECTS TO EXISTING WALKING / CYCLE PATHS
CONNECTS TO EXISTING WALKING / CYCLE PATHS
SAINSBURYS DEVELOPMENT
SAINSBURYS DELIVERY ACCESS ROAD
SAINSBURYS PUBLIC ACCESS ROAD

Severity of a Collision Comparison of an Average Car vs Passenger Train

Severity of a Collision

The severity of a collision with a vehicle can be determined from the amount of force arising from the vehicle. The greater the force of a vehicle, the greater the damage the vehicle causes to other objects in a collision.

Force is measured as follows:

Force (Newtons) = Mass (kg) multiplied by Acceleration (m/s^2)

For example a 1,000 kg vehicle accelerating at 3 m/s^2 = 3,000 Newtons

The following scenarios represent realistic comparisons of the amount of force arising from a family car at 20mph and a two carriage train at 20 mph.

Scenario 1 – Pedestrian crossing (highway crossing). An average family car of 1,650 kg (1,500 kg vehicle plus two occupants of 75 kg each), accelerating at 20 miles per hour (8.94 m/s^2) = force of 131,873 Newtons. Therefore, a family car on Quays Avenue travelling at 20 mph colliding with a stationary object such as a pedestrian would result in 131,873 Newtons of force.

Scenario 2 – Level crossing. The type of train to be proposed for operation on the Portishead rail line is either a class 150 or class 165 in either a two carriage, a three carriage or a four carriage formation. The lightest variant of these is a class 150 in a two carriage formation. A class 150 train in a two car formation of 77,225 kg (71,600 kg plus 75 occupants of 75 kg each), accelerating at 20 miles per hour (8.94 m/s^2) = force of 6,172,100 Newtons.

In other words a two carriage train has a 46 fold greater force travelling at 20 mph than an average family car. Even at crawling pace of 3 mph, a two carriage train has more force than the average family car, with 138,897 Newtons compared with 131,873 Newtons.



MetroWest

Portishead Branch Line (MetroWest Phase 1)

TR040011
Applicant: North Somerset District Council

5.1 – Consultation Report and Appendices
Appendix I3: Evidence paper "Re-opening Portishead Railway Line and Options for the Location of Portishead Railway Station" (2013)

Planning Act 2008: Sections 37(3)

Author: North Somerset District Council
Date: November 2019

NetworkRail · West of England Local Enterprise Partnership · West of England Combined Authority · HM Government · Bath & North East Somerset Council · Bristol City Council · North Somerset Council · South Gloucestershire Council · travelwest

Important Note: The delivery of the rail project has a number of challenges and constraints. These include achieving a positive outcome in relation to a detailed business case, availability of capital funding and funding approval, statutory processes and approvals, confirmation of operational costs in relation the Great Western franchising process and the overall financial position for North Somerset Council in terms of the affordability of both the capital and revenue funding requirement.

North Somerset Council

Local Development Framework

Sites and Policies Development Plan Document

Evidence Paper
Re-opening Portishead Railway Line and Options for the Location of Portishead Railway Station

North Somerset Council

February 2013

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Evidence Paper
Policy Reference PH3

Re-opening Portishead Railway Line and Options for the Location of Portishead Railway Station

1. Overview of the Portishead to Bristol Transport Corridor

The Portishead to Bristol corridor (A369) suffers congestion and journey time reliability problems. This not only causes delays and lost productivity for car drivers and goods vehicle operators but also presents a major hurdle for providing an attractive public transport mode along the corridor. The problems and context of the A369 corridor are summarised as:

- The A369 is the only transport corridor directly linking Portishead with Bristol which is just 10 miles to the east.
- The capacity constraints on the A369 are exacerbated further by the fact that the A369 crosses junction 19 of the M5. Junction 19 of the M5 is one of the busiest parts of the M5 with the Avonmouth Bridge immediately to the north towards junction 18.
- The A369 continually suffers from the knock on effects of incidents on the M5 with traffic high volumes of traffic over spilling onto a constrained local road corridor with very few alternative route options.

This lack of transport network resilience and limited travel choices could be addressed by utilising the heavy rail corridor between Portishead and Bristol which is a strategic transport network asset and re-instating passenger train services. The objectives of re-opening the Portishead railway line for passenger train services are to:

- Reduce traffic congestion on arterial roads and reduce journey times for commuters and business to and from Bristol, supporting economic growth,
- Improve transport network resilience through the utilisation of a strategic transport alignment, which is independent from the highway network,
- Deliver a sustainable transport corridor and improve air quality

The project will also:

- Assist in the delivery of wider social wellbeing and quality of life objectives,
- Provide through rail services from Portishead to destinations beyond Bristol Temple Meads, across the sub-region, and
- Form the basis of a medium to long term sub-regional programme of rail projects to deliver a major uplift to the local the local rail network offer.

The project would increase the UK's passenger rail network by 10 miles and connect an additional 30,000+ people to the network. There is a great amount of interest and support for the project within the local community, based on the frequency with which the project is raised positively by business, members of the public and community organisations, to the council.

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2. Overview of the Project

The Portishead rail branch line was closed in 1964 as part of the Beeching cuts. In 2002 a major part of the line was reopened between Royal Portbury Dock and Bristol as a freight only line. This project involves re-instating the remaining 4 miles of track between Portishead and Pill and upgrading the branch line infrastructure to meet passenger train standards, and providing sufficient line capacity to enable both passenger and freight train to operate to the required service patterns.

Re-opening the Portishead rail branch line now forms part of a larger sub-regional project known as Greater Western Metro Phase 1. GW Metro Phase 1 includes half hourly train services for the Severn Beach line, local stations between Bristol Temple Meads and Bath Spa and the reopened Portishead line. In addition there is a wider programme of local rail schemes, also being taken forward by the four West of England councils; North Somerset, Bristol City, South Gloucestershire and Bath & North East Somerset. GW Metro Phase 1 is being led by North Somerset Council on behalf of the West of England councils.

3. Brief History of the Project

1964 Line was closed

2002 Line partly re-opened for freight trains only between Parsons Street junction and Portbury Dock

2005 Portishead Quays Master plan - identified location for station (option 1)

2006 Joint Local Transport Plan 2 - policy basis and stakeholder support for taking project forward

2006 North Somerset Replacement Local Plan - safeguarded disused railway alignment between Portishead and Pill

2008 Project feasibility study by consultants Halcrow

2010 Engineering feasibility by Network Rail GRIP3 Option Selection

2011 Joint Local Transport Plan 3 - policy basis, programme prioritisation and stakeholder support for taking project forward

2011 Sub-regional rail conference - project selected by over 70 delegates as 2nd highest rail priority for delivery

2011 Sub-regional rail study recommends combining Portishead rail project into the GW Metro project with it included in GW Metro Phase 1

2012 Joint Transport Executive Committee endorse including re-opening Portishead line in GW Metro Phase 1 and response to GW Franchise for its inclusion in franchise specification as a prices option

2012 Department for Transport confirm the inclusion of GW Metro Phase 1 as a priced option in GW Franchise

2012 Governance and mobilisation of sub-regional rail programme and identification of resources for mobilisation of GW Metro Phase 1 project

Important Note: The delivery of the rail project has a number of challenges and constraints. These include achieving a positive outcome in relation to a detailed business case, availability of capital funding and funding approval, statutory processes and approvals, confirmation of operational costs in relation the Great Western franchising process and the overall financial position for North Somerset Council in terms of the affordability of both the capital and revenue funding requirement.

4. The Safeguarded Alignment

The alignment has been subject to local planning polices for many years to protect encroachment of development that would prevent the line from being re-opened. The only location where development has created an obstacle to the re-opening of the line is at Quays Avenue, which is a new road crossing over the railway alignment. At the time of the master planning of Portishead Vale development, the design standards for road easements across railway branch lines allowed for level crossings. However, the rail industry design standards have since changed and level crossings are no longer acceptable to Her Majesties Railway Inspectorate. Therefore a road over rail bridge will be needed in order for the railway line to serve Portishead town centre (station location option 1 only).

5. Timescales Taking Forward the Project as part of GW Metro Phase 1

late 2012 - 2015	Scheme Case and Powers to Build and Operate
2015 - 2016	Detailed Design and Scheme Procurement
2016 - 2017	Construction
late 2017 / early 2018	Scheme Opening and Commencement of Train Services

6. Options for the Location of Portishead Railway Station

While a site for the Portishead railway station was identified on Harbour Road as part of the Portishead Quays master planning, the delivery of a station at this location has a number of challenges and there is now a need to review the merits of this location and consider options for other locations.

There are a wide range of factors that need to be considered in respect of identifying the best location for a railway station, these include the transport network, the environmental impact, the strategic land uses both current and future use as set out the councils Core Strategy and wider community considerations. Furthermore the site must also be able to meet technical specifications, accessibility regulations and safety requirements of rail industry and national legislation.

We have commenced initial analysis on the merits and impacts of alternative station locations. Further more detailed analysis will be needed, as the project is taken forward. There are broadly eight high level transport criteria relevant to selecting the location for Portishead railway station:

1. walking and cycling catchment and access,
2. highway access,
3. car parking provision and bus interchange facilities,
4. the extent of supporting infrastructure required for each location eg highway bridges, pedestrian bridges, new highway accesses etc
5. likely wider environmental impact
6. fit with project objectives
7. overall cost of station location
8. EQIA considerations

Important Note: The delivery of the rail project has a number of challenges and constraints. These include achieving a positive outcome in relation to a detailed business case, availability of capital funding and funding approval, statutory processes and approvals, confirmation of operational costs in relation the Great Western franchising process and the overall financial position for North Somerset Council in terms of the affordability of both the capital and revenue funding requirement.

We have used the above criteria to identify and compare three short listed locations for Portishead railway station, as follows:

Option 1 - Town Centre location on Harbour Road. Provision for 100 car parking spaces has been made adjacent to the station site. This option requires the construction of a new road bridge over the rail alignment at Quays Avenue. This option also includes provision for a footbridge south east of Trinity Anglican Methodist Primary School. This station site is approximately 0.3 km from the town centre.

Option 2 – Peripheral Town Centre location on Quays Avenue. There is space for at least 200 car parking spaces on land west of Quays Avenue. This option does not require a new road bridge at Quays Avenue. This option also includes provision for a footbridge south east of Trinity Anglican Methodist Primary School. The remaining length of redundant track bed to the town centre would be used to provide a high quality 'Gateway' shared use pedestrian/ cycle path. The 'Gateway' path would have the effect of extending the western pedestrian entrance of the station closer to the town centre. The rail alignment here is 15 to 20 meters wide, so there is considerable potential to create a very attractive public realm enhancement as well as serving as a functional pedestrian/ cycle 'Gateway'. A new pedestrian / cycle crossing on Quays Avenue (Toucan crossing or similar) would be provided to give a through route between the station and the 'Gateway' path and car park. There is also potential to create a wider station forecourt/frontage using a small parcel of land adjacent to Quays Avenue, which is currently part of the Pumping Station yard. This station site is approximately 0.7 km from the town centre.

Option 3 – Edge of Town location on land north of Moor Farm. There is space for at least 200 car parking spaces on land adjacent to the railway station site, together with a new highway access from Sheepway. This option does not require a new road bridge at Quays Avenue or provision for a footbridge south east of Trinity Anglican Methodist Primary School, however it would require a new highway access and link road from Sheepway. This option would operate more like a 'Parkway' station than a conventional station, due to its edge of town location. This station site is approximately 1.3 km from the town centre.

Table 1 below sets out a high level comparison of the three station location options for Portishead Rail station.

Figure 1 below shows a map of the three station location options for Portishead Rail station.

We are seeking feedback as part of our Sites and Policies DPD Consultation Version, on all three station location options, to inform decision making on which location is best overall for Portishead. Please refer to the front of the DPD document on how to provide feedback.

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Table 1. Comparison of the Three Short Listed Locations for Portishead Railway Station

	Walking & Cycling Catchment and Access	**Highway Access**	**Car Parking Provision & Bus Interchange**	**Extent of Supporting Infrastructure Required**	**Likely Wider Environmental Impact**	**Fit with Project Objectives**	**Overall Cost of this station location**	**EQIA considerations**
Station Location Option 1 Town Centre location on Harbour Road	Large catchment of housing within 800m radius of station location. Any potential re-development of Old Mill Road Industrial Estate could improve access to town centre from station. This station site is approximately 0.3 km from the town centre.	Relatively good highway access via Harbour Road, however requires a road bridge at Quays Avenue.	Provision for 100 car parking spaces has been secured as part of the Quays development however this is unlikely to be sufficient to cater for the forecast passenger demand. Bus stops are located on Harbour Road and there is potential for buses to operate via the station car park.	This location requires a new road over railway bridge at Quays Avenue and one pedestrian bridge east of Trinity school.	The road over railway bridge would entail replacing the existing roundabout at Quays Avenue, Phoenix Way & Harbour Road, with an elevated signal controlled T junction. This would have a visual and environmental impact on a number of residential properties adjacent to Quays Avenue and retirement apartments on Harbour Road.	This option would meet all the project objectives to reduce congestion, improve transport network resilience and deliver a sustainable transport corridor.	The estimated cost of the road bridge is £6m. The estimated cost of the pedestrian bridge ranges from £500k to £1.5m depending upon whether it includes mobility impairment ramps.	The road over railway bridge would mean the roads and pavements would entail gradients that some people may find more difficult than the current layout.

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	Walking & Cycling Catchment and Access	**Highway Access**	**Car Parking Provision& Bus Interchange**	**Extent of Supporting Infrastructure Required**	**Likely Wider Environmental Impact**	**Fit with Project Objectives**	**Overall Cost of this station location**	**EQIA considerations**
Station Location Option 2 Peripheral Town Centre location on Quays Avenue	Large catchment of housing within 800m radius of station location. The remaining length of redundant track bed to the town centre would be used to provide a high quality 'Gateway' shared use pedestrian/ cycle path. The 'Gateway' path would have the effect of extending the western pedestrian entrance of the station closer to the town centre. The rail alignment here is 15 to 20 meters wide, so there is considerable potential to create a very attractive public realm enhancement as well as serving as a functional pedestrian/ cycle 'Gateway'. This station site is approximately 0.7 km from the town centre.	Good highway access via Quays Avenue / Harbour Road, and good access from both directions via Wyndham Way.	There is space for provision of at least 200 car parking spaces. A pedestrian crossing would be needed on Quays Avenue to link the car park with the station. There are bus stops on Quays Avenue and there is potential for buses to operate via the station car park or from new bus stops / lay-bys near to the main station entrance.	This location requires a high quality 'Gateway' shared use pedestrian / cycle path, a new car park on land west of Quays Avenue, a new pedestrian / cycle crossing on Quays Avenue (Toucan crossing or similar) and one pedestrian bridge east of Trinity school.	This option does not require a road over railway bridge, therefore it would have a more limited environmental impact on Quays Avenue, in comparison with option 1. The need for a new 200 space car park would however result in some environmental impact. The proximity of the station to housing could result in some localised environmental impact, however there is potential to design mitigation measures reduce these impacts.	This option would meet all the project objectives to reduce congestion, improve transport network resilience and deliver a sustainable transport corridor. While the station location is not as central as option 1, this option still has a very high walking catchment. Access to the town centre could be enhanced by the provision of a high quality 'Gateway' shared use pedestrian/ cycle path on the remaining length of redundant track bed.	The estimated cost of the 'Gateway' shared use path is £250k. The estimated cost of a new car park is £850k. The estimated cost of the Toucan crossing is £50k. The estimated cost of the pedestrian bridge ranges from £500k to £1.5m depending upon whether it includes mobility impairment ramps.	No major changes are needed to the road layout, other than a new access to a new car park west of Quays Avenue. The station car park and station platform would meet all statutory accessibility standards.

Important Note: The delivery of the rail project has a number of challenges and constraints. These include achieving a positive outcome in relation to a detailed business case, availability of capital funding and funding approval, statutory processes and approvals, confirmation of operational costs in relation the Great Western franchising process and the overall financial position for North Somerset Council in terms of the affordability of both the capital and revenue funding requirement.

	Walking & Cycling Catchment and Access	**Highway Access**	**Car Parking Provision & Bus Interchange**	**Extent of Supporting Infrastructure Required**	**Likely Wider Environmental Impact**	**Fit with Project Objectives**	**Overall Cost of this station location**	**EQIA considerations**
Station Location Option 3 Edge of Town location on land north of Moor Farm	More limited catchment of housing within 800m radius of station location. Approximately 60% of the 800m radius is green belt - open fields. This station site is approximately 1.3km from the town centre, if the remaining length of track bed is used as a pedestrian path. This distance is beyond a reasonable walking distance for many people.	Highway access could be provided via Quays Avenue using the rail alignment to the station, however this could prevent any future extension of the line into the town centre. A new highway access could be formed off Sheepway.	There is space for provision of at least 200 car parking spaces, either on the rail alignment or on land north of Moor Farm. Additional bus stops could be provided on Sheepway and there is potential for buses to operate via the station car park.	This location requires a new car park and a new highway access and link road from Sheepway.	This option would entail locating the station, station car park and highway access in the Green Belt and would result in some environmental impact. This option would require a sequential test and robust evidence to support a case for development in the Green Belt The proximity of the station to housing could result in some localised environmental impact, however there is potential to design mitigation measures reduce these impacts.	This option would not fully meet all the project objectives to reduce congestion, improve transport network resilience and deliver a sustainable transport corridor. This option does not provide easy access to and from Portishead Town centre. The walking catchment of the station is relatively poor, thereby access for the majority of people would be via a car trip, bus or cycle. This option would operate more like a 'Parkway' station than a conventional station, due to its edge of town location.	The estimated cost of a new car park is £850k. The estimated cost of the new highway access and link road is £1m.	No major changes are needed to the highway layout, other than a new highway access and link road from Sheepway and a new car park. The station car park and station platform would meet all statutory accessibility. standards. The edge of town centre location would limit its accessibility and usability for some people, particularly those with mobility impairments.

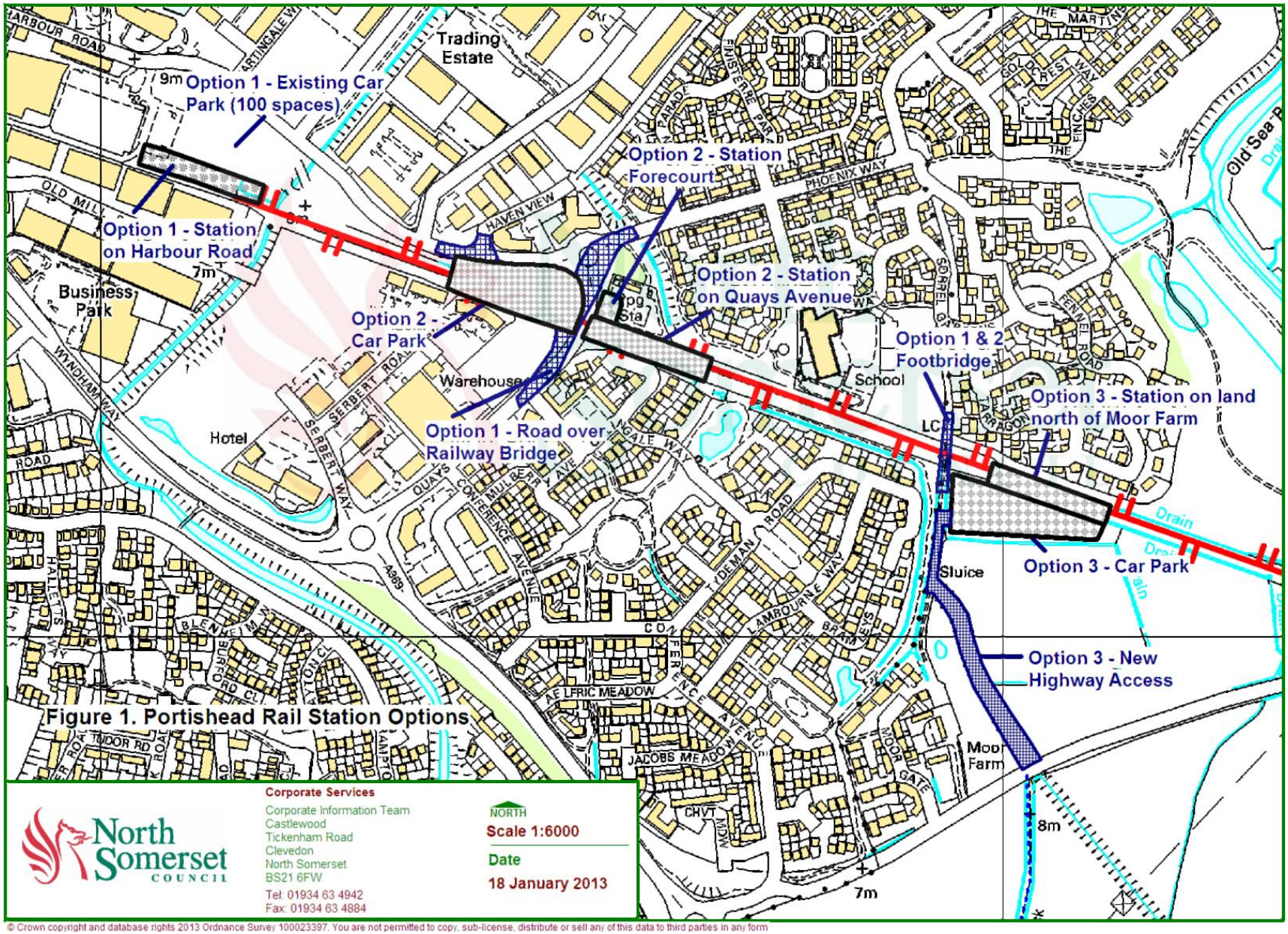


Figure 1. Portishead Rail Station Options

Fig 1. Map of the Three Station Location Options for Portishead Railway Station

Important Note: The delivery of the rail project has a number of challenges and constraints. These include achieving a positive outcome in relation to a detailed business case, availability of capital funding and funding approval, statutory processes and approvals, confirmation of operational costs in relation the Great Western franchising process and the overall financial position for North Somerset Council in terms of the affordability of both the capital and revenue funding requirement.



MetroWest

Portishead Branch Line (MetroWest Phase 1)

TR040011
Applicant: North Somerset District Council

5.1 – Consultation Report and Appendices
Appendix I4: Portishead Rail Station Location consultation (informal consultation)

Planning Act 2008: Sections 37(3)

Author: North Somerset District Council
Date: November 2019

Portishead Rail Station Location Scheme Consultation Report

MetroWest Phase 1

October 2014

MetroWest

October 2014

Version	Date	Author	Changes
v1	19/09/14	SP	JWK, RA
v2	25/09/14		KT, CM, JWK
v3	2/10/2014		CM, JD, GC
v4	10/10/2014		JWK
v5	15/10/2014		JWK
FINAL	22/10/14		

Portishead Rail Station Location
Consultation Report

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Appendix D – Postcard distribution map
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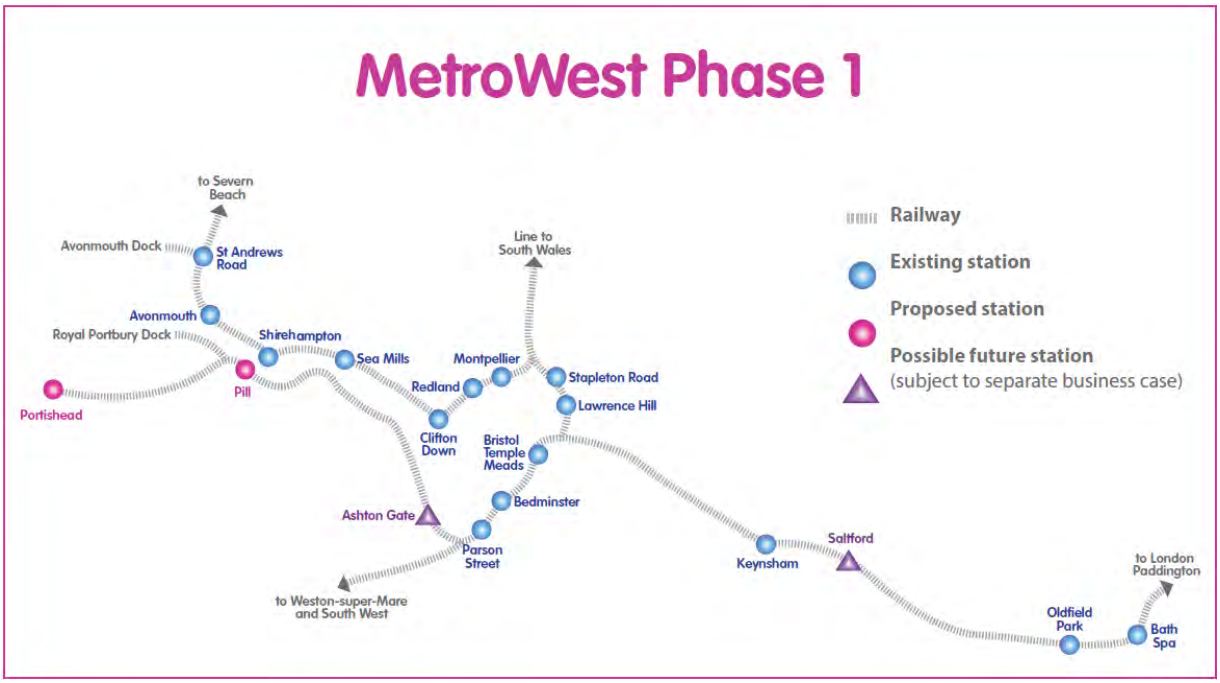
1. Introduction

MetroWest Programme overview

The reopening of the Portishead rail line to passengers is part of the MetroWest Programme, an ambitious scheme that will transform the provision of local rail services across the West of England. MetroWest comprises of a range of projects from relatively large major schemes, entailing both infrastructure and service enhancement, to smaller scale projects. MetroWest is being jointly promoted and developed by the four West of England councils (Bath & North East Somerset, Bristol City, North Somerset and South Gloucestershire Councils). Cross boundary transport projects are jointly promoted using the TravelWest brand.

MetroWest Phase 1 proposes a half-hourly local service for the Severn Beach line, Bath to Bristol line and a reopened Portishead line with stations at Portishead and Pill, as illustrated below in figure 1.1. This consultation report focuses on one aspect of MetroWest Phase 1 – the siting of a new station at Portishead.

Figure 1.1 - Map of the MetroWest Phase 1 proposals



Background

North Somerset Council's Core Strategy recognises the importance of the Portishead line to achieve the objectives of:

- Supporting economic growth;
- Delivering a more resilient transport offer;

- Improving accessibility to the rail network; and
- Making a positive contribution to improving overall quality of life.

The reopening of the line was included in the council's Replacement Local Plan with policies which safeguard the alignment of the railway line and station sites at Portishead and Pill. The council also purchased part of the track bed in 2009 to safeguard its use.

Reopening the Portishead line is also part of the medium term rail strategy of the four West of England councils. It was included in their Joint Local Transport Plan for 2006-2011 and forms part of their Major Scheme Programme in their Joint Local Transport Plan for 2011-2026.

Previous consultation and options appraisal

Since the MetroWest Phase 1 project began in 2013, substantial work to identify and assess options for the location of Portishead's rail station has been carried out.

Portishead Station Site Consultation – February 2013

In February 2013, North Somerset Council undertook public consultation on its 'Sites and Policies Development Plan Document'. 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 (attached as part of Appendix B). The evidence paper set out the project background and included three potential station sites, together with qualitative summary tables for each option.

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

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 options for the station site. In addition to this, further work showed that options 1 and 2 had some design challenges.

Portishead Station Options Appraisal – June 2014

Having considered the consultation responses and a number of significant delivery challenges with some of the three station site options, there was a clear need to take a wider examination of potential sites including looking at other locations. Further work used a number of factors including highway access and policy fit to identify a total of six potential sites. This included an additional site for option 1 off Harbour

Road (option 1B), and an additional two for option 2 around Quays Avenue (options 2A and 2C).

The six station sites were:

- Option 1A – Rear of Travelodge on Harbour Road
- Option 1B – Opposite Pure Offices on Harbour Road
- Option 2A – East of Quays Avenue
- Option 2B – Across Quays Avenue
- Option 2C – Between Serbert Road and Harbour Road
- Option 3 – North of Moor Farm, Sheepway

An options appraisal report was then completed comparing all six sites, scoring each according to set criteria:

- Policy fit - including planning and land use, strategic fit and equalities issues;
- Environmental and social impact - including air quality, noise, and socio-distributional impacts; and
- Deliverability - including strategic case, economic case, management case, financial case and commercial case.

The Options Appraisal Report concluded that the three sites around Quays Avenue (options 2A, 2B and 2C) scored the highest performance ranking and would therefore be taken forward to the next stage of consultation. Options 1A, 1B and 3 were not sufficiently robust to warrant further consideration. The full Options Appraisal Report is attached as Appendix B.

Feasibility of a level crossing at Quays Avenue

The options appraisal process ruling out option 1A and 1B took into account the feasibility of authorising a level crossing at Quays Avenue. This reflected the policy position and specific feedback provided by the Office of Rail Regulation (ORR) in 2013. The ORR have recently updated their position such that they would now consider a level crossing on the grounds of exceptional circumstances, subject to meeting ten specific criteria. A response to the ORR is being completed as a separate workstream, with an aim to complete by December 2014. Should in due course the ORR determine that it would authorise a level crossing at Quays Avenue, and should Network Rail confirm they would operate it, this would materially change the deliverability of site option 1 and therefore necessitate a review of the site options.

Wider engagement and consultation

Wider consultation has been ongoing on the programmes, projects and strategies which have influenced the scheme over a number of years. These include:

- Local Transport Body Board and Joint Transport Board (held in public)

- MetroWest Stakeholder meetings
- Engagement with rail interest groups
- MetroWest information brochures
- TravelWest stakeholder event - 13 October 2013
- Joint Local Transport Plan 3 - 2011 to 2026 consultation
- Consultation on the Strategic Economic Plan (SEP)
- Rail conference 2011
- Memorandums of understanding –
    - West of England authorities, Network Rail, First Great Western, Cross Country and South West Trains promoting 'effective co-ordination and cooperation'
    - Bristol City Council, the West of England LEP, the Homes and Community Agency, English Heritage and Network Rail signed a 25-year memorandum of understanding to 'promote effective co-ordination and co-operation between the five organisations to achieve the development of Bristol Temple Meads Station as part of the Temple Quarter Enterprise Zone'
- Consultation on planning policy documents

The MetroWest programme, either in its current or past guises, is incorporated in to the Core Strategies of each of the four authorities as well as the Joint Local Transport Plan. As a result, the scheme has been subject to consultations at various stages in the plan preparation process.

2. Consultation Programme

Methodology

A thorough programme of consultation was planned, aimed at seeking views from the following groups:

A. The public
B. Stakeholders
C. Statutory, community and local interest groups

The main focus at this stage was to ensure those that would be most affected by the location of the station were consulted to ensure their views were taken into consideration.

The consultation opened on 16th June 2014 for a six week period and closed on 28th July 2014.

The consultation was managed by the MetroWest communications team who provided a single point of contact for people to ask questions about the consultation process, details of events, how to respond and get further information about the proposals. The MetroWest communications team worked with North Somerset Council's communication's team to ensure compliance with their consultation guidelines.

Consultation material

The following consultation material was produced and distributed, attached as Appendix B::

- **Postcards** - 1200 were printed and delivered by Royal Mail to all properties within 400 metres either side of the station location options. These invited people to read about the location options online and to attend the two exhibitions. A number were also left in Portishead library, the leisure centre, cafes and with businesses close to the station location options. A distribution map is included in Appendix D.
- **Leaflets** - a leaflet setting out details on the three station sites (options 2A, 2B, and 2C) included a questionnaire which was distributed via the local library, sports centre, town council and some shops and cafes. This leaflet was also made available at consultation venues and via the TravelWest, Bristol and North Somerset Council websites.
- **Press release** – issued to local media before the consultation period began, summarising why the consultation was happening, how to get more

information and how to comment. Articles about the consultation were subsequently printed in the Bristol Post, the Western Daily Press, on the BBC website, on the Business Link website and in the West of England Local Enterprise Partnership's online newsletter.

- **North Somerset ward and town Councilor briefings** - information about the consultation was emailed to ward and town councils adjacent to the MetroWest Phase 1 proposals.
- **Online** - a dedicated web page was set up for the consultation period on the TravelWest site at www.travelwest.info/mw/portishead. The site contained information about the consultation and the overall MetroWest Phase 1 project; links to all consultation materials; exhibition dates; the detailed station location options appraisal report; and a link to the online feedback form. The consultation was also promoted on the North Somerset Council site. As a result of the publicity, interest groups and other parties informally published the information on their websites as well.
- **Social media** – the Twitter accounts of MetroWest, MetroBus, North Somerset Council, AskBristol and Bristol City Council were used to promote the consultation, which was subsequently retweeted by a significant number of accounts.
- **Newsletter** - information about scheme development was also provided through the West of England's quarterly transport newsletter, available as hard copies and via the TravelWest website.

Following the distribution of the consultation material, a programme of public and stakeholder engagement was launched. People were invited to complete a feedback form (online or hard copy), telephone, write, or email with questions or comments about the three potential sites for Portishead station. Engagment methods were tailored for each group, but included a series of exhibitions, presentations, and written correspondence.

A. Public consultation exhibition

Two consultation events were held at Portishead Methodist Church, where stakeholders were able to meet the Project Team. This venue was chosen because of its close locality to the area which will be affected by the new station, has good public transport links, and is fully accessible for disabled people. The exhibitions were held on the following dates:

- Tuesday 24 June (2pm – 6.30pm)
- Saturday 28 June (10am – 2pm)



Copies of the consultation leaflets were handed to visitors upon arrival at the welcome desk and attendance was recorded at each session. Exhibition boards displayed around the room included the following information:

- detailed site information for each of the proposed station locations at Portishead;
- an overview of the MetroWest programme; and
- details of how to respond.

Copies of the consultation material including the exhibition banners are included in Appendix C.

At the events visitors were able to inspect the location options in detail and ask members of the MetroWest team about them. The team were also happy to answer any queries on the other aspects of the MetroWest programme. As the aim of the consultation exercise was to capture the wide ranging views of the local community, the consultation team encouraged visitors to give their feedback via the online survey or the questionnaire inside the consultation leaflet. Written responses to the consultation could also be submitted via the TravelWest website or by post. Copies of the consultation leaflet which contained the questionnaire were available for visitors to take away or complete at each exhibition. The questionnaire also asked for home or business postcodes to enable quantitative analysis of responses by geographical distribution.

The exhibitions proved popular, with approximately 366 people attending the two sessions.

B. Stakeholder consultation

The exhibition programme was supported by a series of stakeholder meetings. Typical meetings included a PowerPoint presentation followed by opportunity for discussion, questions and answers. Meetings were held with the following:

- Local transport groups e.g. Friends of Suburban Bristol Railways, Portishead Rail Group
- Transport forums e.g. Bristol Airport Forum, South Glos Council Public Transport Forum
- Neighbourhood partnerships
- Town and parish councils
- Local landowners
- Local businesses and organisations e.g. Bristol Port Company, Trinity School
- Environmental groups e.g. Environment Agency, Natural England
- Meetings / committees e.g. Joint Transport Board

C. Statutory, community, and interest groups consultation

An email about the public consultation and how to comment on the station location options was sent to statutory stakeholders, community groups and transport interest groups.

North Somerset Council's equalities officer informed their stakeholder groups about the consultation and invited them to comment on the station location options. The officer then met with the North Somerset Disability Access Group on 11 June 2014 to discuss the station location options

The MetroWest communications team sent an email about the consultation to Bristol City Council’s equalities stakeholders. The email included the consultation leaflet and information about the consultation. The following equalities stakeholder groups were contacted this way:

- Women’s Voice
- Black and Minority Ethnic Influence & Voice
- Age UK
- Bristol Multi-Faith Forum
- Lesbian, gay, bisexual and transgender group
- Bristol Disability Forum
- Royal National Institute for the Blind
- Guide Dogs for the Blind
- British Sign Language Forum
- Bristol Physical Access Chain

The consultation period opened closed on 28 July 2014 and consultation responses were accepted for a week after the closing date.

3. Consultation Responses

A total of 421 consultation responses were received, representing a very high response rate. The majority of people completed the questionnaires using the boxes provided, with a small number appending further comments. This chapter distinguishes those responses between:

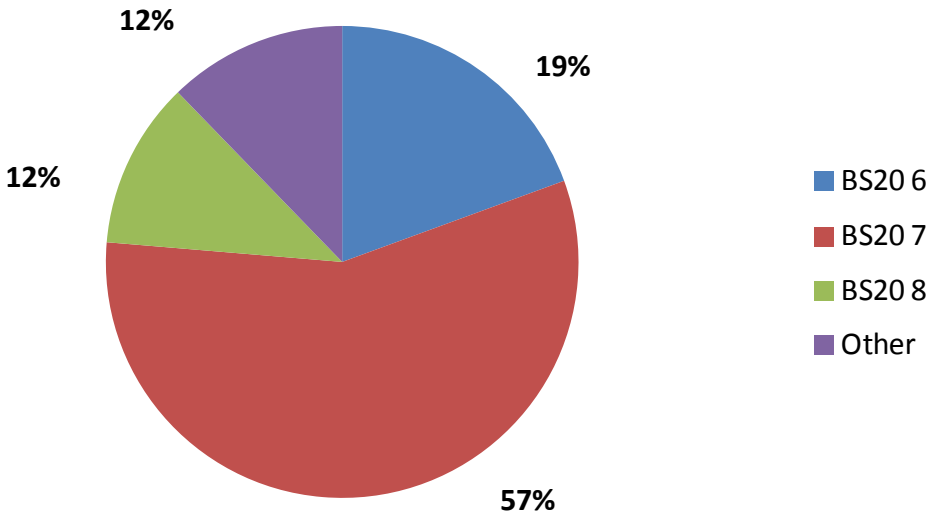
- questionnaires submitted as hard copies and online; and
- letters, emails and other correspondence from individuals, businesses and interested parties.

Response areas

As part of the questionnaire, respondents were asked to include their postcode. This was to ensure that we had reached those that would be most affected by the scheme as planned by the focussed distribution of the consultation material. 376 gave enough of their postcode to determine postcode sector.

The vast majority of Portishead is covered by the postcode sectors of BS20 6*xx*, BS20 7*xx*, and BS20 8*xx*.The breakdown of respondents is shown below in figure 3.1.

Figure 3.1 – Location of consultation respondents



Almost 90% of respondents came from the Portishead area, demonstrating that the results from the questionnaires are from those that will be most affected by the scheme. A full map of respondents can be viewed in Appendix E.

Questionnaire responses

407 people responded to the consultation via the questionnaire and made a total of 1034 comments; of those 1014 were about the three proposed station site options. The breakdown of comments is as follows:

- Option 2A – 363 comments
- Option 2B – 339 comments
- Option 2C – 327 comments
- Other remarks appended - 5 comments

A range of different comments and opinions were received, a summary of which can be viewed in chapter 4. The vast majority of respondents supported the idea of reopening of the Portishead rail line and construction of a new station.

Letters, emails and other responses

Throughout the consultation period, stakeholders and members of the public were encouraged to respond via the structured questionnaires, with a small number preferring to write or email with questions or comments about the project. Contact addresses were contained within the consultation leaflet as well as on the website for people that wished to do this.

In total 14 written responses were received from local businesses, members of the public, local interest groups and a developer.

- Local businesses / business groups – 2 responses
- Members of the public – 7 responses
- Interest groups – 4 responses
- Developers – 1 response

A range of different comments and opinions were received, a summary of which can be viewed in chapter 4.

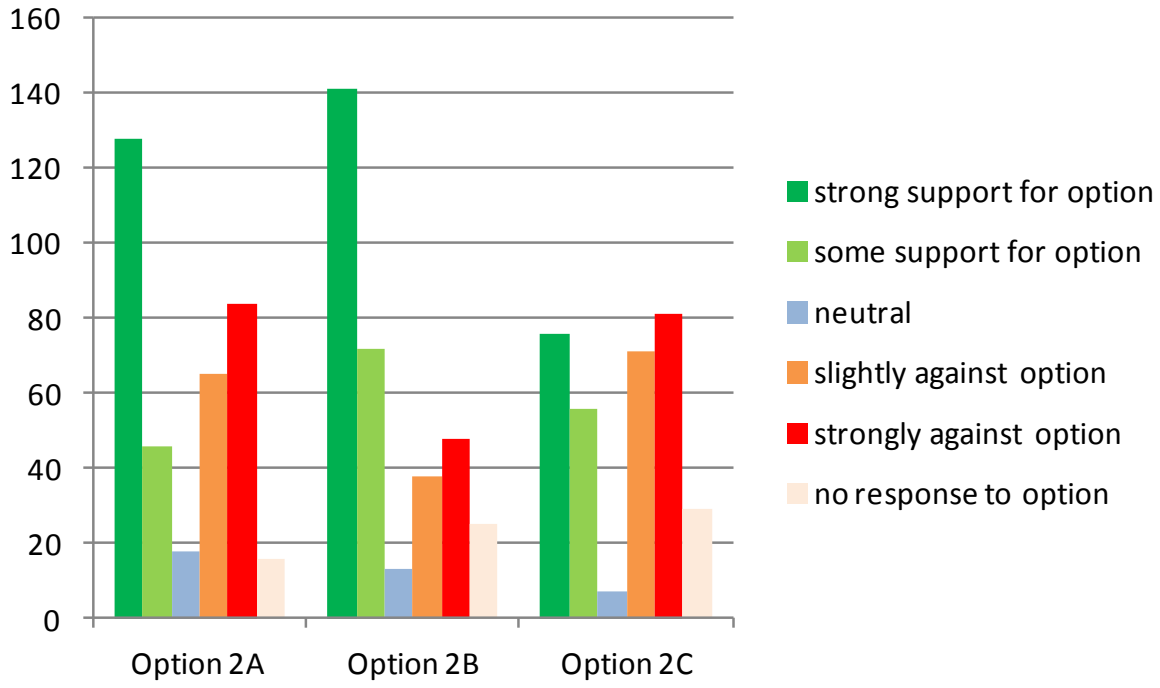
Results

The vast majority were for the scheme in principle, with many specifically stating they would use the facility regardless of station site. Of those that stated concern, these were surrounding the details of the location rather than the introduction of rail services.

All three station options had a similar number of comments received in total. The consultation purposely did not ask people to rate each site as it was felt that at this stage it would be more useful to provide space for freetext comments to enable a

wider set of opinions to be recorded. An assessment was made by the MetroWest team on each point made in the comments placing them into six categories ranging from ‘strongly support’ to ‘strongly against’. This qualitative assessment enables a breakdown to compare the level of support for each of the proposed sites. This is shown below in figure 3.2.

Figure 3.2 – Evaluation of support for each site option



Although all three proposed sites show support, Option 2B is the most popular. This correlates with the number of people strongly or slightly against the sites, with option 2B showing the least number of these responses. Option 2C showed both the least number of supporters and highest number of people against. However it is worth noting the levels of support for Options 2A and 2B are relatively similar, while Option 2C has a more mixed level of support.

At this stage no decisions have been made regarding a preferred option for the location of Portishead station. The consultation responses as summarised in this report, will be used to inform decision making. It is anticipated that a decision on the preferred option for the location of Portishead station will be made in 2015.

Key Themes and Issues

Benefits, concerns and suggested improvements

From all the responses received, the following benefits, concerns, and suggested improvements for each of the proposed station sites can be determined:

Option 2A	
Benefits	• Seems the simplest and cheapest layout with the least amount of highway works • Close to residential catchment • Seems to have the least impact during construction • Space for landscape/planting to screen/reduce impacts on residential properties • Space available to expand the car park
Concerns	• Too far from town centre • Too close to residential properties (particular concerns include noise, littering and graffiti) • Pedestrians will need to cross the road between car park and station and could cause safety issue concerns and congestion • Insufficient parking could cause overspill onto residential streets • Taxi rank is across the road • Potential for cars dropping off, picking up and stopping in inappropriate places • No room for station expansion • Not enough green space around the station • Disabled parking is needed outside the station itself • Any replacement landscaping that is put in between residential properties and the station could take years to establish what is already in existence
Suggested Improvements	• Footbridge over Quays Avenue from the car park to the station • Larger car park alongside Harbour Road • Double yellow lines for the surrounding streets • Residential parking permits for surrounding streets • Bus stops should be moved nearer to the station • Haven View entrance may operate better as a roundabout • Consider another, separate exit route

Option 2B	
Benefits	• Nearer to town centre than option 2A • Suggested landscaping could enhance first impressions for visitors • Highway re-design would appear to work well • Would appear to not require any building demolition • Main car park is next to the station with no road crossing needed • Further from residential properties minimising disruption • Options for laybys for user drop off and buses • Seems to have the best accessibility of all three options • Addition of a left turn lane out of Phoenix Way could help congestion issues • Areas around the station could open up more green space for community use • Could assist pedestrian movements in the area by removing the roundabout currently at Quays Avenue / Phoenix Way
Concerns	• Too far from the town centre • Too close to residential properties • Insufficient parking could cause overspill onto residential streets • Appears too costly compared to the other options • Access to the overspill car park involves crossing the road • Car park across a split site could increase traffic movements • Appears to involve too many highway modifications • Could cause major traffic disruption during construction • Drop off areas seem too small • Realignment of the road and compulsory purchase of land could have increased financial implications and time • Proposed road layout could cause problems for vehicles accessing Phoenix Way from the re-aligned Quays Avenue • Appears to not have enough landscaping planned • Could create an unpleasant environment • Any replacement landscaping that is put in between residential properties and the station could take years to establish what is already in existence
Suggested Improvements	• The Serbert Road connection in Option 2C could be incorporated • Consideration of a footbridge over Quays Avenue (or the new highway link) to avoid pedestrian flows affecting existing traffic on that route • The footbridge to Tansey Lane should have ramp accessibility

Option 2C	
Benefits	• Closest option to the town centre • Further away from residents and the possible risk of disruption during both construction and operation • Appears to provide the best forecourt • Appears to be the best option for accessibility • Only traffic and buses/taxis dropping off at the station would use Quays Avenue making that route quieter • Could make parking for other facilities in the local vicinity easier • Could stop the use of roads around The Vale as 'rat-runs' • Appears to make it easier for residents from the village quarter to exit Portishead during peak hours • Could cause the least impact on residents of The Vale and Village Quarter in terms of noise and outlook being spoilt • Larger station footprint could accommodate a better design • Shorter length of tree lined promenade could potentially be made to be higher quality
Concerns	• Too far from town centre • Insufficient parking could cause overspill onto residential streets • Expansion for the station car park appears not to be possible • Pedestrians need to cross the road between car park and station and could cause safety and congestion issues • Longer walk from overspill car park to the platform • Closure of Quays Avenue could have a negative impact on traffic flows on other routes • Residents of The Vale turning left onto Quays Avenue may find it difficult to proceed at the next roundabout, as they would have to give way to town centre/Sainsbury's/station traffic • Serbert Road's current set up may not cope with increased traffic flows • Demolition, compensation and compulsory purchase could be costly, disruptive and time consuming • An entrance opposite access to commercial premises is undesirable • Demolition of part of a commercial building may see a reduction of social housing units as in the current planning consent • Could increase surface water run off • Current bus stops on Quays Avenue would be moved further from residential areas
Suggested Improvements	• Replicate the additional 100 space car park of Option 2B to provide a total of 250 spaces

General comments	
Benefits	• The vast majority are in favour of a reinstated rail link and many said that any station site is better than none • The proposed through services to Bath Spa and Severn Beach Line could greatly encourage use • The presence of walking and cycling routes linking different areas of the town and to the station site is welcomed
Concerns	• Could increase congestion and pollution on surrounding roads to residents and the school • Car park access at night could attract anti social behaviour and noise pollution • Proposed Galingale Way footbridge could have a detrimental effect on residential properties
Suggested Improvements	• Station building design should be considered as something in keeping with the gateway of a growing vibrant town • The proposed promenade should lead onto some public realm works to give more prominence to the station from the town • Consider pedestrian tunnels for all road crossings • Undercover walkways on routes to and from the town could ensure use in bad weather • MetroWest programme should have through ticketing and coordinated timetables with buses • Current and new bus services should be routed to serve the station at its adjacent stops • Shuttle bus around the town and further afield should be considered to increase connectivity and potential use • Consider using the route for guided buses removing the need for multiple interchanges on some routes • Smartcard and Bus / Travel Pass system should be incorporated into the station services • Train services should not just cater for commuters but early morning / late evening visitors and residents • Consider minimal parking and create an out of town park and ride • Local businesses could incorporate additional parking for the station in their own car parks • Provision of a secure, covered bicycle park • Should link with the existing National Cycle Network which passes close by the station • Provision should be made in track layout and platform length for other services e.g. charter trains or ‘steam specials’, boosting tourism • Connect Brampton Way with the Quays Avenue roundabout across the Rhyne to integrate the old and new halves of the town • Provide new road access to and from the High Street to the station to avoid the White Lion and Cabstand junctions

Letters, emails and other correspondence	
Local businesses / business groups 2 responses	<u>Local business</u> • Supports the reopening of the railway • Concerns raised around option 2C and the impact it may have on the highway and traffic flows <u>Portishead Chamber of Commerce</u> • Objects to all three options on the grounds that they do not include the original central location which it considers to be the best and safest location essential for the future economic and social wellbeing of the Town
Members of the public 7 responses	• Suggests alternative sites to the three consulted on • Suggests engineering solutions they felt had not been considered (e.g. tunneling. Further analysis has however ruled these suggestions out). The majority of these ideas suggest solutions to the issue of a level crossing over Quays Avenue • Concerns over safety with a pedestrian crossing between the proposed station and car park, and how this fairs against the safety of a rail level crossing • Positive response to the retaining of existing cycleways and the potential introduction of a tree lined promenade

Interest groups
 	
4 responses
	<u>The Disability Action Group (excerpt from meeting notes submitted)</u>
	
	• The new route was welcomed
	• Expected that both any stations and also the rolling stock should be accessible to disabled people
	• Access to the site of a station was highlighted as being an important issue to disabled people
	• Adequate dedicated car parking for disabled people close to platform access points and facilities was essential
	• Broadly happy with the location of the proposed station options and had no specific disability comments
	• Option 2B with its highway link was noted as offering a good level of accessibility, but the reduced number of parking spaces in the main car park raised concerns that it could put pressure on the disabled drivers' spaces with able drivers misusing the Blue Badge bays
	• The overflow car park in Option 2B would need to be finished to the same standard as the main car park for the benefit of anyone without a Blue Badge
	• The location in Option 2B is preferred for:
	  ○ The taxi rank in that it appears to be directly outside the platform
	  ○ The bus stops which have laybys and are closer to the station access

	• A number of detailed comments were made about the design of the proposed station.
	  ○ Level or ramped access was required to the platforms with adequate accessible seating
	  ○ An accessible way of crossing the rail line was required. A simple stepped footbridge was not considered acceptable. The broad location show on the Options seemed to be some distance from the platform though the links to surrounding roads was noted
	  ○ The “Drop and Go” laybys on Option 2B were welcomed, but the request was made that they should be located within the station car park
	• Toilet facilities should be provided
	• The station should be staffed whenever possible and ticket machines and other facilities must be fully accessible to disabled staff. Equipment must cater for people with sensory and dexterity impairments.
	
	<u>English Heritage</u>
	• Have no comments to make on any of the proposals.
	
	<u>Portishead Town Council (excerpt from meeting notes submitted)</u>
	
	• [The Town Council] resolves to object to the three options presented at the second stage consultation on the grounds that they do not include the original central location that is considered essential for the future economic and social wellbeing of the Town
	• [The Town Council] resolves to write to the Secretary of State expressing its appreciation of the work done to date to reinstate the rail link to the Town and requests that the decision to rule out a low speed level crossing of Quays Avenue is reconsidered by the Office of the Rail Regulation in the light of its importance to the Town as stated In the first resolution.
	• [The Town Council] recognises the value of promoting the use of the rail link when it is reinstated and resolves to set aside a fund to work with the franchise operator to promote the Town and encourage Portishead residents to use the facility
	
	<u>Avon Wildlife Trust</u>
	
	• Concerns that each of the three proposed sites appear to have potential for wildlife habitats that could cause possible ecological constraints
	• Recommend an ecological survey, making provision for mitigation and compensation measures as mentioned in the 'Environmental & Social Impact Assessment' section of the 'Site Options Appraisal'.

Developer 1 response	• Suggest that all three options consulted on are unsuitable and the out of town option should be reconsidered (Note: this option has already been considered through the options appraisal report but was not taken forward as it did not perform well in relation to the other options. See Appendix B for details) • Could have environmental impacts to the surrounding area • Could have an impact on local residents • Could have an insufficient amount of parking spaces • Various suggestions made relating to cycle parking, coach parking, urban design and the proposed footbridge near Trinity Primary School.

Appendices

Appendix A – DPD Evidence Paper February 2013
Appendix B – Options Appraisal Report June 2014
Appendix C – Consultation and publicity material
Appendix D – Postcard distribution map
Appendix E – Location of respondents

Appendix A
DPD Evidence Paper February 2013

Important Note: The delivery of the rail project has a number of challenges and constraints. These include achieving a positive outcome in relation to a detailed business case, availability of capital funding and funding approval, statutory processes and approvals, confirmation of operational costs in relation the Great Western franchising process and the overall financial position for North Somerset Council in terms of the affordability of both the capital and revenue funding requirement.

North Somerset Council

Local Development Framework

Sites and Policies Development Plan Document

Evidence Paper
Re-opening Portishead Railway Line and Options for the Location of Portishead Railway Station

North Somerset Council

February 2013

Important Note: The delivery of the rail project has a number of challenges and constraints. These include achieving a positive outcome in relation to a detailed business case, availability of capital funding and funding approval, statutory processes and approvals, confirmation of operational costs in relation the Great Western franchising process and the overall financial position for North Somerset Council in terms of the affordability of both the capital and revenue funding requirement.

Evidence Paper
Policy Reference PH3

Re-opening Portishead Railway Line and
Options for the Location of Portishead Railway Station

1. Overview of the Portishead to Bristol Transport Corridor

The Portishead to Bristol corridor (A369) suffers congestion and journey time reliability problems. This not only causes delays and lost productivity for car drivers and goods vehicle operators but also presents a major hurdle for providing an attractive public transport mode along the corridor. The problems and context of the A369 corridor are summarised as:

- The A369 is the only transport corridor directly linking Portishead with Bristol which is just 10 miles to the east.
- The capacity constraints on the A369 are exacerbated further by the fact that the A369 crosses junction 19 of the M5. Junction 19 of the M5 is one of the busiest parts of the M5 with the Avonmouth Bridge immediately to the north towards junction 18.
- The A369 continually suffers from the knock on effects of incidents on the M5 with traffic high volumes of traffic over spilling onto a constrained local road corridor with very few alternative route options.

This lack of transport network resilience and limited travel choices could be addressed by utilising the heavy rail corridor between Portishead and Bristol which is a strategic transport network asset and re-instating passenger train services. The objectives of re-opening the Portishead railway line for passenger train services are to:

- Reduce traffic congestion on arterial roads and reduce journey times for commuters and business to and from Bristol, supporting economic growth,
- Improve transport network resilience through the utilisation of a strategic transport alignment, which is independent from the highway network,
- Deliver a sustainable transport corridor and improve air quality

The project will also:

- Assist in the delivery of wider social wellbeing and quality of life objectives,
- Provide through rail services from Portishead to destinations beyond Bristol Temple Meads, across the sub-region, and
- Form the basis of a medium to long term sub-regional programme of rail projects to deliver a major uplift to the local the local rail network offer.

The project would increase the UK's passenger rail network by 10 miles and connect an additional 30,000+ people to the network. There is a great amount of interest and support for the project within the local community, based on the frequency with which the project is raised positively by business, members of the public and community organisations, to the council.

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2. Overview of the Project

The Portishead rail branch line was closed in 1964 as part of the Beeching cuts. In 2002 a major part of the line was reopened between Royal Portbury Dock and Bristol as a freight only line. This project involves re-instating the remaining 4 miles of track between Portishead and Pill and upgrading the branch line infrastructure to meet passenger train standards, and providing sufficient line capacity to enable both passenger and freight train to operate to the required service patterns.

Re-opening the Portishead rail branch line now forms part of a larger sub-regional project known as Greater Western Metro Phase 1. GW Metro Phase 1 includes half hourly train services for the Severn Beach line, local stations between Bristol Temple Meads and Bath Spa and the reopened Portishead line. In addition there is a wider programme of local rail schemes, also being taken forward by the four West of England councils; North Somerset, Bristol City, South Gloucestershire and Bath & North East Somerset. GW Metro Phase 1 is being led by North Somerset Council on behalf of the West of England councils.

3. Brief History of the Project

1964 Line was closed

2002 Line partly re-opened for freight trains only between Parsons Street junction and Portbury Dock

2005 Portishead Quays Master plan - identified location for station (option 1)

2006 Joint Local Transport Plan 2 - policy basis and stakeholder support for taking project forward

2006 North Somerset Replacement Local Plan - safeguarded disused railway alignment between Portishead and Pill

2008 Project feasibility study by consultants Halcrow

2010 Engineering feasibility by Network Rail GRIP3 Option Selection

2011 Joint Local Transport Plan 3 - policy basis, programme prioritisation and stakeholder support for taking project forward

2011 Sub-regional rail conference - project selected by over 70 delegates as 2nd highest rail priority for delivery

2011 Sub-regional rail study recommends combining Portishead rail project into the GW Metro project with it included in GW Metro Phase 1

2012 Joint Transport Executive Committee endorse including re-opening Portishead line in GW Metro Phase 1 and response to GW Franchise for its inclusion in franchise specification as a prices option

2012 Department for Transport confirm the inclusion of GW Metro Phase 1 as a priced option in GW Franchise

2012 Governance and mobilisation of sub-regional rail programme and identification of resources for mobilisation of GW Metro Phase 1 project

Important Note: The delivery of the rail project has a number of challenges and constraints. These include achieving a positive outcome in relation to a detailed business case, availability of capital funding and funding approval, statutory processes and approvals, confirmation of operational costs in relation the Great Western franchising process and the overall financial position for North Somerset Council in terms of the affordability of both the capital and revenue funding requirement.

4. The Safeguarded Alignment

The alignment has been subject to local planning polices for many years to protect encroachment of development that would prevent the line from being re-opened. The only location where development has created an obstacle to the re-opening of the line is at Quays Avenue, which is a new road crossing over the railway alignment. At the time of the master planning of Portishead Vale development, the design standards for road easements across railway branch lines allowed for level crossings. However, the rail industry design standards have since changed and level crossings are no longer acceptable to Her Majesties Railway Inspectorate. Therefore a road over rail bridge will be needed in order for the railway line to serve Portishead town centre (station location option 1 only).

5. Timescales Taking Forward the Project as part of GW Metro Phase 1

late 2012 - 2015	Scheme Case and Powers to Build and Operate
2015 - 2016	Detailed Design and Scheme Procurement
2016 - 2017	Construction
late 2017 / early 2018	Scheme Opening and Commencement of Train Services

6. Options for the Location of Portishead Railway Station

While a site for the Portishead railway station was identified on Harbour Road as part of the Portishead Quays master planning, the delivery of a station at this location has a number of challenges and there is now a need to review the merits of this location and consider options for other locations.

There are a wide range of factors that need to be considered in respect of identifying the best location for a railway station, these include the transport network, the environmental impact, the strategic land uses both current and future use as set out the councils Core Strategy and wider community considerations. Furthermore the site must also be able to meet technical specifications, accessibility regulations and safety requirements of rail industry and national legislation.

We have commenced initial analysis on the merits and impacts of alternative station locations. Further more detailed analysis will be needed, as the project is taken forward. There are broadly eight high level transport criteria relevant to selecting the location for Portishead railway station:

1. walking and cycling catchment and access,
2. highway access,
3. car parking provision and bus interchange facilities,
4. the extent of supporting infrastructure required for each location eg highway bridges, pedestrian bridges, new highway accesses etc
5. likely wider environmental impact
6. fit with project objectives
7. overall cost of station location
8. EQIA considerations

Important Note: The delivery of the rail project has a number of challenges and constraints. These include achieving a positive outcome in relation to a detailed business case, availability of capital funding and funding approval, statutory processes and approvals, confirmation of operational costs in relation the Great Western franchising process and the overall financial position for North Somerset Council in terms of the affordability of both the capital and revenue funding requirement.

We have used the above criteria to identify and compare three short listed locations for Portishead railway station, as follows:

Option 1 - Town Centre location on Harbour Road. Provision for 100 car parking spaces has been made adjacent to the station site. This option requires the construction of a new road bridge over the rail alignment at Quays Avenue. This option also includes provision for a footbridge south east of Trinity Anglican Methodist Primary School. This station site is approximately 0.3 km from the town centre.

Option 2 – Peripheral Town Centre location on Quays Avenue. There is space for at least 200 car parking spaces on land west of Quays Avenue. This option does not require a new road bridge at Quays Avenue. This option also includes provision for a footbridge south east of Trinity Anglican Methodist Primary School. The remaining length of redundant track bed to the town centre would be used to provide a high quality 'Gateway' shared use pedestrian/ cycle path. The 'Gateway' path would have the effect of extending the western pedestrian entrance of the station closer to the town centre. The rail alignment here is 15 to 20 meters wide, so there is considerable potential to create a very attractive public realm enhancement as well as serving as a functional pedestrian/ cycle 'Gateway'. A new pedestrian / cycle crossing on Quays Avenue (Toucan crossing or similar) would be provided to give a through route between the station and the 'Gateway' path and car park. There is also potential to create a wider station forecourt/frontage using a small parcel of land adjacent to Quays Avenue, which is currently part of the Pumping Station yard. This station site is approximately 0.7 km from the town centre.

Option 3 – Edge of Town location on land north of Moor Farm. There is space for at least 200 car parking spaces on land adjacent to the railway station site, together with a new highway access from Sheepway. This option does not require a new road bridge at Quays Avenue or provision for a footbridge south east of Trinity Anglican Methodist Primary School, however it would require a new highway access and link road from Sheepway. This option would operate more like a 'Parkway' station than a conventional station, due to its edge of town location. This station site is approximately 1.3 km from the town centre.

Table 1 below sets out a high level comparison of the three station location options for Portishead Rail station.

Figure 1 below shows a map of the three station location options for Portishead Rail station.

We are seeking feedback as part of our Sites and Policies DPD Consultation Version, on all three station location options, to inform decision making on which location is best overall for Portishead. Please refer to the front of the DPD document on how to provide feedback.

Important Note: The delivery of the rail project has a number of challenges and constraints. These include achieving a positive outcome in relation to a detailed business case, availability of capital funding and funding approval, statutory processes and approvals, confirmation of operational costs in relation the Great Western franchising process and the overall financial position for North Somerset Council in terms of the affordability of both the capital and revenue funding requirement.

Table 1. Comparison of the Three Short Listed Locations for Portishead Railway Station

	Walking & Cycling Catchment and Access	**Highway Access**	**Car Parking Provision & Bus Interchange**	**Extent of Supporting Infrastructure Required**	**Likely Wider Environmental Impact**	**Fit with Project Objectives**	**Overall Cost of this station location**	**EQIA considerations**
Station Location Option 1 Town Centre location on Harbour Road	Large catchment of housing within 800m radius of station location. Any potential re-development of Old Mill Road Industrial Estate could improve access to town centre from station. This station site is approximately 0.3 km from the town centre.	Relatively good highway access via Harbour Road, however requires a road bridge at Quays Avenue.	Provision for 100 car parking spaces has been secured as part of the Quays development however this is unlikely to be sufficient to cater for the forecast passenger demand. Bus stops are located on Harbour Road and there is potential for buses to operate via the station car park.	This location requires a new road over railway bridge at Quays Avenue and one pedestrian bridge east of Trinity school.	The road over railway bridge would entail replacing the existing roundabout at Quays Avenue, Phoenix Way & Harbour Road, with an elevated signal controlled T junction. This would have a visual and environmental impact on a number of residential properties adjacent to Quays Avenue and retirement apartments on Harbour Road.	This option would meet all the project objectives to reduce congestion, improve transport network resilience and deliver a sustainable transport corridor.	The estimated cost of the road bridge is £6m. The estimated cost of the pedestrian bridge ranges from £500k to £1.5m depending upon whether it includes mobility impairment ramps.	The road over railway bridge would mean the roads and pavements would entail gradients that some people may find more difficult than the current layout.

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	Walking & Cycling Catchment and Access	**Highway Access**	**Car Parking Provision& Bus Interchange**	**Extent of Supporting Infrastructure Required**	**Likely Wider Environmental Impact**	**Fit with Project Objectives**	**Overall Cost of this station location**	**EQIA considerations**
Station Location Option 2 Peripheral Town Centre location on Quays Avenue	Large catchment of housing within 800m radius of station location. The remaining length of redundant track bed to the town centre would be used to provide a high quality 'Gateway' shared use pedestrian/ cycle path. The 'Gateway' path would have the effect of extending the western pedestrian entrance of the station closer to the town centre. The rail alignment here is 15 to 20 meters wide, so there is considerable potential to create a very attractive public realm enhancement as well as serving as a functional pedestrian/ cycle 'Gateway'. This station site is approximately 0.7 km from the town centre.	Good highway access via Quays Avenue / Harbour Road, and good access from both directions via Wyndham Way.	There is space for provision of at least 200 car parking spaces. A pedestrian crossing would be needed on Quays Avenue to link the car park with the station. There are bus stops on Quays Avenue and there is potential for buses to operate via the station car park or from new bus stops / lay-bys near to the main station entrance.	This location requires a high quality 'Gateway' shared use pedestrian / cycle path, a new car park on land west of Quays Avenue, a new pedestrian / cycle crossing on Quays Avenue (Toucan crossing or similar) and one pedestrian bridge east of Trinity school.	This option does not require a road over railway bridge, therefore it would have a more limited environmental impact on Quays Avenue, in comparison with option 1. The need for a new 200 space car park would however result in some environmental impact. The proximity of the station to housing could result in some localised environmental impact, however there is potential to design mitigation measures reduce these impacts.	This option would meet all the project objectives to reduce congestion, improve transport network resilience and deliver a sustainable transport corridor. While the station location is not as central as option 1, this option still has a very high walking catchment. Access to the town centre could be enhanced by the provision of a high quality 'Gateway' shared use pedestrian/ cycle path on the remaining length of redundant track bed.	The estimated cost of the 'Gateway' shared use path is £250k. The estimated cost of a new car park is £850k. The estimated cost of the Toucan crossing is £50k. The estimated cost of the pedestrian bridge ranges from £500k to £1.5m depending upon whether it includes mobility impairment ramps.	No major changes are needed to the road layout, other than a new access to a new car park west of Quays Avenue. The station car park and station platform would meet all statutory accessibility standards.

Important Note: The delivery of the rail project has a number of challenges and constraints. These include achieving a positive outcome in relation to a detailed business case, availability of capital funding and funding approval, statutory processes and approvals, confirmation of operational costs in relation the Great Western franchising process and the overall financial position for North Somerset Council in terms of the affordability of both the capital and revenue funding requirement.

	Walking & Cycling Catchment and Access	**Highway Access**	**Car Parking Provision & Bus Interchange**	**Extent of Supporting Infrastructure Required**	**Likely Wider Environmental Impact**	**Fit with Project Objectives**	**Overall Cost of this station location**	**EQIA considerations**
Station Location Option 3 Edge of Town location on land north of Moor Farm	More limited catchment of housing within 800m radius of station location. Approximately 60% of the 800m radius is green belt - open fields. This station site is approximately 1.3km from the town centre, if the remaining length of track bed is used as a pedestrian path. This distance is beyond a reasonable walking distance for many people.	Highway access could be provided via Quays Avenue using the rail alignment to the station, however this could prevent any future extension of the line into the town centre. A new highway access could be formed off Sheepway.	There is space for provision of at least 200 car parking spaces, either on the rail alignment or on land north of Moor Farm. Additional bus stops could be provided on Sheepway and there is potential for buses to operate via the station car park.	This location requires a new car park and a new highway access and link road from Sheepway.	This option would entail locating the station, station car park and highway access in the Green Belt and would result in some environmental impact. This option would require a sequential test and robust evidence to support a case for development in the Green Belt The proximity of the station to housing could result in some localised environmental impact, however there is potential to design mitigation measures reduce these impacts.	This option would not fully meet all the project objectives to reduce congestion, improve transport network resilience and deliver a sustainable transport corridor. This option does not provide easy access to and from Portishead Town centre. The walking catchment of the station is relatively poor, thereby access for the majority of people would be via a car trip, bus or cycle. This option would operate more like a 'Parkway' station than a conventional station, due to its edge of town location.	The estimated cost of a new car park is £850k. The estimated cost of the new highway access and link road is £1m.	No major changes are needed to the highway layout, other than a new highway access and link road from Sheepway and a new car park. The station car park and station platform would meet all statutory accessibility. standards. The edge of town centre location would limit its accessibility and usability for some people, particularly those with mobility impairments.

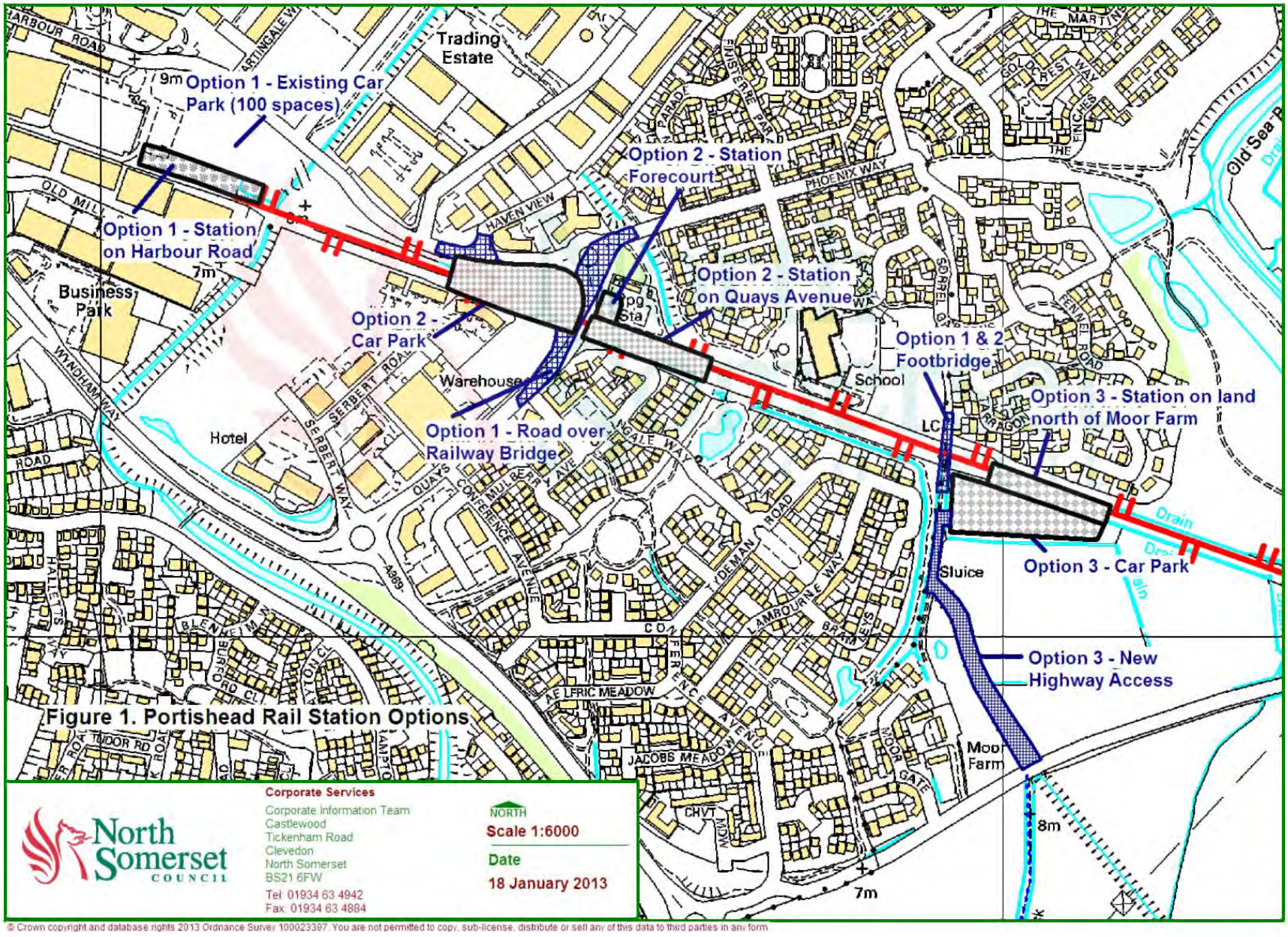


Figure 1. Portishead Rail Station Options

Fig 1. Map of the Three Station Location Options for Portishead Railway Station

Important Note: The delivery of the rail project has a number of challenges and constraints. These include achieving a positive outcome in relation to a detailed business case, availability of capital funding and funding approval, statutory processes and approvals, confirmation of operational costs in relation the Great Western franchising process and the overall financial position for North Somerset Council in terms of the affordability of both the capital and revenue funding requirement.

Appendix B
Options Appraisal Report

MetroWest Phase 1

Portishead Station Options Appraisal Report

June 2014

MetroWest

DOCUMENT REFERENCE:						
1	First Draft (Version 1_00)	JWk	JWk	CM, RW, DT, MR, RK, GQ		15/01/2014
2	Reported (Version 2_00)	JWk, DT	JWk, GQ, JWh	CM, RW, DT, MR, RK, GQ, JWh		01/05/2014
3	Reported (Version 3_00)	JWk	JWk, GQ, JWh	CM, RW, DT, MR, RK, GQ, JWh	WoE Rail Programme Board	06/06/2014
		Originated	Checked	Reviewed	Authorised	Date

MetroWest Phase 1 - Portishead Station Options Appraisal Report

1. Background
- Project Overview
- Portishead Rail Station

2. Planning & Transport Policy
- Policy Context
- Local Planning and Transport Policy
- Highways Development Management Policy

3. Project Objectives & Timescales
- Objectives
- Timescales

4. Portishead Station Site Consultation – February/March 2013
- NSC Sites & Policies Development Plan Document (Consultation Version)
- Consultation Feedback
- Initial Conclusions

5. Site Options Appraisal Approach
- Overview
- Area of Search
- Plan of Site Options
- Feasibility of a Level Crossing at Quays Avenue
- Highway Considerations
- Committed and Planned Development
- Proposed Footbridge Adjacent to Trinity Primary School
- Description of Site Options
- Site Options Appraisal Methodology

6. Site Options Appraisal Assessment
- Qualitative Assessment
- Overall Assessment Ranking

7. Conclusions
- Summary of Results
- Recommendations

Appendices
1. Sites & Policies DPD Evidence Paper – Portishead Rail Station
2. Quays Avenue Road Bridge Concept Design

3a. Station Concept Design Option 2A
3b. Station Concept Design Option 2B
3c. Station Concept Design Option 2C
3d. Station Indicative Layout plan Option 1A
3e. Station Indicative Layout plan Option 1B
3f. Station Indicative Layout plan Option 3

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.

Highways Development Management Policy

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:

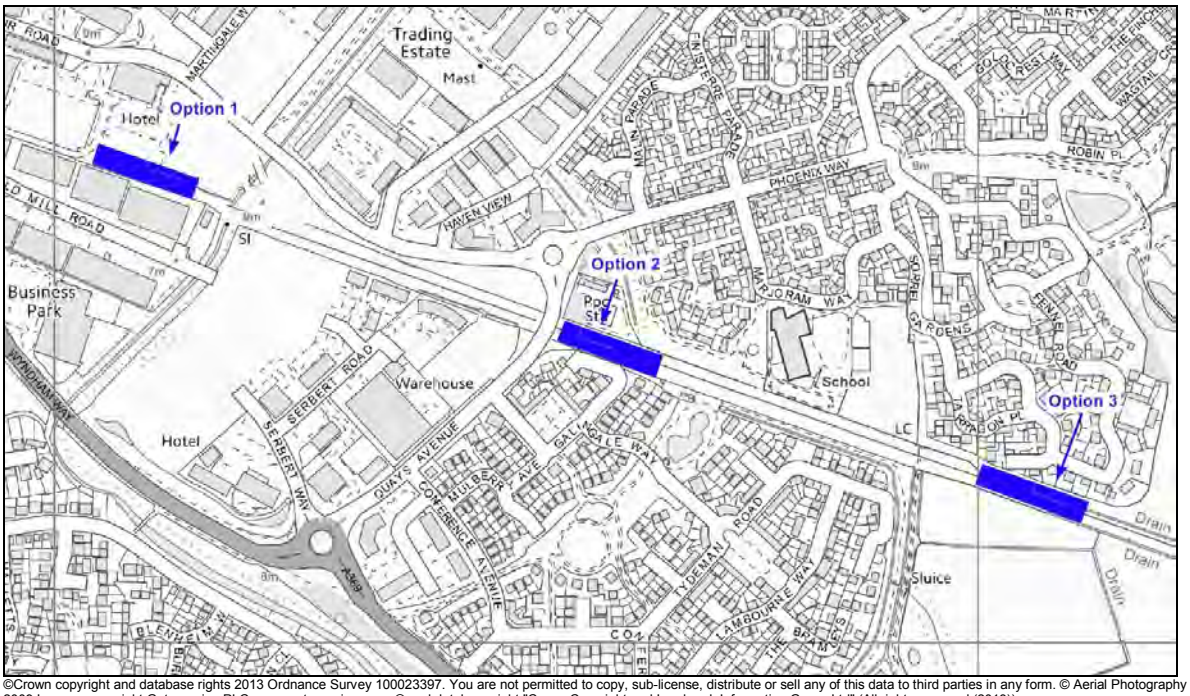
- Preliminary Business case submitted to WoE Joint Transport Board Sept 2014
- Outline Business case submitted to WoE Joint Transport Board Oct 2015
- Full Business case submitted to WoE Joint Transport Board Oct 2017
- Construction commencing Nov 2017
- Project Opens and passenger train services commence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



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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.

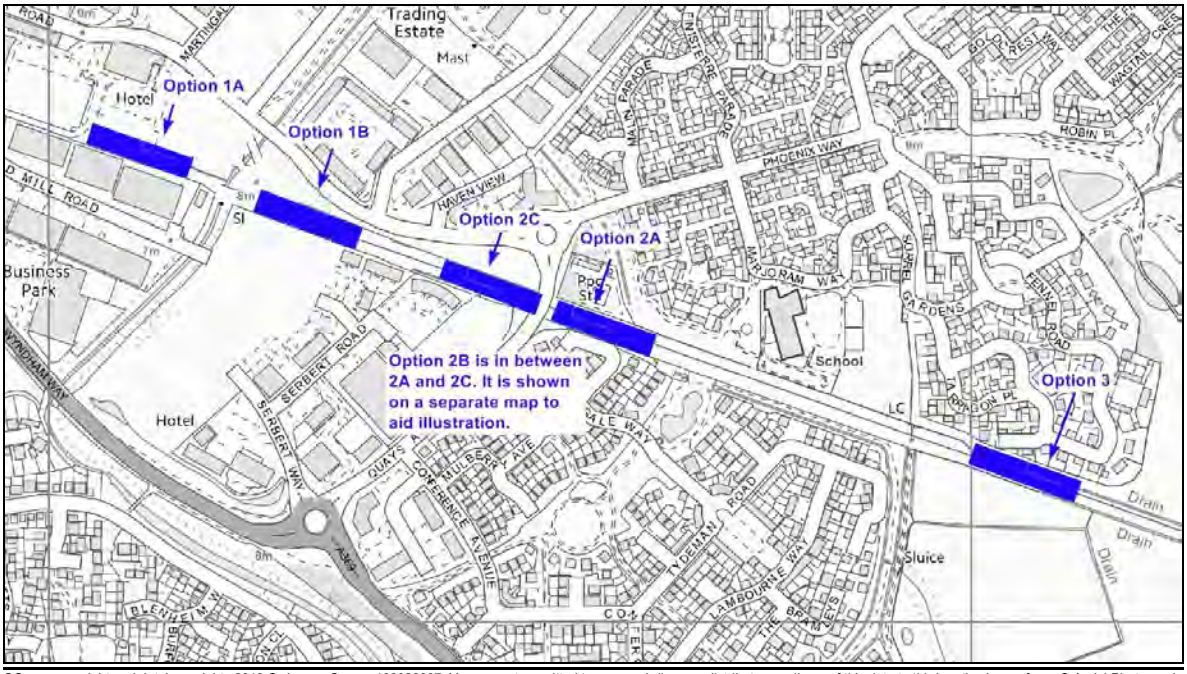
Area of Search

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:

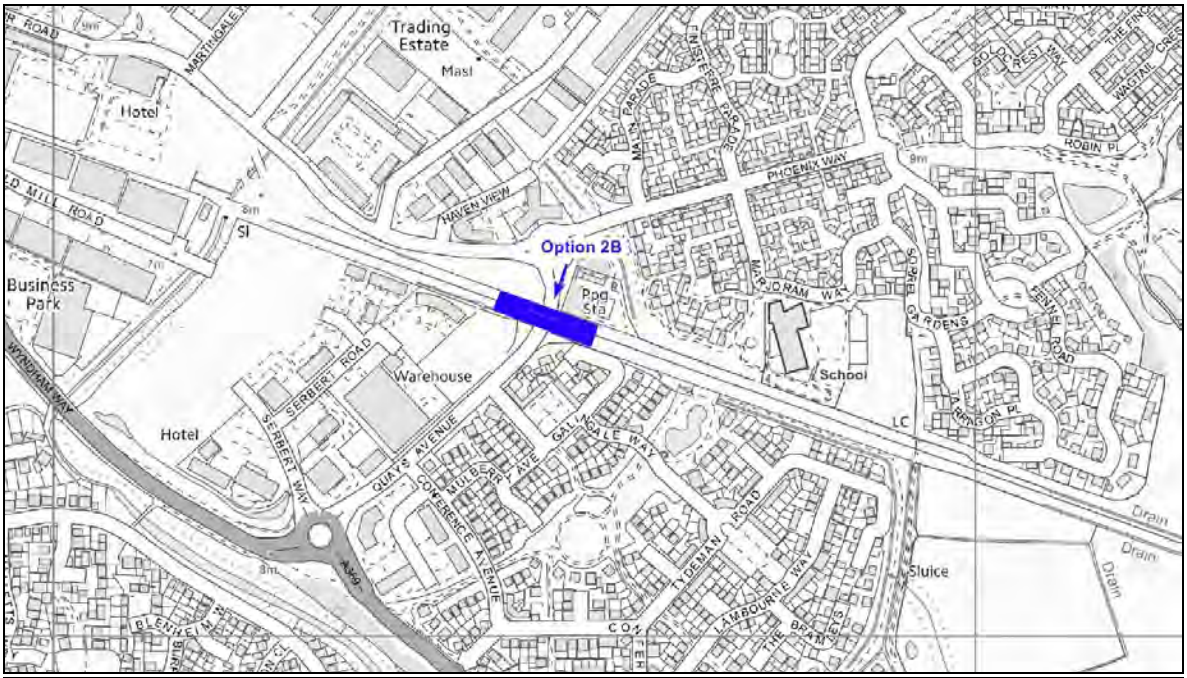
- Site Option 1A - previously labelled option 1
- Site Option 1B - additional option immediately east of option 1A
- Site Option 2A - previously labelled option 2
- Site Option 2B - additional option immediately west of option 2A
- Site Option 2C - additional option immediately west of option 2B
- Site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

Plan of Site Options Considered in Site Options Appraisal



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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.

<u>Description of Site Options</u>

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

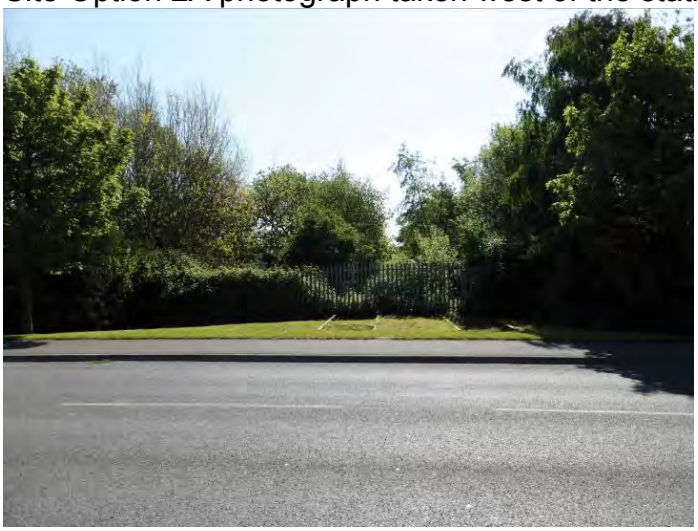
	Option 1A	Option 1B	Option 2C	Option 2B	Option 2A	Option 3
Policy fit Ranking	4th	5th	2nd	1st	3rd	6th
Environmental & Social Impact ranking	6th	5th	1st	1st	3rd	3rd
Deliverability Ranking	5th	6th	4th	2nd	1st	3rd
Average ranking Score	**5.00**	**5.33**	**2.33**	**1.33**	**2.33**	**4.00**
Aggregate ranking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

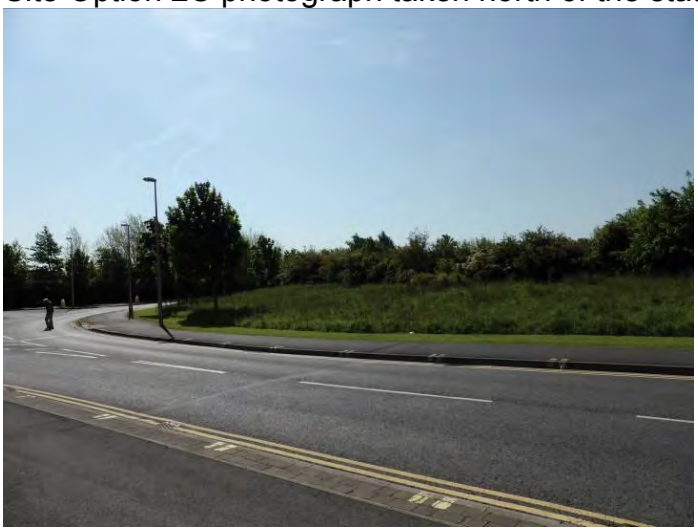
Site Option 2A photograph taken west of the station site, looking east



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

Important Note: The delivery of the rail project has a number of challenges and constraints. These include achieving a positive outcome in relation to a detailed business case, availability of capital funding and funding approval, statutory processes and approvals, confirmation of operational costs in relation the Great Western franchising process and the overall financial position for North Somerset Council in terms of the affordability of both the capital and revenue funding requirement.

North Somerset Council

Local Development Framework

Sites and Policies Development Plan Document

Evidence Paper
Re-opening Portishead Railway Line and Options for the Location of Portishead Railway Station

North Somerset Council

February 2013

Important Note: The delivery of the rail project has a number of challenges and constraints. These include achieving a positive outcome in relation to a detailed business case, availability of capital funding and funding approval, statutory processes and approvals, confirmation of operational costs in relation the Great Western franchising process and the overall financial position for North Somerset Council in terms of the affordability of both the capital and revenue funding requirement.

Evidence Paper
Policy Reference PH3

Re-opening Portishead Railway Line and Options for the Location of Portishead Railway Station

1. Overview of the Portishead to Bristol Transport Corridor

The Portishead to Bristol corridor (A369) suffers congestion and journey time reliability problems. This not only causes delays and lost productivity for car drivers and goods vehicle operators but also presents a major hurdle for providing an attractive public transport mode along the corridor. The problems and context of the A369 corridor are summarised as:

- The A369 is the only transport corridor directly linking Portishead with Bristol which is just 10 miles to the east.
- The capacity constraints on the A369 are exacerbated further by the fact that the A369 crosses junction 19 of the M5. Junction 19 of the M5 is one of the busiest parts of the M5 with the Avonmouth Bridge immediately to the north towards junction 18.
- The A369 continually suffers from the knock on effects of incidents on the M5 with traffic high volumes of traffic over spilling onto a constrained local road corridor with very few alternative route options.

This lack of transport network resilience and limited travel choices could be addressed by utilising the heavy rail corridor between Portishead and Bristol which is a strategic transport network asset and re-instating passenger train services. The objectives of re-opening the Portishead railway line for passenger train services are to:

- Reduce traffic congestion on arterial roads and reduce journey times for commuters and business to and from Bristol, supporting economic growth,
- Improve transport network resilience through the utilisation of a strategic transport alignment, which is independent from the highway network,
- Deliver a sustainable transport corridor and improve air quality

The project will also:

- Assist in the delivery of wider social wellbeing and quality of life objectives,
- Provide through rail services from Portishead to destinations beyond Bristol Temple Meads, across the sub-region, and
- Form the basis of a medium to long term sub-regional programme of rail projects to deliver a major uplift to the local the local rail network offer.

The project would increase the UK's passenger rail network by 10 miles and connect an additional 30,000+ people to the network. There is a great amount of interest and support for the project within the local community, based on the frequency with which the project is raised positively by business, members of the public and community organisations, to the council.

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2. Overview of the Project

The Portishead rail branch line was closed in 1964 as part of the Beeching cuts. In 2002 a major part of the line was reopened between Royal Portbury Dock and Bristol as a freight only line. This project involves re-instating the remaining 4 miles of track between Portishead and Pill and upgrading the branch line infrastructure to meet passenger train standards, and providing sufficient line capacity to enable both passenger and freight train to operate to the required service patterns.

Re-opening the Portishead rail branch line now forms part of a larger sub-regional project known as Greater Western Metro Phase 1. GW Metro Phase 1 includes half hourly train services for the Severn Beach line, local stations between Bristol Temple Meads and Bath Spa and the reopened Portishead line. In addition there is a wider programme of local rail schemes, also being taken forward by the four West of England councils; North Somerset, Bristol City, South Gloucestershire and Bath & North East Somerset. GW Metro Phase 1 is being led by North Somerset Council on behalf of the West of England councils.

3. Brief History of the Project

1964 Line was closed

2002 Line partly re-opened for freight trains only between Parsons Street junction and Portbury Dock

2005 Portishead Quays Master plan - identified location for station (option 1)

2006 Joint Local Transport Plan 2 - policy basis and stakeholder support for taking project forward

2006 North Somerset Replacement Local Plan - safeguarded disused railway alignment between Portishead and Pill

2008 Project feasibility study by consultants Halcrow

2010 Engineering feasibility by Network Rail GRIP3 Option Selection

2011 Joint Local Transport Plan 3 - policy basis, programme prioritisation and stakeholder support for taking project forward

2011 Sub-regional rail conference - project selected by over 70 delegates as 2nd highest rail priority for delivery

2011 Sub-regional rail study recommends combining Portishead rail project into the GW Metro project with it included in GW Metro Phase 1

2012 Joint Transport Executive Committee endorse including re-opening Portishead line in GW Metro Phase 1 and response to GW Franchise for its inclusion in franchise specification as a prices option

2012 Department for Transport confirm the inclusion of GW Metro Phase 1 as a priced option in GW Franchise

2012 Governance and mobilisation of sub-regional rail programme and identification of resources for mobilisation of GW Metro Phase 1 project

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4. The Safeguarded Alignment

The alignment has been subject to local planning polices for many years to protect encroachment of development that would prevent the line from being re-opened. The only location where development has created an obstacle to the re-opening of the line is at Quays Avenue, which is a new road crossing over the railway alignment. At the time of the master planning of Portishead Vale development, the design standards for road easements across railway branch lines allowed for level crossings. However, the rail industry design standards have since changed and level crossings are no longer acceptable to Her Majesties Railway Inspectorate. Therefore a road over rail bridge will be needed in order for the railway line to serve Portishead town centre (station location option 1 only).

5. Timescales Taking Forward the Project as part of GW Metro Phase 1

late 2012 - 2015	Scheme Case and Powers to Build and Operate
2015 - 2016	Detailed Design and Scheme Procurement
2016 - 2017	Construction
late 2017 / early 2018	Scheme Opening and Commencement of Train Services

6. Options for the Location of Portishead Railway Station

While a site for the Portishead railway station was identified on Harbour Road as part of the Portishead Quays master planning, the delivery of a station at this location has a number of challenges and there is now a need to review the merits of this location and consider options for other locations.

There are a wide range of factors that need to be considered in respect of identifying the best location for a railway station, these include the transport network, the environmental impact, the strategic land uses both current and future use as set out the councils Core Strategy and wider community considerations. Furthermore the site must also be able to meet technical specifications, accessibility regulations and safety requirements of rail industry and national legislation.

We have commenced initial analysis on the merits and impacts of alternative station locations. Further more detailed analysis will be needed, as the project is taken forward. There are broadly eight high level transport criteria relevant to selecting the location for Portishead railway station:

1. walking and cycling catchment and access,
2. highway access,
3. car parking provision and bus interchange facilities,
4. the extent of supporting infrastructure required for each location eg highway bridges, pedestrian bridges, new highway accesses etc
5. likely wider environmental impact
6. fit with project objectives
7. overall cost of station location
8. EQIA considerations

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We have used the above criteria to identify and compare three short listed locations for Portishead railway station, as follows:

Option 1 - Town Centre location on Harbour Road. Provision for 100 car parking spaces has been made adjacent to the station site. This option requires the construction of a new road bridge over the rail alignment at Quays Avenue. This option also includes provision for a footbridge south east of Trinity Anglican Methodist Primary School. This station site is approximately 0.3 km from the town centre.

Option 2 – Peripheral Town Centre location on Quays Avenue. There is space for at least 200 car parking spaces on land west of Quays Avenue. This option does not require a new road bridge at Quays Avenue. This option also includes provision for a footbridge south east of Trinity Anglican Methodist Primary School. The remaining length of redundant track bed to the town centre would be used to provide a high quality 'Gateway' shared use pedestrian/ cycle path. The 'Gateway' path would have the effect of extending the western pedestrian entrance of the station closer to the town centre. The rail alignment here is 15 to 20 meters wide, so there is considerable potential to create a very attractive public realm enhancement as well as serving as a functional pedestrian/ cycle 'Gateway'. A new pedestrian / cycle crossing on Quays Avenue (Toucan crossing or similar) would be provided to give a through route between the station and the 'Gateway' path and car park. There is also potential to create a wider station forecourt/frontage using a small parcel of land adjacent to Quays Avenue, which is currently part of the Pumping Station yard. This station site is approximately 0.7 km from the town centre.

Option 3 – Edge of Town location on land north of Moor Farm. There is space for at least 200 car parking spaces on land adjacent to the railway station site, together with a new highway access from Sheepway. This option does not require a new road bridge at Quays Avenue or provision for a footbridge south east of Trinity Anglican Methodist Primary School, however it would require a new highway access and link road from Sheepway. This option would operate more like a 'Parkway' station than a conventional station, due to its edge of town location. This station site is approximately 1.3 km from the town centre.

Table 1 below sets out a high level comparison of the three station location options for Portishead Rail station.

Figure 1 below shows a map of the three station location options for Portishead Rail station.

We are seeking feedback as part of our Sites and Policies DPD Consultation Version, on all three station location options, to inform decision making on which location is best overall for Portishead. Please refer to the front of the DPD document on how to provide feedback.

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Table 1. Comparison of the Three Short Listed Locations for Portishead Railway Station

	Walking & Cycling Catchment and Access	**Highway Access**	**Car Parking Provision & Bus Interchange**	**Extent of Supporting Infrastructure Required**	**Likely Wider Environmental Impact**	**Fit with Project Objectives**	**Overall Cost of this station location**	**EQIA considerations**
Station Location Option 1 Town Centre location on Harbour Road	Large catchment of housing within 800m radius of station location. Any potential re-development of Old Mill Road Industrial Estate could improve access to town centre from station. This station site is approximately 0.3 km from the town centre.	Relatively good highway access via Harbour Road, however requires a road bridge at Quays Avenue.	Provision for 100 car parking spaces has been secured as part of the Quays development however this is unlikely to be sufficient to cater for the forecast passenger demand. Bus stops are located on Harbour Road and there is potential for buses to operate via the station car park.	This location requires a new road over railway bridge at Quays Avenue and one pedestrian bridge east of Trinity school.	The road over railway bridge would entail replacing the existing roundabout at Quays Avenue, Phoenix Way & Harbour Road, with an elevated signal controlled T junction. This would have a visual and environmental impact on a number of residential properties adjacent to Quays Avenue and retirement apartments on Harbour Road.	This option would meet all the project objectives to reduce congestion, improve transport network resilience and deliver a sustainable transport corridor.	The estimated cost of the road bridge is £6m. The estimated cost of the pedestrian bridge ranges from £500k to £1.5m depending upon whether it includes mobility impairment ramps.	The road over railway bridge would mean the roads and pavements would entail gradients that some people may find more difficult than the current layout.

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	Walking & Cycling Catchment and Access	**Highway Access**	**Car Parking Provision& Bus Interchange**	**Extent of Supporting Infrastructure Required**	**Likely Wider Environmental Impact**	**Fit with Project Objectives**	**Overall Cost of this station location**	**EQIA considerations**
Station Location Option 2 Peripheral Town Centre location on Quays Avenue	Large catchment of housing within 800m radius of station location. The remaining length of redundant track bed to the town centre would be used to provide a high quality 'Gateway' shared use pedestrian/ cycle path. The 'Gateway' path would have the effect of extending the western pedestrian entrance of the station closer to the town centre. The rail alignment here is 15 to 20 meters wide, so there is considerable potential to create a very attractive public realm enhancement as well as serving as a functional pedestrian/ cycle 'Gateway'. This station site is approximately 0.7 km from the town centre.	Good highway access via Quays Avenue / Harbour Road, and good access from both directions via Wyndham Way.	There is space for provision of at least 200 car parking spaces. A pedestrian crossing would be needed on Quays Avenue to link the car park with the station. There are bus stops on Quays Avenue and there is potential for buses to operate via the station car park or from new bus stops / lay-bys near to the main station entrance.	This location requires a high quality 'Gateway' shared use pedestrian / cycle path, a new car park on land west of Quays Avenue, a new pedestrian / cycle crossing on Quays Avenue (Toucan crossing or similar) and one pedestrian bridge east of Trinity school.	This option does not require a road over railway bridge, therefore it would have a more limited environmental impact on Quays Avenue, in comparison with option 1. The need for a new 200 space car park would however result in some environmental impact. The proximity of the station to housing could result in some localised environmental impact, however there is potential to design mitigation measures reduce these impacts.	This option would meet all the project objectives to reduce congestion, improve transport network resilience and deliver a sustainable transport corridor. While the station location is not as central as option 1, this option still has a very high walking catchment. Access to the town centre could be enhanced by the provision of a high quality 'Gateway' shared use pedestrian/ cycle path on the remaining length of redundant track bed.	The estimated cost of the 'Gateway' shared use path is £250k. The estimated cost of a new car park is £850k. The estimated cost of the Toucan crossing is £50k. The estimated cost of the pedestrian bridge ranges from £500k to £1.5m depending upon whether it includes mobility impairment ramps.	No major changes are needed to the road layout, other than a new access to a new car park west of Quays Avenue. The station car park and station platform would meet all statutory accessibility standards.

Important Note: The delivery of the rail project has a number of challenges and constraints. These include achieving a positive outcome in relation to a detailed business case, availability of capital funding and funding approval, statutory processes and approvals, confirmation of operational costs in relation the Great Western franchising process and the overall financial position for North Somerset Council in terms of the affordability of both the capital and revenue funding requirement.

	Walking & Cycling Catchment and Access	**Highway Access**	**Car Parking Provision & Bus Interchange**	**Extent of Supporting Infrastructure Required**	**Likely Wider Environmental Impact**	**Fit with Project Objectives**	**Overall Cost of this station location**	**EQIA considerations**
Station Location Option 3 Edge of Town location on land north of Moor Farm	More limited catchment of housing within 800m radius of station location. Approximately 60% of the 800m radius is green belt - open fields. This station site is approximately 1.3km from the town centre, if the remaining length of track bed is used as a pedestrian path. This distance is beyond a reasonable walking distance for many people.	Highway access could be provided via Quays Avenue using the rail alignment to the station, however this could prevent any future extension of the line into the town centre. A new highway access could be formed off Sheepway.	There is space for provision of at least 200 car parking spaces, either on the rail alignment or on land north of Moor Farm. Additional bus stops could be provided on Sheepway and there is potential for buses to operate via the station car park.	This location requires a new car park and a new highway access and link road from Sheepway.	This option would entail locating the station, station car park and highway access in the Green Belt and would result in some environmental impact. This option would require a sequential test and robust evidence to support a case for development in the Green Belt The proximity of the station to housing could result in some localised environmental impact, however there is potential to design mitigation measures reduce these impacts.	This option would not fully meet all the project objectives to reduce congestion, improve transport network resilience and deliver a sustainable transport corridor. This option does not provide easy access to and from Portishead Town centre. The walking catchment of the station is relatively poor, thereby access for the majority of people would be via a car trip, bus or cycle. This option would operate more like a 'Parkway' station than a conventional station, due to its edge of town location.	The estimated cost of a new car park is £850k. The estimated cost of the new highway access and link road is £1m.	No major changes are needed to the highway layout, other than a new highway access and link road from Sheepway and a new car park. The station car park and station platform would meet all statutory accessibility. standards. The edge of town centre location would limit its accessibility and usability for some people, particularly those with mobility impairments.

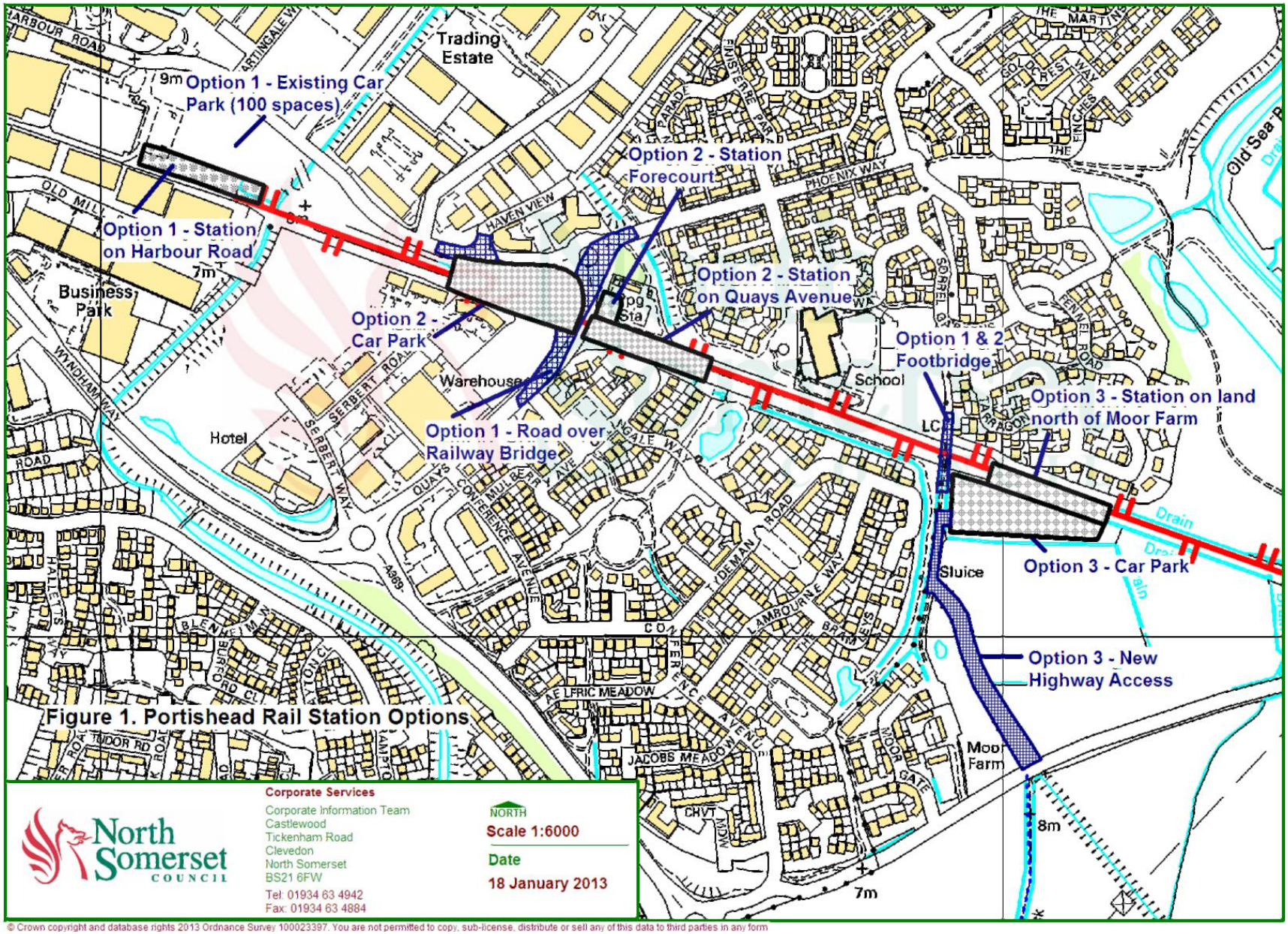


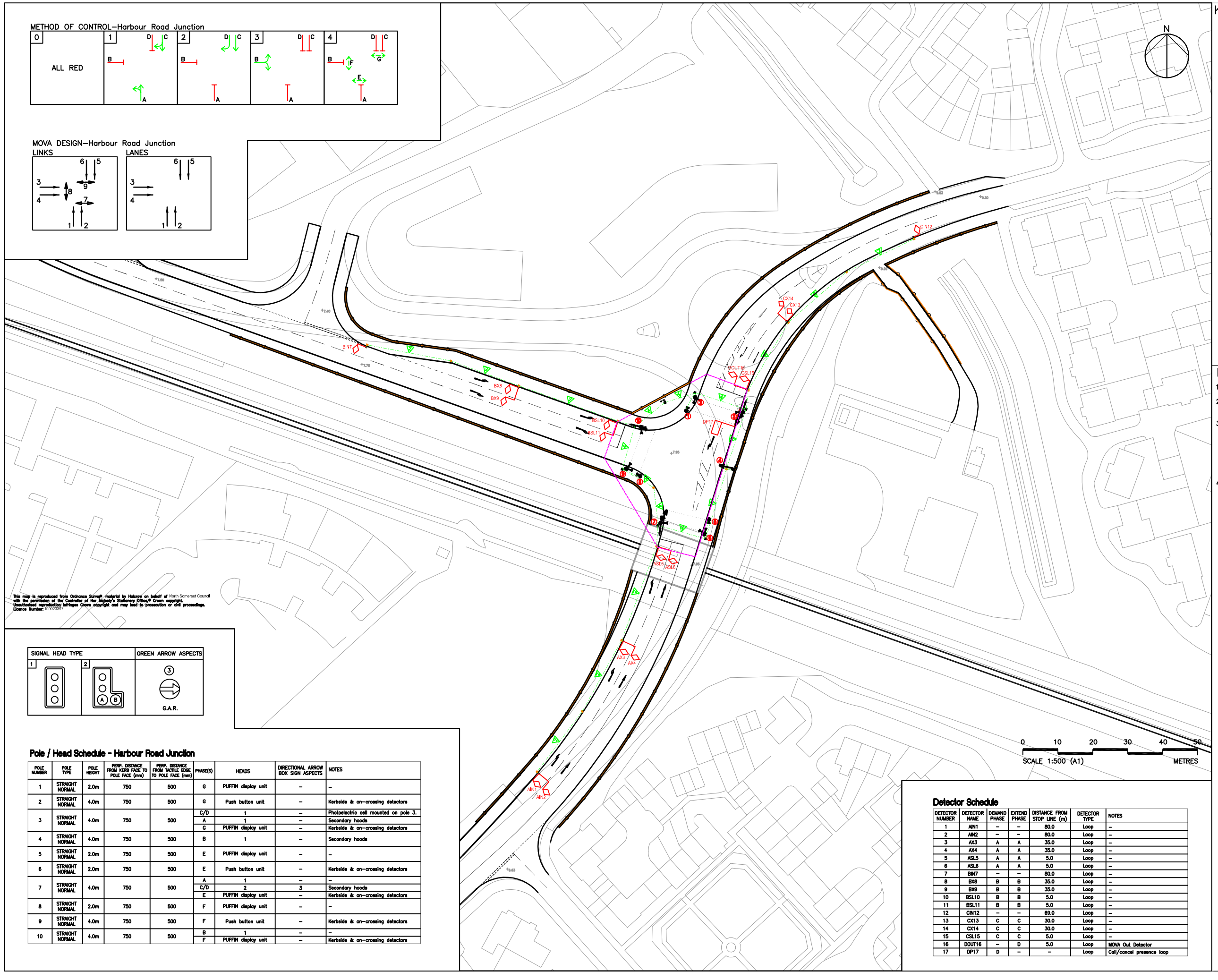
Figure 1. Portishead Rail Station Options

Fig 1. Map of the Three Station Location Options for Portishead Railway Station

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METHOD OF CONTROL–Harbour Road Junction

MOVA DESIGN–Harbour Road Junction



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SIGNAL HEAD TYPE		GREEN ARROW ASPECTS
1	2	3
	A B	G.A.R.

Pole / Head Schedule - Harbour Road Junction

POLE NUMBER	POLE TYPE	POLE HEIGHT	PERP. DISTANCE FROM KERB FACE TO POLE FACE (mm)	PERP. DISTANCE FROM TACTILE EDGE TO POLE FACE (mm)	PHASE(S)	HEADS	DIRECTIONAL ARROW BOX SIGN ASPECTS	NOTES
1	STRAIGHT NORMAL	2.0m	750	500	G	PUFFIN display unit	–	–
2	STRAIGHT NORMAL	4.0m	750	500	G	Push button unit	–	Kerbside & on–crossing detectors
3	STRAIGHT NORMAL	4.0m	750	500	C/D	1	–	Photoelectric cell mounted on pole 3.
					A	1	–	Secondary hoods
					G	PUFFIN display unit	–	Kerbside & on–crossing detectors
4	STRAIGHT NORMAL	4.0m	750	500	B	1	–	Secondary hoods
5	STRAIGHT NORMAL	2.0m	750	500	E	PUFFIN display unit	–	–
6	STRAIGHT NORMAL	2.0m	750	500	E	Push button unit	–	Kerbside & on–crossing detectors
7	STRAIGHT NORMAL	4.0m	750	500	A	1	–	–
					C/D	2	3	Secondary hoods
					E	PUFFIN display unit	–	Kerbside & on–crossing detectors
8	STRAIGHT NORMAL	2.0m	750	500	F	PUFFIN display unit	–	–
9	STRAIGHT NORMAL	4.0m	750	500	F	Push button unit	–	Kerbside & on–crossing detectors
10	STRAIGHT NORMAL	4.0m	750	500	B	1	–	–
					F	PUFFIN display unit	–	Kerbside & on–crossing detectors

Detector Schedule

DETECTOR NUMBER	DETECTOR NAME	DEMAND PHASE	EXTEND PHASE	DISTANCE FROM STOP LINE (m)	DETECTOR TYPE	NOTES
1	AIN1	–	–	80.0	Loop	–
2	AIN2	–	–	80.0	Loop	–
3	AX3	A	A	35.0	Loop	–
4	AX4	A	A	35.0	Loop	–
5	ASL5	A	A	5.0	Loop	–
6	ASL6	A	A	5.0	Loop	–
7	BIN7	–	–	80.0	Loop	–
8	BX8	B	B	35.0	Loop	–
9	BX9	B	B	35.0	Loop	–
10	BSL10	B	B	5.0	Loop	–
11	BSL11	B	B	5.0	Loop	–
12	CIN12	–	–	69.0	Loop	–
13	CX13	C	C	30.0	Loop	–
14	CX14	C	C	30.0	Loop	–
15	CSL15	C	C	5.0	Loop	–
16	DOUT16	–	D	5.0	Loop	MOVA Out Detector
17	DP17	D	–	–	Loop	Call/cancel presence loop

Key:

- Existing Alignment
- Indicative Alignment
- Indicative parapet/safety fence
- Indicative earth retaining wall
- Indicative bridge footprint
- Junction intervisibility
- 1x100mm Orange high impact duct
- 2x100mm Orange high impact duct
- 4x100mm Orange high impact duct
- RAG signal head
- 3 aspect signal with right turn filter
- On–crossing pedestrian/cyclist detector
- Kerb side pedestrian/cyclist detector
- Passively safe signal pole
- Passively safe short signal pole
- NAL retention socket
- Controller
- Toucan display unit with separate push button
- Push button
- Composite 600x600mm duct box
- Composite 450x450mm duct box
- Carriageway loop box
- Existing spot levels

Notes:

1. All dimensions are in metres unless noted otherwise.
2. Layout shown is preliminary and subject to a full topographical survey.
3. Layout is based on Design Manual for Roads and Bridges
   - 3.1. TD 42 /95 – Geometric Design of Major/Minor Priority Junctions and Roundabouts.
   - 3.2. TD 50/04 The Geometric Layout of Signal Controlled Junctions and Signalised Roundabouts.
4. Assumed speed limit is 30mph on Quays Avenue and Harbour Road and 20mph on Phoenix Way.

Rev	By	Chkd	Apprvd	Date	Description
-	-	-	-	-	-

DO NOT SCALE. This drawing is to be read in conjunction with all relevant Architects, Engineers and Specialist Manufacturer's drawings and specifications. If in doubt please consult the Engineer.

Drawing Status: FEASIBILITY

Client: North Somerset Council

Halcrow Group Ltd
Red Hill House 227 London Road Worcester WR5 2JG
tel +44 (0)1905 361 300 fax +44 (0)1905 361 362
halcrow.com
Halcrow

Project: Portishead Rail Corridor Feasibility Study

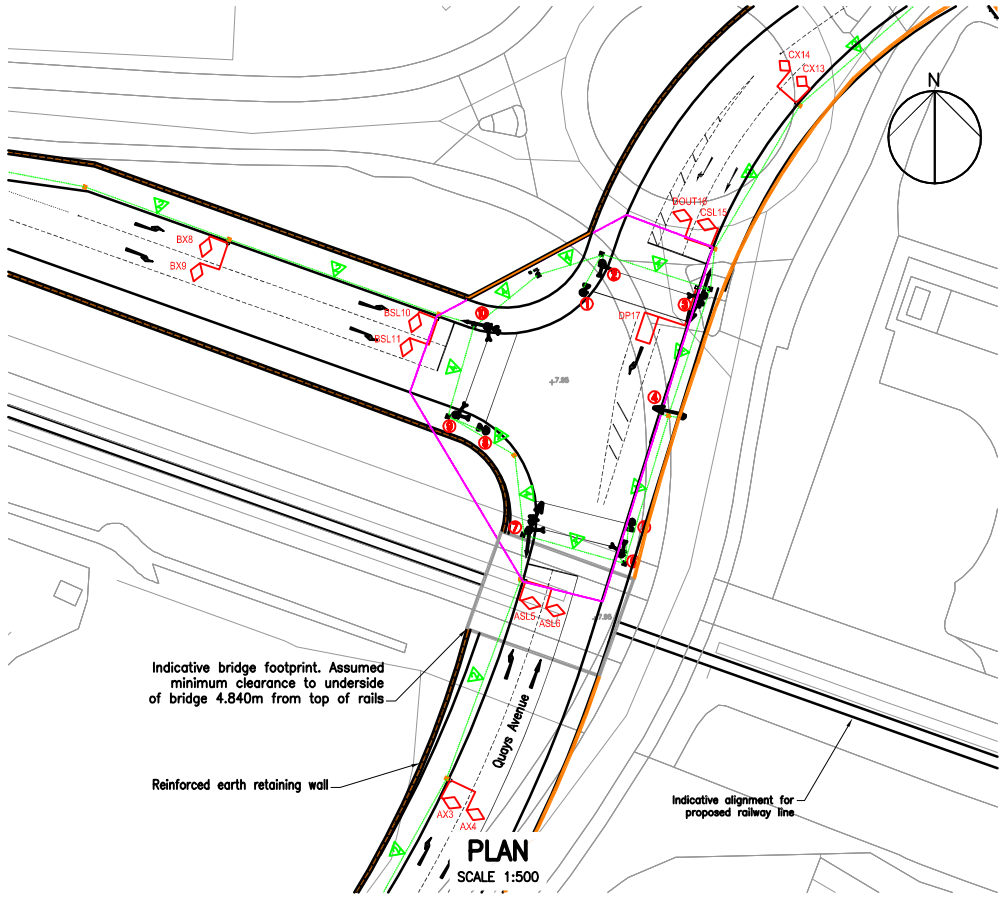
Drawing: General Arrangement Option B Signalised Junction

Drawn by: SPG Date: 16. June 10
Checked by: LT Date: 16. June 10
Approved by: DL Date: 16. June 10

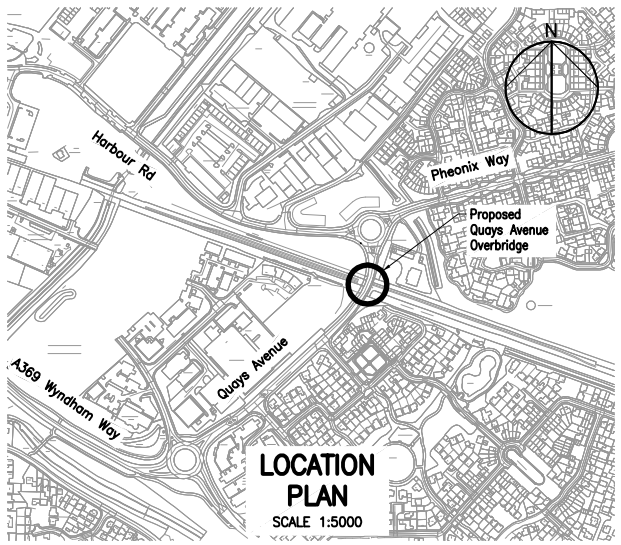
Drawing No.: CT RAEB 210-101
Revision: -

Drawing Scale: 1:500 at A1

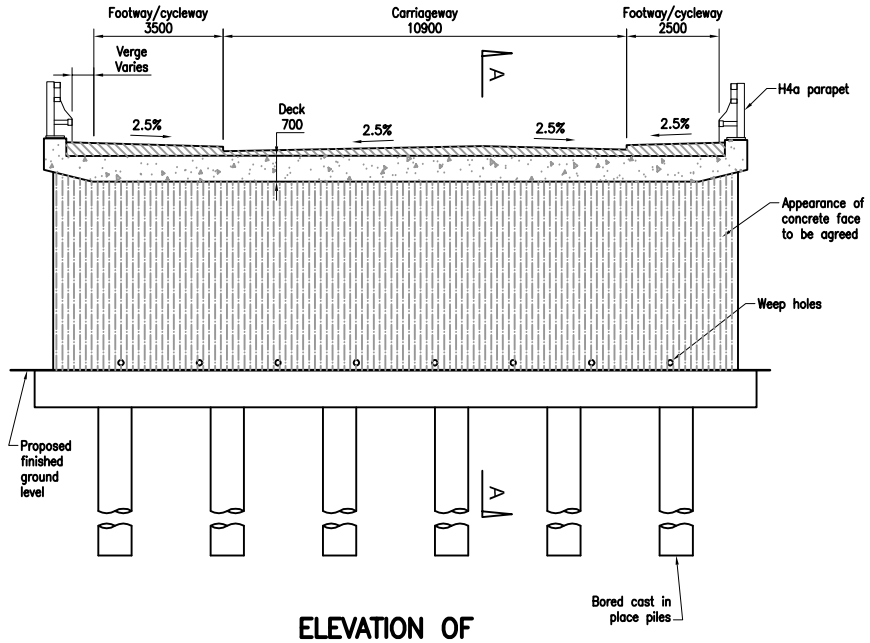
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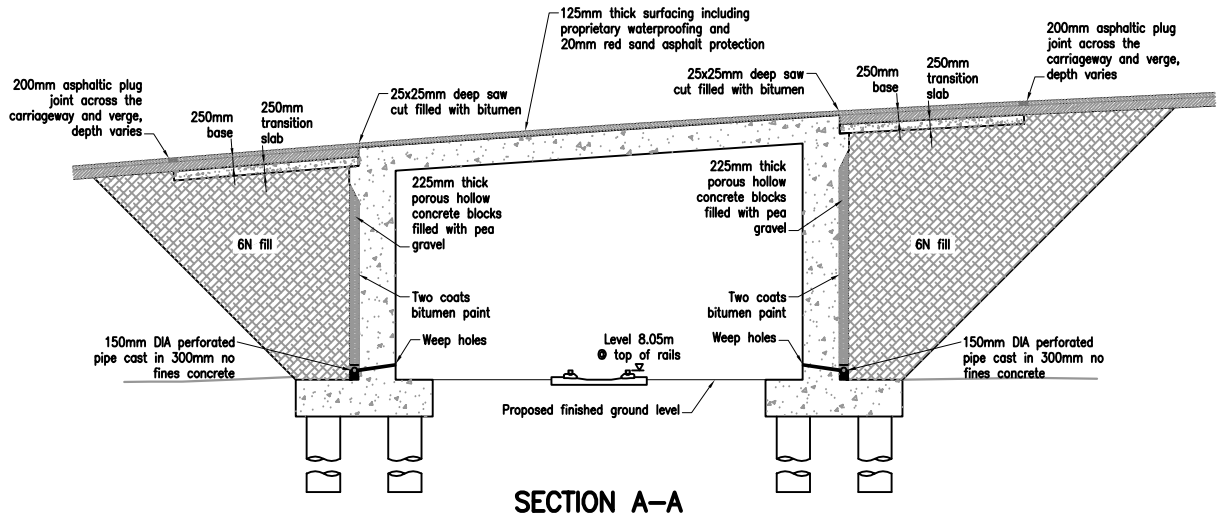
PLAN
SCALE 1:500



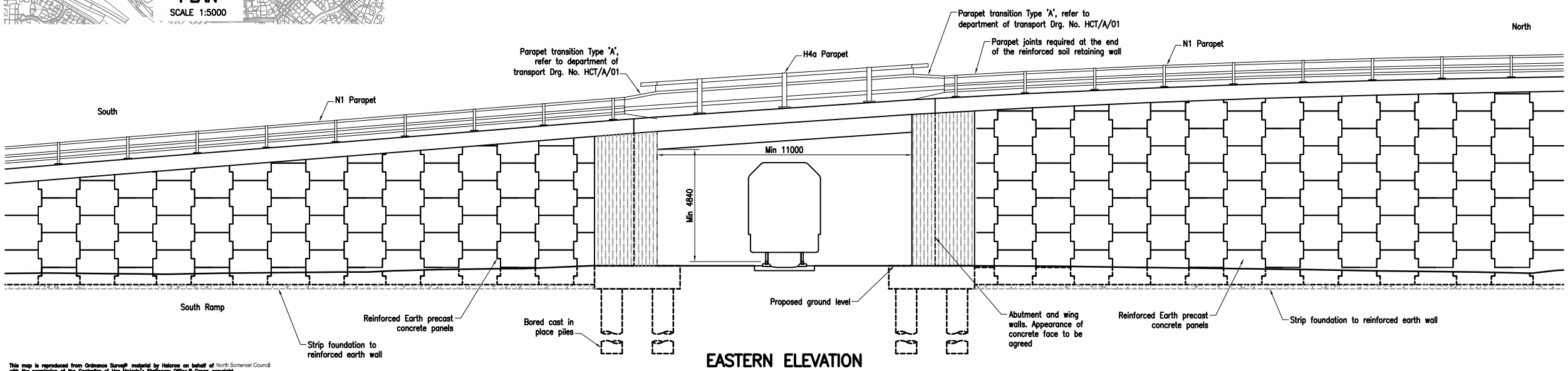
LOCATION PLAN
SCALE 1:5000



ELEVATION OF NORTHERN ABUTMENT
SCALE 1:100



SECTION A–A
SCALE 1:100



EASTERN ELEVATION
SCALE 1:100

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Key:

- Existing Alignment
- Indicative Alignment
- 60m forward visibility
- Indicative parapet/safety fence
- Indicative earth retaining wall
- Indicative bridge footprint
- +7.85 Existing spot levels

Notes:

1. All dimensions are in metres unless noted otherwise.
2. Layout shown is preliminary and subject to a full topographical survey.
3. Layout is based on Design Manual for Roads and Bridges TD 50/07 – Geometric layout of signal controlled junctions and signalised roundabouts.
4. Assumed speed limit is 20mph on Phoenix Way and 30mph in all other areas.
5. 4.5m clearance from rail to abutment assumed.

Rev	By	Chkd	Apprvd	Date	Description
A	TDW	-	-	26/07/10	Plan and Elevation of Northern Abutment updated

DO NOT SCALE. This drawing is to be read in conjunction with all relevant Architects, Engineers and Specialist Manufacturer's drawings and specifications. If in doubt please consult the Engineer.

Drawing Status: FEASIBILITY

Client: North Somerset Council

Halcrow Group Ltd
Red Hill House 227 London Road Worcester WR5 2JG
tel +44 (0)1905 361 300 fax +44 (0)1905 361 362
halcrow.com

Halcrow

Project: Portishead Rail Corridor Feasibility Study

Drawing: General Arrangement Quays Avenue Bridge

Drawn by: TDW	Date: 06.July 10	
Checked by: -	Date: -	
Approved by: -	Date: -	
Drawing No. CT RAEB 210-102	Revision: A	

Drawing Scale: Plan 1:500, Long Section H 1:1000, V 200 at A1

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Drawing file path : T:\HIGHWAYS 2\Performance Audit Group\North Somerset\CTRAEB210 Portishead Rail Corridor\610 Drawings\100+199 Design Drawings\
User and Plot Date : W.Bell,Fri 29/7/2010 - 12:27 pm

CONSENTED HIGHWAY ACCESS

CONNECTS TO EXISTING WALKING / CYCLE PATHS

CONNECTS TO EXISTING WALKING / CYCLE PATHS

WALKING AND CYCLING PROMENADE WITH TREE LINED BUFFER

STATION CAR PARK 150 SPACES

VEHICLE ENTRANCE / EXIT TO CAR PARK

AREA FOR TAXI RANK

VEHICLE EXIT LEFT TURN ONLY

PROPOSED PEDESTRIAN AND CYCLE LINK

PEDESTRIAN CROSSING

EXISTING BUS STOPS

STATION PLATFORM AND BUILDINGS

PROPOSED FOOTBRIDGE

NEWFOUNDLAND WAY

HAVEN VIEW

MALIN PARADE

BISCAY DRIVE

WIGHT ROW

FINISTERRE PARADE

CAMOMILE WALK

TANSY LANE

HARBOUR CRESCENT

SERBERT CLOSE

SERBERT ROAD

SERBERT WAY

QUAYS AVENUE

MULBERRY AVENUE

GALINGALE WAY

PEARTREE FIELD

FOR CONSULTATION

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4. Land boundaries shown are indicative only.

Key:

- PROPOSED FOOTBRIDGE
- PROPOSED PEDESTRIAN LINK / CYCLEWAY
- PROPOSED PEDESTRIAN CROSSING
- PROPOSED HIGHWAY LINK
- PROPOSED STATION PLATFORM AND BUILDINGS
- NSC RAIL LAND
- PHOTOGRAPH TAKEN FROM THIS POINT

Rev	By	Chkd	Apprvd	Date	Description

North Somerset Council
Wallscote Grove Road
Weston-super-Mare, BS23 1UJ
tel +44 (0)1934 888 888
www.n-somerset.gov.uk

Project

METROWEST
HIGHWAY REALIGNMENT OPTIONS

Drawing

OPTION 2a

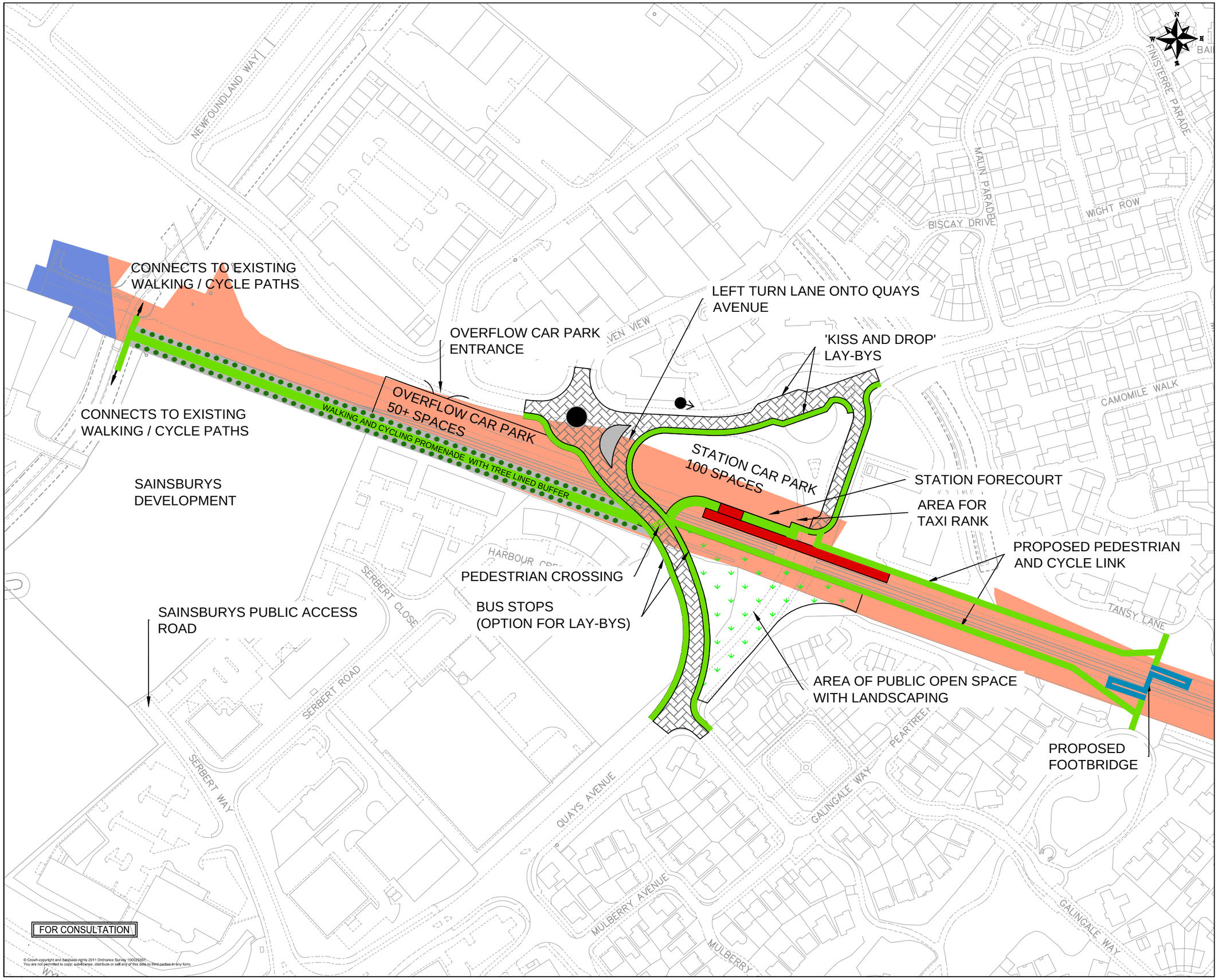
CONSEPTUAL ARRANGEMENT

Drawn by: DCF	Date: MAY 2014
Checked by: JW	Date: MAY 2014
Approved by: JW	Date: MAY 2014

Drawing No.	Revision
METRO/HR0/2a	0

Drawing Scale: NTS

Drawing file path & name C:\Users\Dfein\Desktop\ MetroWest Option 2a [PUBLISHED].dwg



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4. Land boundaries shown are indicative only.

Key:

- PROPOSED FOOTBRIDGE
- PROPOSED PEDESTRIAN LINK / CYCLEWAY
- PROPOSED PEDESTRIAN CROSSING
- PROPOSED HIGHWAY LINK
- PROPOSED STATION PLATFORM AND BUILDINGS
- NSC RAIL LAND
- PHOTOGRAPH TAKEN FROM THIS POINT

Rev	By	Chkd	Apprvd	Date	Description

North Somerset Council
Wallscote Grove Road
Weston-super-Mare, BS23 1UJ
tel +44 (0)1934 888 888
www.n-somerset.gov.uk

Project

METROWEST
HIGHWAY REALIGNMENT OPTIONS

Drawing

OPTION 2b

CONSEPTUAL ARRANGEMENT

Drawn by: DCF	Date: MAY 2014
Checked by: JW	Date: MAY 2014
Approved by: IW	Date: MAY 2014

Drawing No.	Revision
METRO/HR0/2b	0

Drawing Scale: NTS

Drawing file path & name C:\Users\Dfish\Desktop\MetroWest Option 2b [Published].dwg

CONSENTED HIGHWAY ACCESS

CONNECTS TO EXISTING WALKING / CYCLE PATHS

CONNECTS TO EXISTING WALKING / CYCLE PATHS

STATION CAR PARK 150 SPACES

WALKING AND CYCLING PROMENADE WITH TREE LINED BUFFER

TWO WAY VEHICLE ENTRANCE

PEDESTRIAN CROSSING

STATION FORECOURT AND KISS AND DROP AREA

VEHICLE ENTRANCE / EXIT KISS AND DROP / TAXIS

QUAYS AVENUE STOPPED UP

SAINSBURYS DEVELOPMENT

SAINSBURYS DELIVERY ACCESS ROAD

SAINSBURYS PUBLIC ACCESS ROAD

PROPOSED BUS STOPS

STATION PLATFORM AND BUILDINGS

COMMERCIAL BUILDING REDUCED IN SIZE TO MAKE WAY FOR NEW HIGHWAY LINK

PROPOSED PEDESTRIAN AND CYCLE LINK

PROPOSED FOOTBRIDGE

NEWFOUNDLAND WAY

SERBERT CLOSE

SERBERT WAY

HARBOUR CRESCENT

MALIN PARADE

BISCAY DRIVE

WIGHT ROW

CAMOMILE WALK

TANSY LANE

QUAYS AVENUE

GALINGALE WAY

MULBERRY AVENUE

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4. Land boundaries shown are indicative only.

Key:

- PROPOSED FOOTBRIDGE
- PROPOSED PEDESTRIAN LINK / CYCLEWAY
- PROPOSED PEDESTRIAN CROSSING
- PROPOSED HIGHWAY LINK
- PROPOSED STATION PLATFORM AND BUILDINGS
- NSC RAIL LAND
- PHOTOGRAPH TAKEN FROM THIS POINT

Rev	By	Chkd	Apprvd	Date	Description

North Somerset Council
Wolfbroote Grove Road
Weston-super-Mare, BS23 1UJ
tel +44 (0)1934 888 888
www.n-somerset.gov.uk

Project

METROWEST
HIGHWAY REALIGNMENT OPTIONS

Drawing

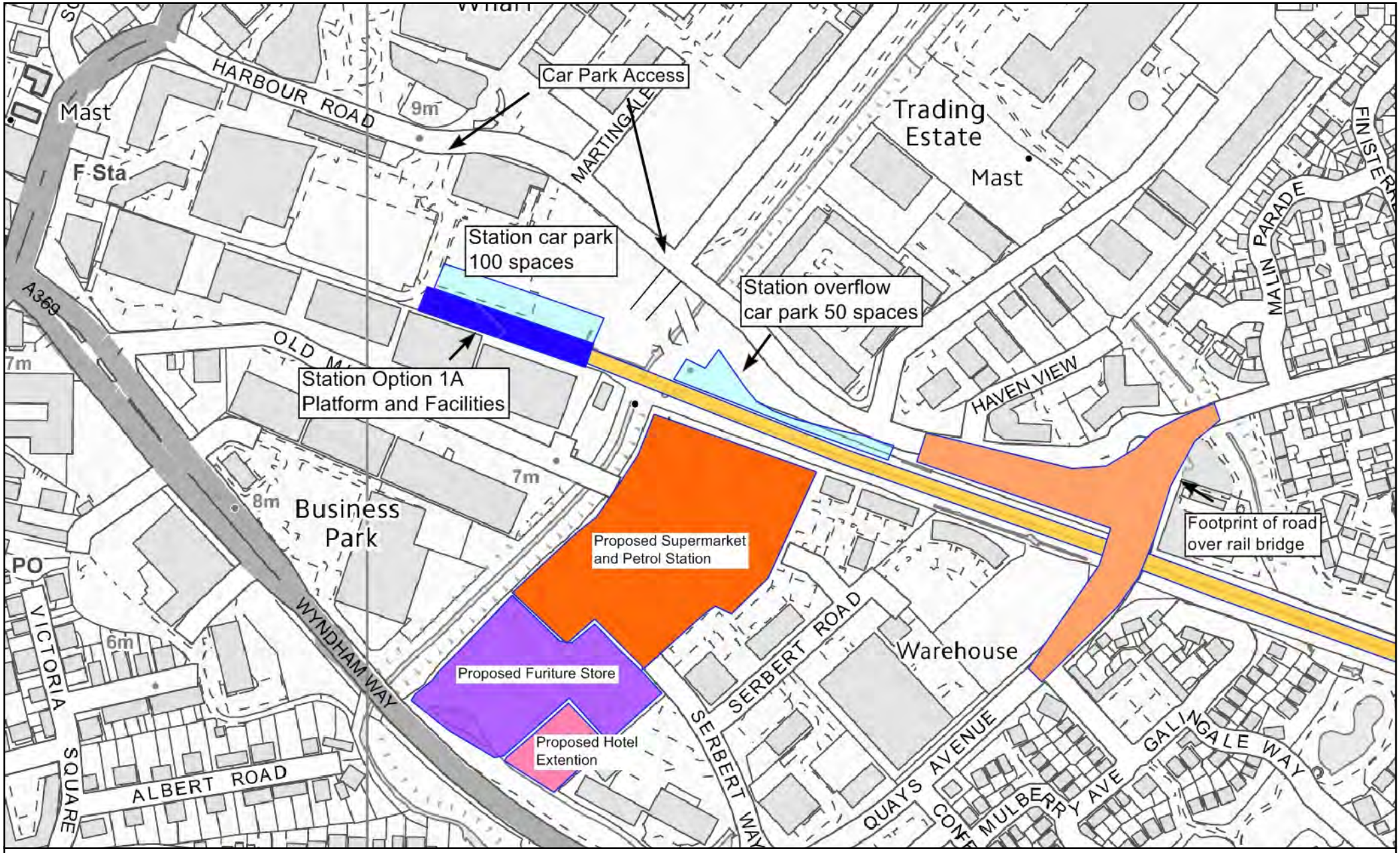
OPTION 2c

CONSEPTUAL ARRANGEMENT

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Checked by: JW	Date: MAY 2014
Approved by: IW	Date: MAY 2014
Drawing No. METRO/HR0/2c	Revision 0

Drawing Scale: NTS

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North Somerset Council

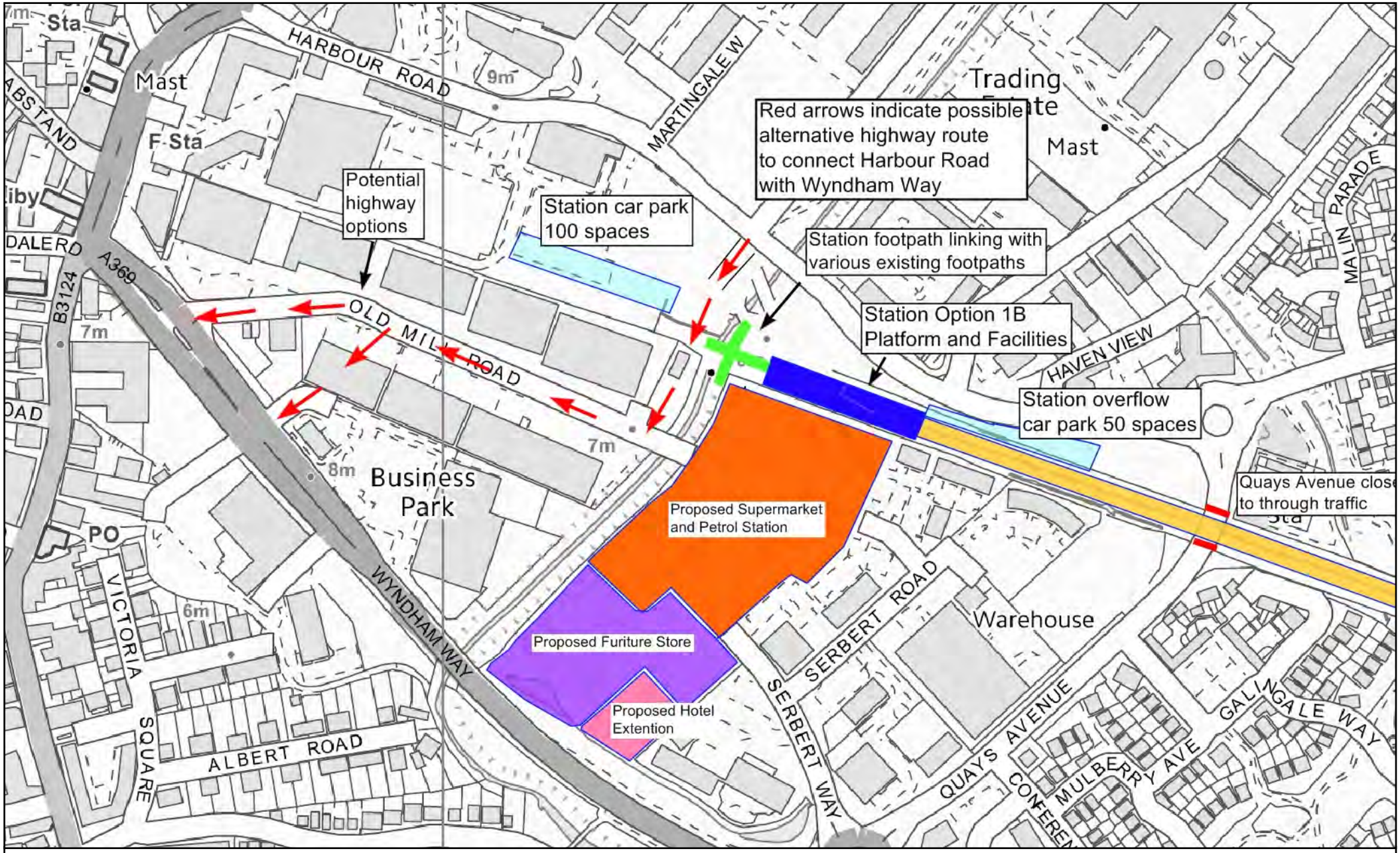
Portishead Station Option 1A

Scale: 1:3500

Date: 21 May 2014

N

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North Somerset Council

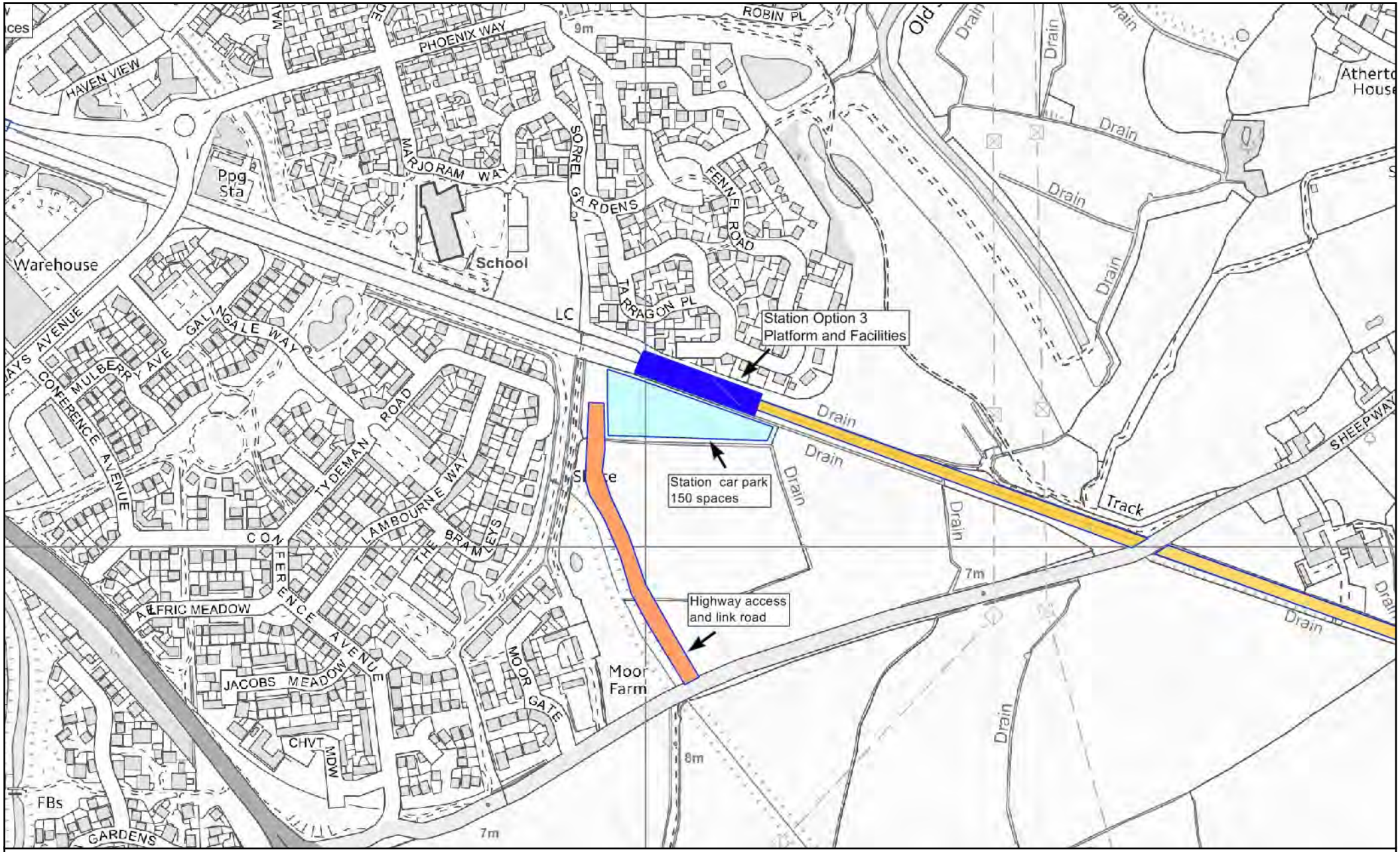
Portishead Station Option 1B

Scale: 1:3500

Date: 21 May 2014

N

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North Somerset Council

Portishead Station Option 3

Scale: 1:5000

Date: 21 May 2014

N

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Appendix C
Consultation and publicity material



MetroWest

Consultation on the location for Portishead rail station

June/July 2014

travelwest

Bath & North East Somerset, Bristol, North Somerset and South Gloucestershire councils working together to improve your local transport

MetroWest

The West of England councils are working together on proposals which will deliver investment of up to £100 million in improvements to our local rail network, over the next five to ten years.

The proposals, called MetroWest, are a series of projects, including large to small scale enhancements to our local rail network.

Our overall aim is to introduce fast and frequent metro rail services across the local area.

MetroWest Phase 1

MetroWest Phase 1 proposes to reopen the Portishead line to passenger train services and will introduce half-hourly train services for the Severn Beach line and the Bath Spa to Bristol line.



Portishead station location assessment



Since the MetroWest Phase 1 project began in 2013 we've done substantial work to identify and assess options for the location of Portishead rail station.

This work has been informed by feedback from consultation we carried out in spring 2013 and following confirmation from the Office of Rail Regulation that a level crossing at Quays Avenue will not be allowed.

We have now identified and assessed a total of six potential station locations. These are the three locations included in the 2013 consultation plus three new potential sites.

We assessed the six potential station locations using three main criteria:

1. how each location fits with North Somerset Council planning policy,
2. the environmental and social impact of each station location,
3. deliverability of each station location.

Our assessment has shown three options are potentially viable and three are not. We are now consulting with the local community, local businesses and statutory organisations on the three viable station options.

The tables on the following pages summarise the viability of the station options.

Summary of station viability assessment

Station location options

Our assessment has shown that the following options are viable.
These are the location options we want your views on.

The option numbering (2A, 2B, 2C) is taken from our detailed assessment report. The detailed assessment is available from www.travelwest.info/mw/portishead

Option 2A: East of Quays Avenue

700 metres from town centre.

No highway modifications needed, other than new access for the car park.

Location is close to existing residential property and would cause some localised environmental impacts.

Limited space for station forecourt and other facilities.

Car park is located across the road from the station.

Option 2B: Across Quays Avenue

600 metres from town centre.

Requires some third party land/property.

Requires some highway modifications to realign Quays Avenue and creation of a new junction at Haven View.

Option 2C: Between Serbert Road and Harbour Road

550 metres from town centre.

Requires some third party land/property, including partial demolition of property.

Closes Quays Avenue to through traffic which means highway modifications would be needed to connect Harbour Road to Serbert Road.

Highway modifications would cause some traffic impacts.

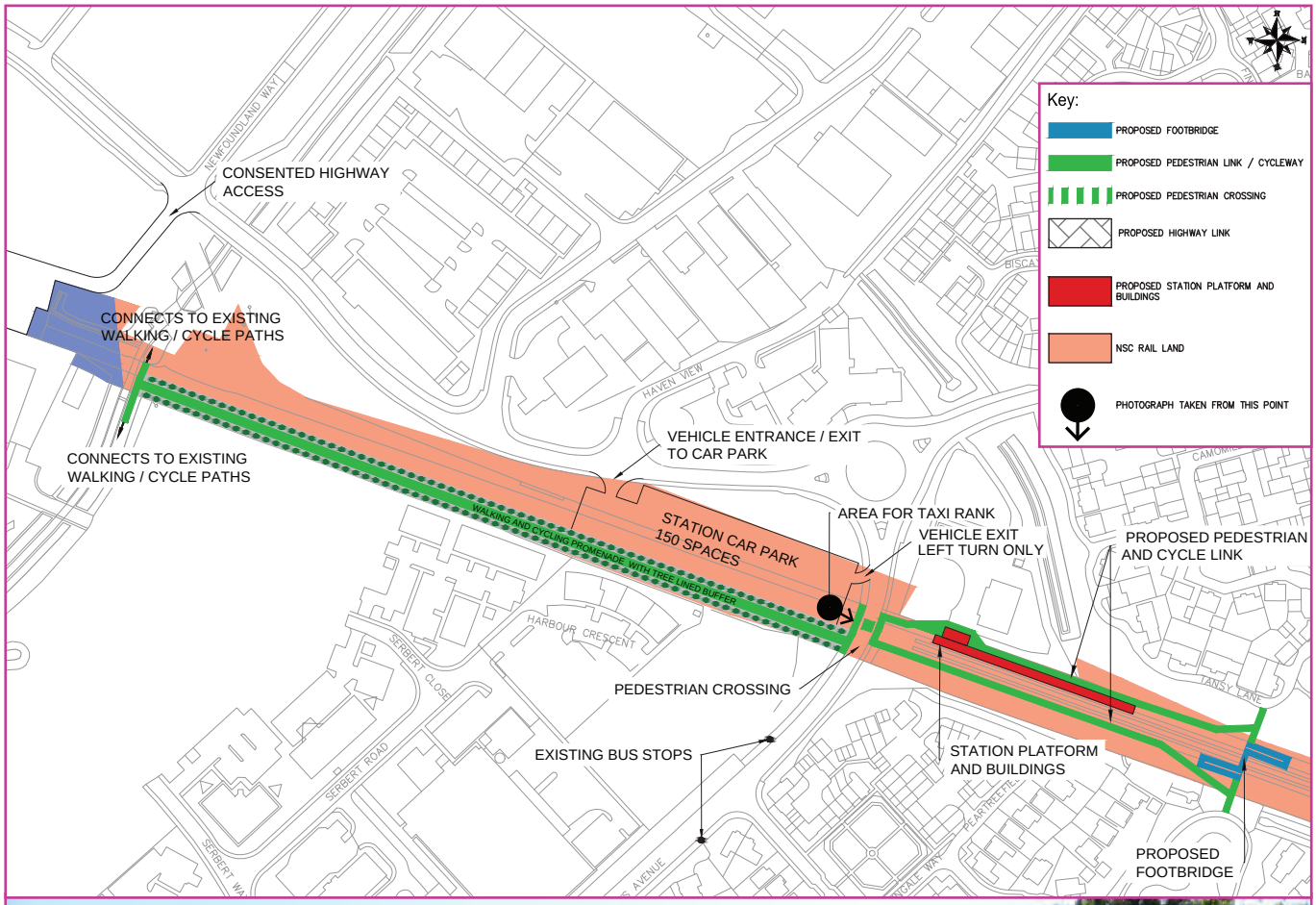
Car park is located accross the road from the station.

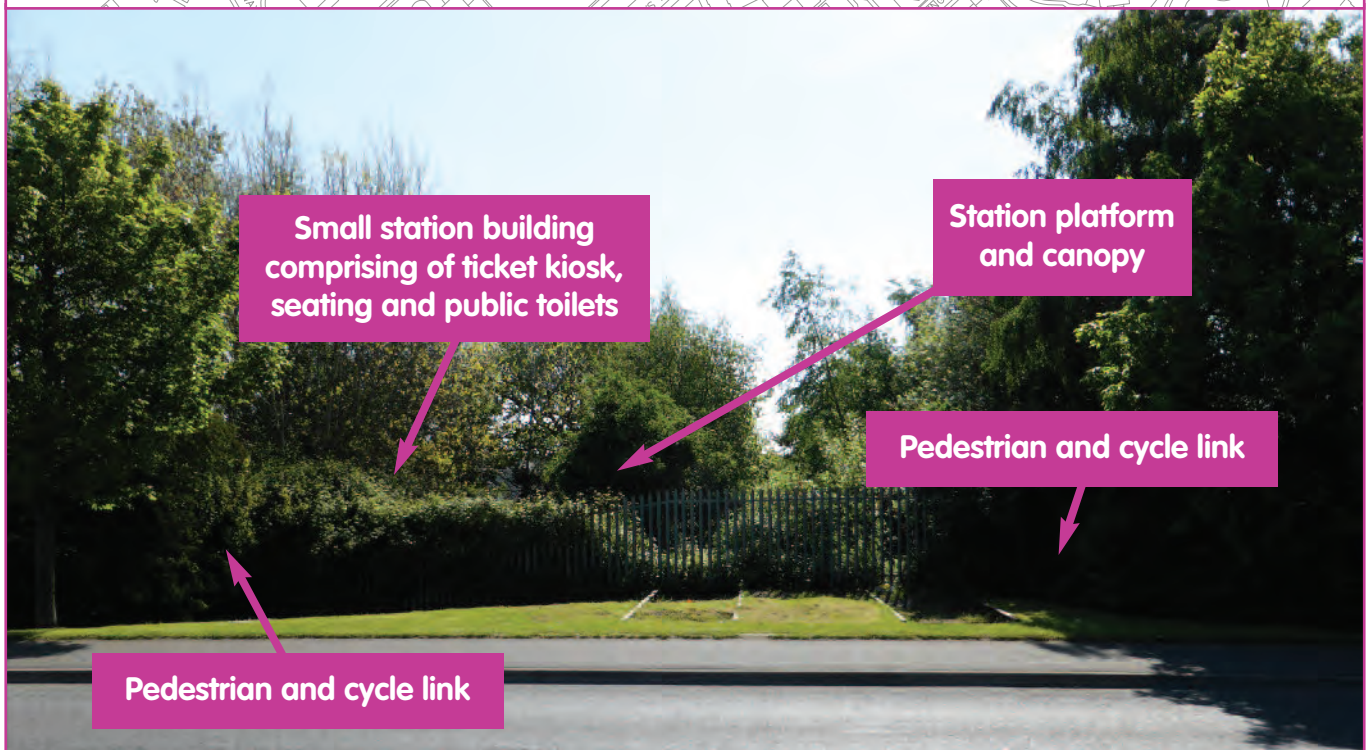
Non-viable station locations

Our assessment has shown that the following options are non-viable. We are not consulting on these options.

Location	Reasons for rejecting
Rear of Travelodge, Harbour Road 300 metres from town centre	The Office of Rail Regulation won't allow a level crossing at Quays Avenue so this option would require a road bridge over the railway. However, there is not enough room for a standard road bridge and a bridge here would need a steep slope which would reduce visibility for drivers. Traffic lights would also be required. The bridge would have a significant environmental impact and would be very close to existing residential and commercial properties. The highway would be raised over five metres above the existing level. A bridge would also cost more than available funding and compromise the project's business case.
Opposite Pure offices, Harbour Road 400 metres from town centre	Adverse impact on commercial businesses because it requires significant third party land/property. Requires closure of Quays Avenue to through traffic and a new highway link from Harbour Road to Wyndham Way. There is very limited space available so this link would have to connect onto Old Mill Road providing a very indirect route. The new highway link would increase pressure on key junctions and create delays and longer journey times. This is unlikely to be acceptable to North Somerset Council as the highway authority.
North of Moor Farm, Sheepway 1.3 kilometres from town centre	Location is not within easy walking distance of the town centre. Has a much lower catchment of households within 1 kilometre. Requires a new highway link and junction. Location is close to some existing residential properties and is in the green belt.

Option 2A: location and details

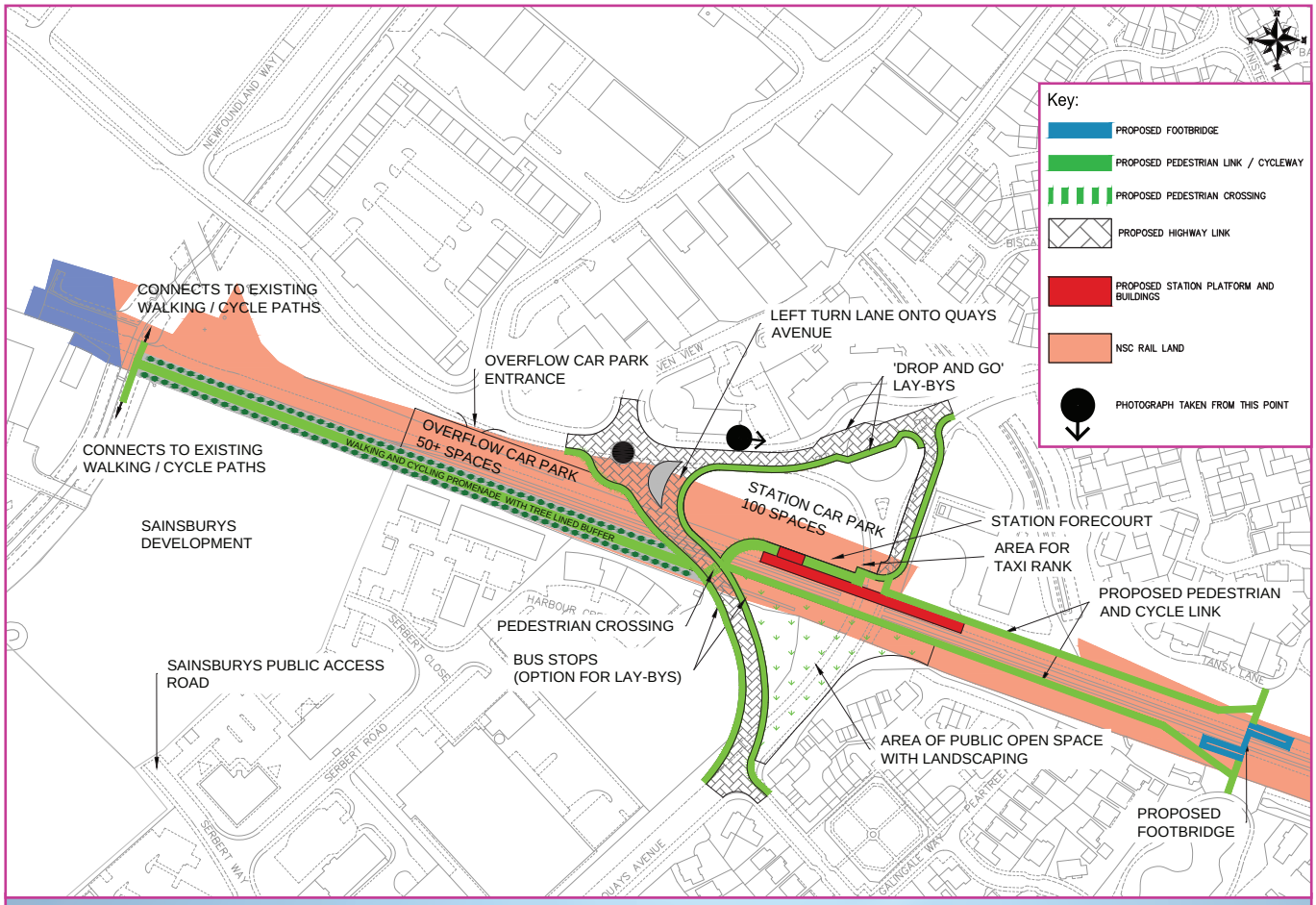


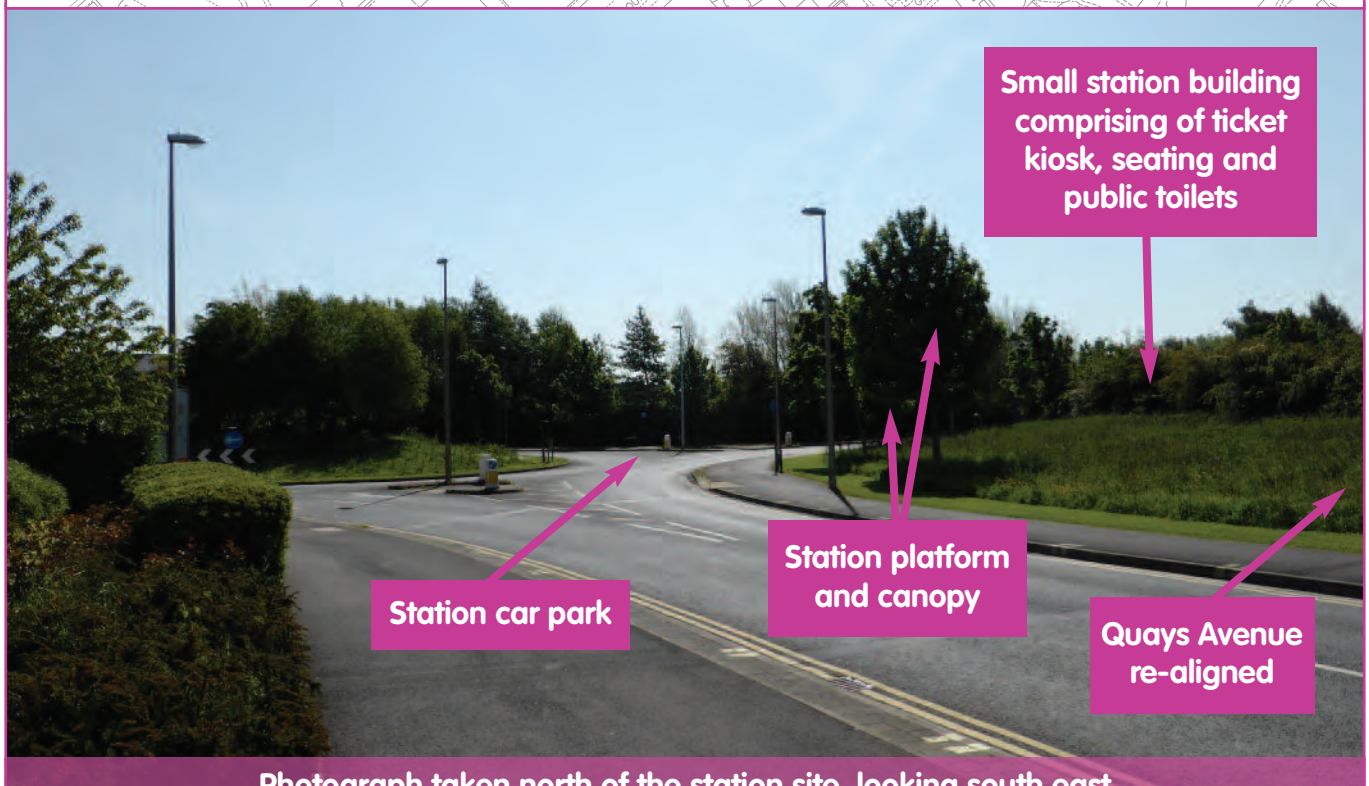


Photograph taken west of the station site, looking east

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Option 2B: location and details

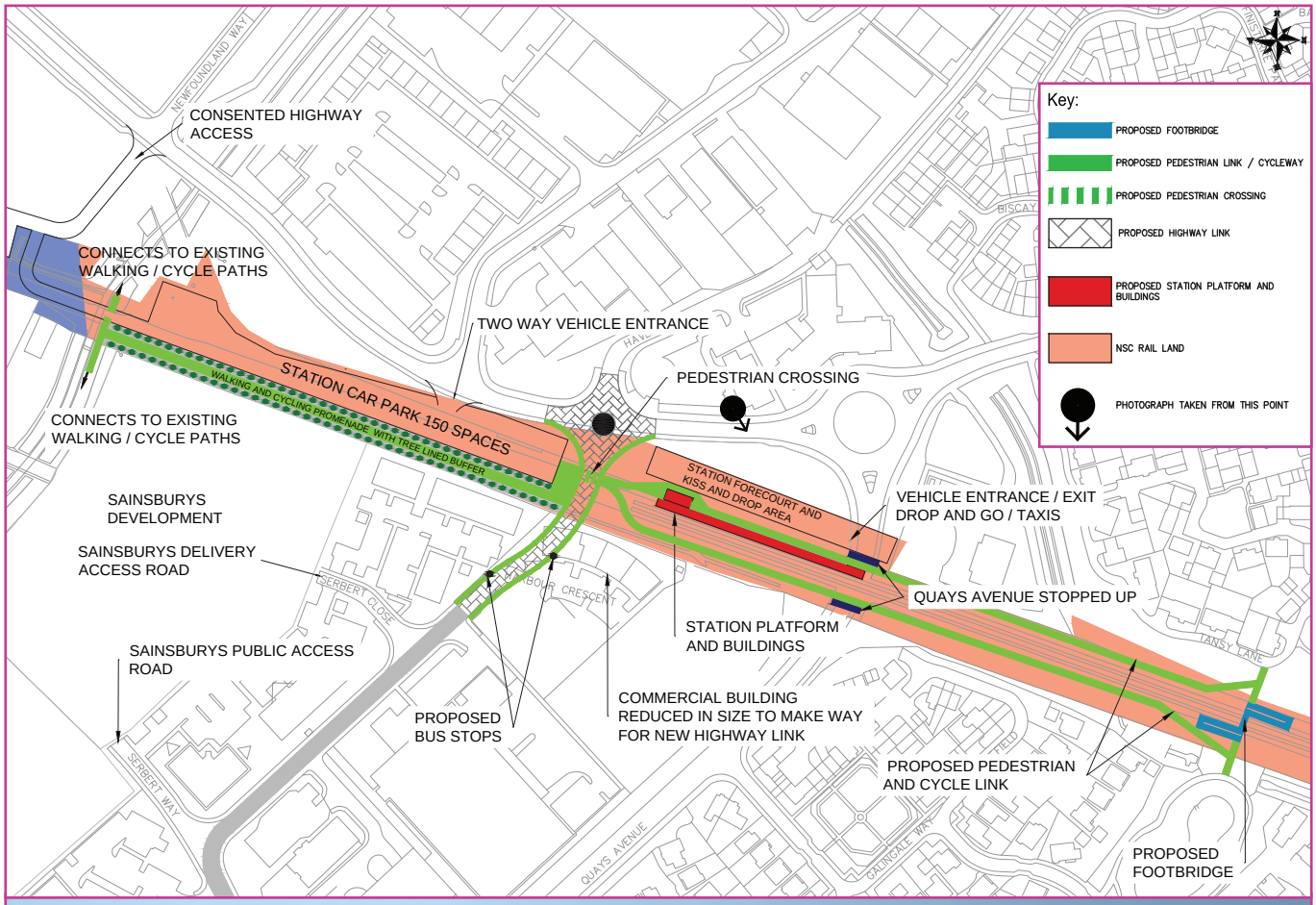


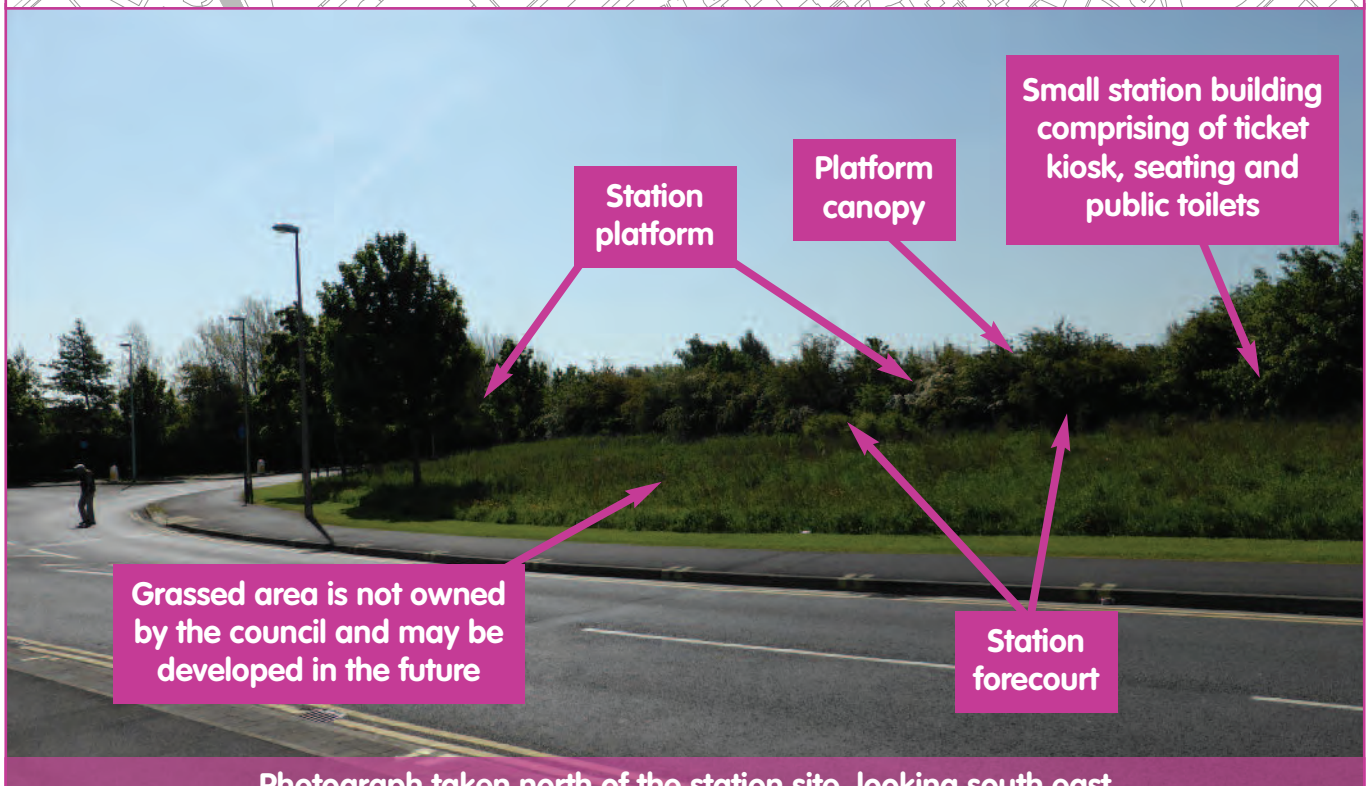


Photograph taken north of the station site, looking south east

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Option 2C: location and details

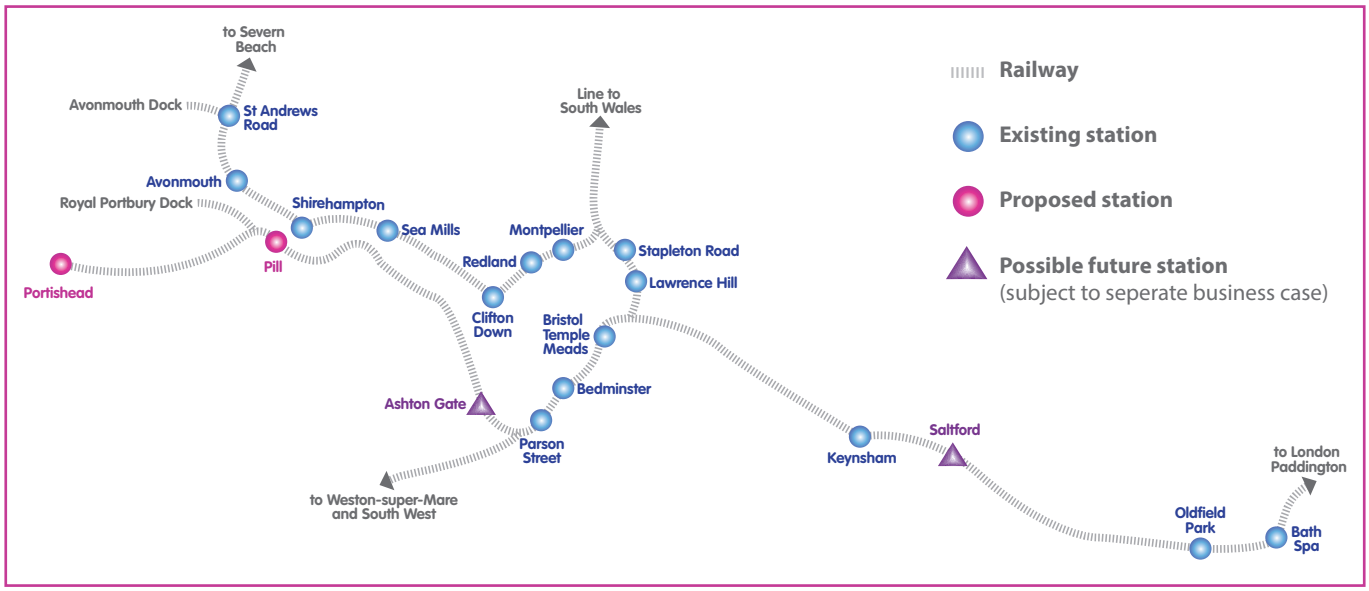




Photograph taken north of the station site, looking south east

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MetroWest Phase 1







The MetroWest services need to fit into the busy national rail network. To ensure this we are investigating different options for the routing of trains between the three rail lines: Severn Beach, Bath and Portishead via Bristol Temple Meads.

Part of the Portishead line is used by freight trains to Royal Portbury Dock, at Bristol Port. The Port is an international gateway that is important to our local, regional and national economy and capacity on the Portishead line must be retained for freight trains.

MetroWest Phase 1 will upgrade the train service for Avonmouth and stations to Bristol Temple Meads to half-hourly. At this early stage we don't yet know if the service for St Andrew's Road and Severn Beach stations can be upgraded to half-hourly, but we intend to introduce at least an hourly service. We are also investigating increasing train services to Parson Street and/or Bedminster.

Although the Bath line has a frequent train service, not all trains stop at Keynsham and Oldfield Park, which currently only have an hourly service for most of the day. MetroWest Phase 1 will introduce a half-hourly service for these two stations.

The new train service to Bath will require a site for empty trains to turn around near Bathampton Junction with a short section of additional track and signalling.

Summary of MetroWest Phase 1

- Reopen the Portishead to Pill railway line
- Construct station at Portishead
- Reopen former station at Pill (westbound platform)
- Double track works at Pill and Ashton Gate
- Improve road access for maintenance at Pill tunnel
- Environmental mitigation measures
- Improve Parson Street Junction, including line works from the junction to Temple Meads
- Install additional signal at Avonmouth station and re-signal entire line between Portishead and Temple Meads
- Construct turnback at Bathampton with short section of additional track and signalling

MetroWest Phase 1 timescales

2014 – 2016

- Consultation on station options
- Detailed project engineering design, environmental assessment and business case
- Formal project consultation for major planning application
- Detailed technical work and preparation for major planning application
- Project procurement

2017

- Planning consent awarded
- Procurement completed
- Full business case completed
- Funding approval and contractual arrangements finalised
- Begin construction

2019

- Construction completed
- Train services operating from Spring 2019





Accessibility

The new station will be designed to meet all statutory accessibility standards, this means it will be as step-free as possible. There will be accessible routes from the station entrance to the platform and any footbridges will have ramps. Step-free access not only benefits disabled people or those with reduced mobility but also people with children, heavy luggage or shopping.

The above are indicative only and assume positive outcomes on the project business case, allocation of funding for construction and for the train service, statutory processes, technical and legal approvals and contractual arrangements.

MetroWest

Have your say on the location for Portishead rail station

We are holding two exhibitions at:
Portishead Methodist Church, High Street, Portishead BS20 6EN

- **Tuesday 24 June, 1pm to 6.30pm**
- **Saturday 28 June, 10am to 2pm**

The three station options will be displayed at both exhibitions. The MetroWest project team will also be there to discuss the options and the project.

We will publish a summary of the consultation responses later this summer on our website: **www.travelwest.info/mw/portishead**

North Somerset Council will use your views to inform their decision later this year on where Portishead rail station will be located.



How to comment

- Complete the online form at **www.travelwest.info/mw/portishead**
- Fill in the form opposite and send it to: MetroWest, Engine Shed, Station Approach, Temple Meads, Bristol, BS1 6QH
- Give your completed leaflet to us at one of our exhibitions at Portishead Methodist Church

The consultation lasts for six weeks and closes on **28 July 2014**, so make sure you return your response to us by this date.

Your feedback

What do you think about the three station location options?

Option 2A:

Option 2B:

Option 2C:

On the basis that one of the three station locations is selected, would you use the station? ☐ Yes ☐ No

Are you a resident, commuter or responding on behalf of a business or community organisation?

Tick more than one if appropiate.

☐ Portishead resident ☐ Business ☐ Community organisation ☐ Commuter from Portishead

☐ Commuter to Portishead ☐ Other (please state)

If you are replying on behalf of a business or an organisation, please give your business or community organisation's name.

Do you consider yourself to be disabled? ☐ Yes ☐ No

Name:

Address:

Postcode:

Tell us your email address and we'll add you to our mailing list.

This information is being collected by the West of England Local Enterprise Partnership. It will not be passed on to other organisations and will be kept secure in accordance with the Data Protection Act 1998.

Working with partners

The West of England councils are working with Network Rail and First Great Western to deliver MetroWest. This means we have to follow rail industry requirements and make sure that the new MetroWest train services do not cause problems with the operation of the existing national rail network.

Next steps

We'll be providing more information and doing further consultation over the next 18 months. Keep an eye on the local press and our website for more details.

We'll also be working with pedestrian and cycling groups, local landowners, businesses, community groups and interest groups to keep them informed of our plans.

More information

If you want to receive regular MetroWest updates email us at **metrowest@westofengland.org**

The following websites have information about local rail projects:

- **www.travelwest.info/metrowest**
- **www.severnside-rail.org.uk**
- **www.n-somerset.gov.uk/prs**
- **www.severnbeachline.org**

Contact us

MetroWest, Engine Shed, Station Approach, Temple Meads, Bristol BS1 6QH
metrowest@westofengland.org

travelwest
www.travelwest.info

24474 06/14

Consultation on the location for Portishead rail station

MetroWest





Have your say

We would like to hear your views on three options for the location of a new rail station in Portishead.

The consultation is now open and runs for six weeks until 28 July 2014. Come along to one of our exhibitions at Portishead Methodist Church, High Street, Portishead BS20 6EN on **Tues 24 June (2pm to 6.30pm)** or **Sat 28 June (10am to 2pm).**

You will be able to view the options in detail, discuss them with the MetroWest project team and give your feedback.

You can also view the options and submit your comments online at **www.travelwest.info/mw/portishead**

travelwest

Bath & North East Somerset, Bristol, North Somerset and South Gloucestershire councils working together to improve your local transport

MetroWest Phase 1

Reopening the Portishead railway line for passenger services

The West of England councils are working together on proposals which will invest up to £100 million in improvements to our local rail network, over the next five to ten years.

MetroWest Phase 1 will reopen the Portishead line to passenger train services and introduce half hourly train services for the Severn Beach line and the Bath Spa to Bristol line.

Station location

Since the MetroWest Phase 1 project began in 2013 we've done substantial work to identify and assess options for the location of Portishead rail station.

This work has been informed by feedback from consultation we carried out in spring 2013 and following confirmation from the Office of Rail Regulation that a level crossing at Quays Avenue will not be allowed.

We would now like to hear your views on three options for the location of a new rail station in Portishead.

More information

www.travelwest.info/mw/portishead • www.n-somerset.gov.uk/prs

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Metro West @MetroWestRail · Jun 13
MetroWestRail service would be 17m trip from Portishead to Bristol. We want your views on Portishead station location bit.ly/TRkjRy
Expand Reply Retweet Favourite More

Metro West @MetroWestRail · Jun 13
MetroWest will reopen the Portishead to Bristol rail line! We want your views on location of Portishead station bit.ly/TRkjRy
Expand Reply Retweet Favourite More

Metro West @MetroWestRail · Jun 13
We want your views on 3 potential locations for Portishead railway station. Take part in our consultation here: bit.ly/TRkjRy
Expand Reply Retweet Favourite More

In north somerset @Innorthsomerset · Jun 13
Where do you want #**Portishead** rail **station** to be? Have your say innorthsomerset.co.uk/news
Expand Reply Retweet Favourite More

FOSBR @FOSBR · Jun 13
MT "@**MetroWestRail**: Rail service cd be 17m fm Portishead to Bristol. give your views on Portishead station location bit.ly/TRkjRy"
Bristol, City of Bristol
View conversation Reply Retweet Favourite More

The Cube Microplex followed
lauralovesit @lauralovesit2 · Jun 15
Good news for #Bristol #publictransport. More trains please. **Portishead** railway station location **consultation** begins bbc.co.uk/news/uk-englan…
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Country Railway @CountryRailway · Jun 15
BBC News - **Portishead** railway station location **consultation** begins bbc.in/1kVV36W
Expand Reply Retweet Favourite More

Richard Sergeant @richardsergeant · Jun 15
Portishead railway station location **consultation** begins bbc.co.uk/news /uk-englan… >such a good initiative. Their house £ will rocket too
Expand Reply Retweet Favourite More

Lookaburra SouthWest @LookaburraSW · Jun 15
#bristol Public consulted on railway station: A public **consultation** begins to decide where a new **Portishead** ra... bbc.in/1mYZzhM
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Metro West @MetroWestRail · Jun 16
@BristolPost report on consultation on location of Portishead railway station bit.ly/1i3rPUx pic.twitter.com/pRCg0lvxl7



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Metro West @MetroWestRail · Jun 16
@BBCBristol report on Portishead railway station consultation bbc.in/1q37nTB
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Metro West @MetroWestRail · Jun 19
Where should the railway station in Portishead go? Let us know! bit.ly/TRkjRy pic.twitter.com/3qnlJLFveu



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Metro West @MetroWestRail · Jul 18
We still want your views on 3 options for location of **Portishead** rail station! Our **consultation** closes on 28 June : bit.ly/TRkjRy
Expand Reply Retweet Favourite More

Metro West @MetroWestRail · Jun 20
Lots of great news in @WofEnglandLEP newsletter, including Portishead rail consultation: eepurl.com/XgrJz pic.twitter.com/kozLApzhsR



Expand Reply Retweet Favourite More

Roll for the Soul and 1 other followed
Ian Barrett @IanBarrettSW · Jun 23
Have your say on the location for a new railway station in #Portishead - 3 options being considered by @**Metrowestrail** ow.ly/yi3ov
Expand Reply Retweet Favourite More

Metro West @MetroWestRail · Jul 25
Our consultation on the options for the location of Portishead rail station ends on Monday, have your say at bit.ly/TRkjRy
Expand Reply Retweet Favourite More

Metro West @MetroWestRail · Jun 26
Portishead to Bristol rail line is coming! Journey will take 17mins. We want your views on 3 station location options bit.ly/TRkjRy
Expand Reply Retweet Favourite More

Metro West @MetroWestRail · Jun 25
Great to see so many enthusiastic people at our exhibition about options for Portishead rail station yesterday! pic.twitter.com/C0GpC8V6Xx



Expand Reply Retweet Favourite More

Metro West @MetroWestRail · Jun 27
Find out about location options for Portishead rail station @ Portishead Methodist Church, 10am-2pm TOMORROW! pic.twitter.com/kzJadQJFeL



Expand Reply Retweet Favourite More

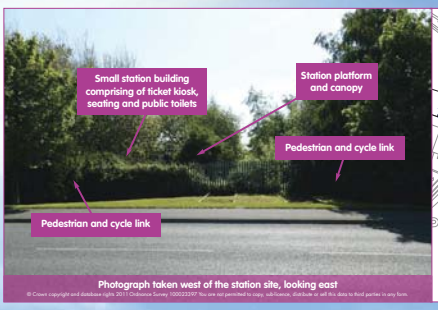
Go Green Bristol @GoGreenBristol · Jun 29
CONSULTATION ON OPTIONS FOR LOCATION OF **PORTISHEAD** RAILWAY STATION
travelwest.us3.list-manage1.com/track/click?u=… @MetroWestRail
Expand Reply Retweet Favourite More

Metro West @MetroWestRail · Jul 7
We want your views on 3 options for Portishead railway station, consultation ends on 28 July: travelwest.info/mw/portishead
Expand Reply Retweet Favourite More

John Darvall @johndarvall · Jul 9
You have until the end of July to have your say - 'town centre site for **Portishead rail** station' say cllrs po.st/c0xcrv via @po_st
Expand Reply Retweet Favourite More

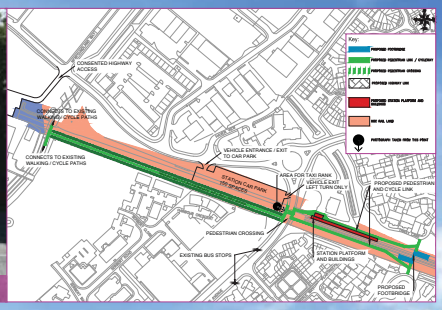
Portishead rail station **Option 2A:** location and details

MetroWest **Option 2A:** location and details



Photograph taken west of the station site, looking east

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Option 2A: East of Quays Avenue

700 metres from town centre.

No highway modifications needed, other than new access for the car park.

Location is close to existing residential property and would cause some localised environmental impacts.

Limited space for station forecourt and other facilities.

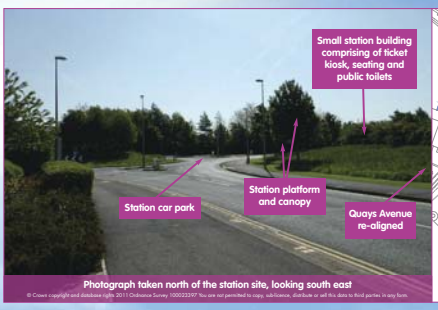
Car park is located across the road from the station.

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Portishead rail station **Option 2A:** location and details

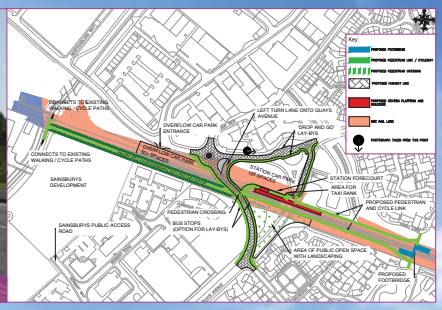
Portishead rail station **Option 2B:** location and details

MetroWest **Option 2B:** location and details



Photograph taken north of the station site, looking south east

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Option 2B: Across Quays Avenue

600 metres from town centre.

Requires some third party land/property.

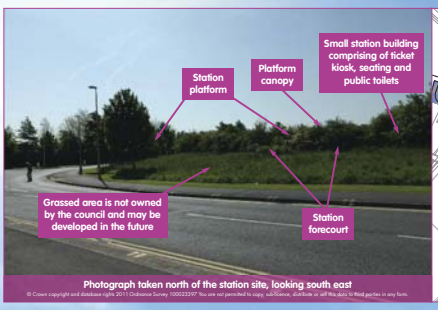
Requires some highway modifications to realign Quays Avenue and creation of a new junction at Haven View.

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Portishead rail station **Option 2B:** location and details

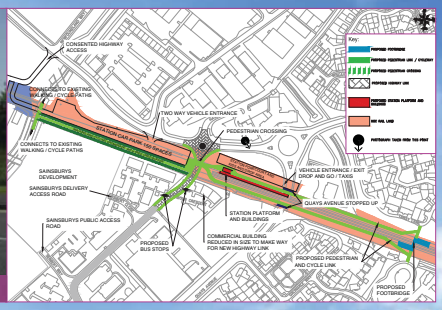
Portishead rail station **Option 2C:** location and details

MetroWest **Option 2C:** location and details



Photograph taken north of the station site, looking south east

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Option 2C: Between Serbert Road and Harbour Road

550 metres from town centre.

Requires some third party land/property, including partial demolition of property.

Closes Quays Avenue to through traffic which means highway modifications would be needed to connect Harbour Road to Serbert Road.

Highway modifications would cause some traffic impacts.

Car park is located accross the road from the station.

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Portishead rail station **Option 2C:** location and details

Location for **Portishead rail station**

MetroWest





Consultation on the location for Portishead rail station

How to comment

- Complete the online form at **www.travelwest.info/mw/portishead**
- Send your completed leaflet to: MetroWest, Engine Shed, Station Approach, Temple Meads, Bristol BS1 6QH
- Give your completed leaflet to us at one of our exhibitions at Portishead Methodist Church

The consultation lasts for six weeks and closes on **28 July 2014**, so make sure you return your response to us by this date.

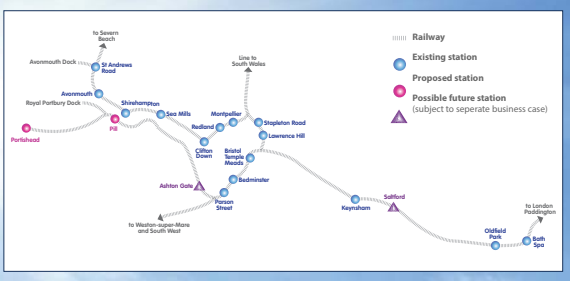
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Bath & North East Somerset, Bristol, North Somerset and South Gloucestershire councils working together to improve your local transport

Location for **Portishead rail station**

Improvements to our **local rail network**

MetroWest Phase 1







Summary of MetroWest Phase 1

- Reopen the Portishead to Pill railway line
- Construct station at Portishead
- Reopen former station at Pill (westbound platform)
- Double track works at Pill and Ashton Gate
- Improve road access for maintenance at Pill tunnel
- Environmental mitigation measures
- Improve Parson Street Junction, including line works from the junction to Temple Meads
- Install additional signal at Avonmouth station and re-signal entire line between Portishead and Temple Meads
- Construct turnback at Bathampton with short section of additional track and signalling

MetroWest Phase 1 timescales

2014 – 2016

- Consultation on station options
- Detailed project engineering design, environmental assessment and business case
- Formal project consultation for major planning application
- Detailed technical work and preparation for major planning application
- Project procurement

2017

- Planning consent awarded
- Procurement completed
- Full business case completed
- Funding approval and contractual arrangements finalised
- Begin construction

2019

- Construction completed
- Train services operating from Spring 2019

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Improvements to our **local rail network**

Improvements to our **local rail network**

MetroWest

The West of England councils are working together on proposals which will deliver investment of up to £100 million in improvements to our local rail network, over the next five to ten years.

The proposals, called MetroWest, are a series of projects, including large to small scale enhancements to our local rail network.

Our overall aim is to introduce fast and frequent metro rail services across the local area.

MetroWest Phase 1

MetroWest Phase 1 proposes to reopen the Portishead line to passenger train services and will introduce half-hourly train services for the Severn Beach line and the Bath Spa to Bristol line.





Portishead station location assessment

Since the MetroWest Phase 1 project began in 2013 we've done substantial work to identify and assess options for the location of Portishead rail station.

This work has been informed by feedback from consultation we carried out in spring 2013 and following confirmation from the Office of Rail Regulation that a level crossing at Quays Avenue will not be allowed.

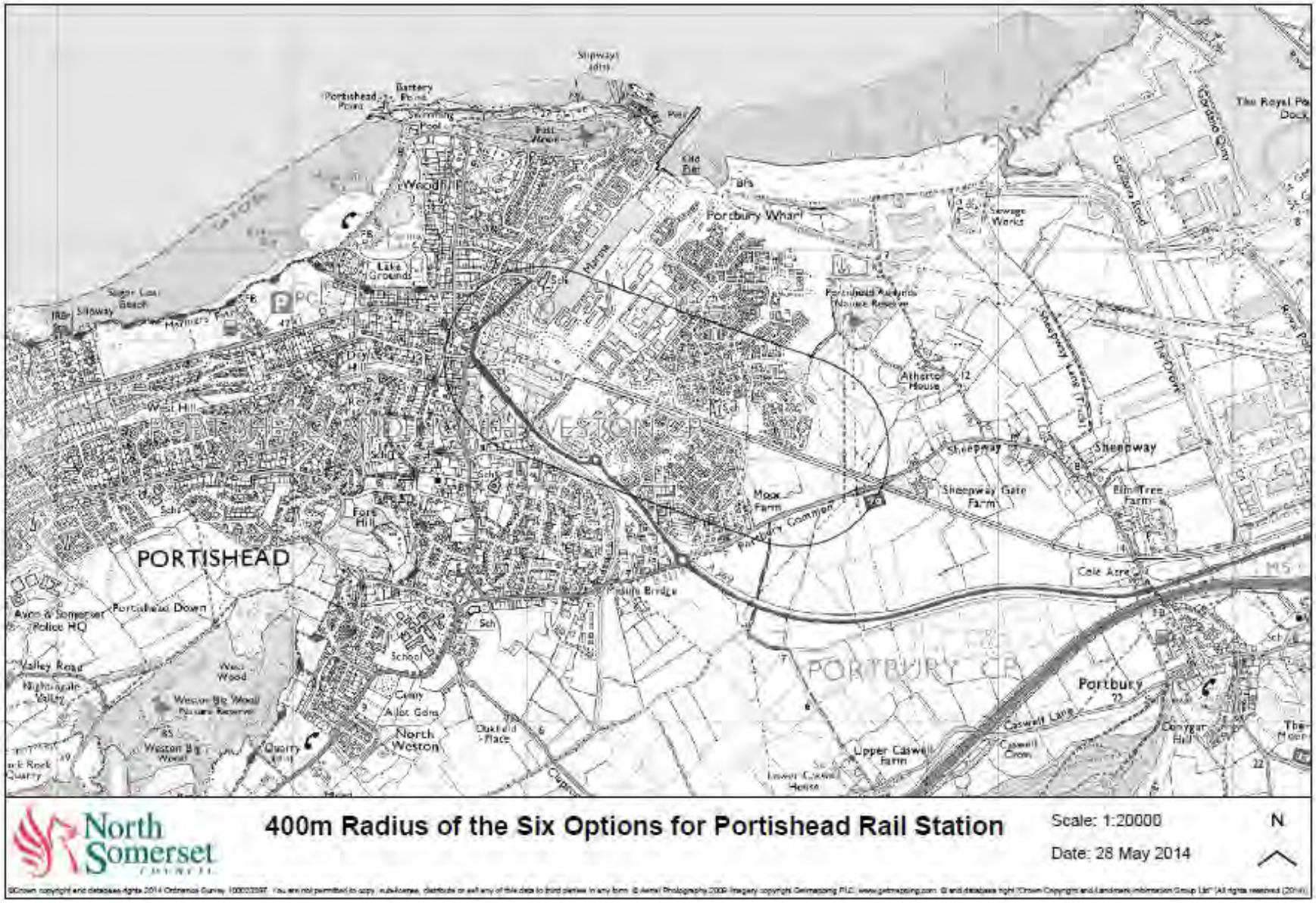
We have now identified and assessed a total of six potential station locations. These are the three locations included in the 2013 consultation plus three new potential sites.

We assessed the six potential station locations using three main criteria:
1. how each location fits with North Somerset Council planning policy,
2. the environmental and social impact of each station location,
3. deliverability of each station location.

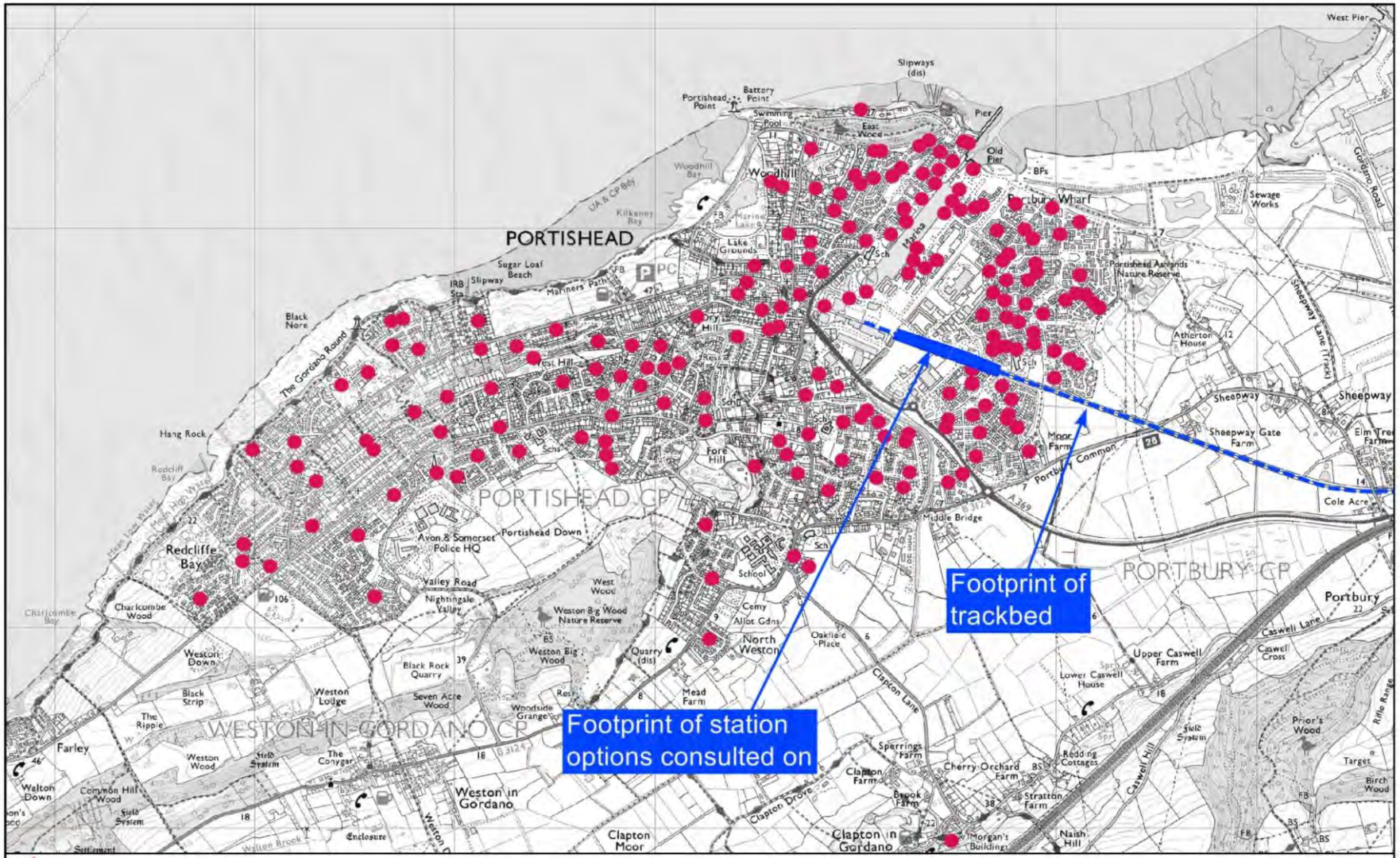
Our assessment has shown three options are potentially viable and three are not. We are now consulting with the local community, local businesses and statutory organisations on the three viable station options.

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Appendix D – Postcard distribution



Appendix E – Location of respondents



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MetroWest

Portishead Branch Line (MetroWest Phase 1)

TR040011
Applicant: North Somerset District Council

5.1 – Consultation Report and Appendices
Appendix I5: Pill Station and Ashton Vale Road alternative access micro-consultation (informal consultation)

Planning Act 2008: Sections 37(3)

Author: North Somerset District Council
Date: November 2019

NetworkRail · West of England Local Enterprise Partnership · West of England Combined Authority · HM Government · Bath & North East Somerset Council · Bristol City Council · North Somerset Council · South Gloucestershire Council · travelwest

Pill Station and Ashton Vale Industrial Estate alternative access micro-consultations report

MetroWest Phase 1

June 2016

MetroWest

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MetroWest Phase 1
Pill Station and Ashton Vale Industrial Estate alternative access micro-consultations report

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MetroWest Programme overview 5
Development Consent Order (DCO) consultation 6
Previous consultation 6

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Parties consulted 12
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3 Consultation Responses 15
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Appendices

Appendix A Pill Station design options
Appendix B Ashton Vale Industrial Estate alternative access options
Appendix C Distribution maps
Appendix D Publicity Material
Appendix E Statutory bodies letter
Appendix F List of statutory bodies
Appendix G Pill Station consultation responses
Appendix H Ashton Vale Industrial Estate responses

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1. Introduction and background

MetroWest Programme overview

1.1 The West of England Councils[1] are working together on proposals which will deliver investment of over £100 million in improvements to the local rail network over the next five to ten years, known as the MetroWest programme. It consists of a series of projects including large to small scale enhancements to the local rail network. The overall aim is to introduce fast and frequent metro rail services across the local area, by making better use of existing local passenger lines and freight lines and reopening viable disused lines.

1.2 The MetroWest programme, which includes enlarging the existing local passenger rail network, increasing the frequency of train services and extending train routes in the West of England, will complement the investment being made by Network Rail and extend the benefits of projects such as the electrification of the Great Western main line. The proposals are supported by the rail industry and are being developed with Great Western Railway, freight operating companies, the Department for Transport and Network Rail.

1.3 With so many improvements being made to the rail network over the next few years, delivering the MetroWest proposals at the same time has some challenges, and therefore a phased approach has been taken through MetroWest Phase 1, MetroWest Phase 2 and specific new station projects. MetroWest Phase 1 entails re-opening the Portishead - Bristol line to passenger train services and enhancing the train service frequency on the Severn Beach - Bristol line and the Bath - Bristol line. MetroWest Phase 2 involves re-opening the Henbury – Bristol line to passenger train services and enhancing the train service frequency on the Yate – Bristol line with an extension of the improved frequency to Gloucester being considered.

1.4 Under the Planning Act 2008, that part of Phase 1 consisting of the re-opening of the disused railway between Portishead and Pill is classed as a Nationally Significant Infrastructure Project (NSIP) and a development consent order (DCO) needs to be obtained from the Secretary of State for Transport.

1.5 MetroWest Phase 1 is being led by North Somerset District Council.

[1] Bristol City Council, Bath and North East Somerset Council, South Gloucestershire Council and North Somerset District Council

Development Consent Order (DCO) consultation

1.6 Consultation is a formal requirement for the elements of MetroWest Phase 1 that require a Development Consent Order. The Portishead Branch Line DCO Scheme comprises the reopening the branch line to Portishead, by reinstating the railway from Pill along the old alignment which closed to passengers in the 1960s and forms the NSIP, and upgrading parts of the existing freight line between Pill and Ashton Gate will be included as associated development in the application for development consent. The remaining works required at Parson Street Junction and at Bedminster, which are required to provide passenger train services all the way from Bristol Temple Meads to Portishead, will be undertaken by Network Rail under their permitted development rights.

1.7 The DCO application process requires extensive consultation with affected and interested parties. North Somerset District Council has decided to hold two formal consultation stages. In June 2015 Stage 1 of this process began, with North Somerset District Council consulting the public, statutory bodies, and stakeholders including community and local interest groups on the plans.

1.8 Following the Stage 1 consultation in 2015 and further scheme development, two areas were identified as requiring possible changes to the design; at Pill Station site and access to Ashton Vale Industrial Estate. The design changes were felt to be significant enough to consult with the local communities to explain the options and gauge opinion. These micro-consultations will enable the scheme to be developed further in more detail. This will then be followed with formal consultation (Stage 2 consultation) on the DCO part of the scheme, before the council submits the DCO application to the Planning Inspectorate. The dates for the Stage 2 consultation are not yet finalised but will be published and advertised when available. The micro-consultations are informal consultations for the purposes of the 2008 Act but will be fully considered by the MetroWest authorities before publicising the proposals for the next stage of formal consultation.

Previous consultation

1.9 Since the MetroWest Phase 1 project began in 2013, several informal consultations have taken place to help develop the proposal:

- Portishead Station Site Consultation – February 2013
- Portishead Station Options Appraisal – June 2014
- Portishead Station Location – June 2014
- Feasibility of a level crossing at Quays Avenue – December 2014
- Decision on the location of Portishead Station

- DCO Stage 1 Consultation – June 2015
- Wider engagement and consultation
  - Local Transport Body Board part of the Joint Transport Board (held in public)
  - Engagement with the West of England Local Enterprise Partnership
  - MetroWest Stakeholder meetings
  - Engagement with rail interest groups
  - MetroWest information brochures
  - TravelWest stakeholder event - 13 October 2013
  - Joint Local Transport Plan 3 - 2011 to 2026 consultation
  - Consultation on the Strategic Economic Plan (SEP)
  - Rail conference 2011
  - Memorandums of understanding
  - Consultation on Joint Spatial Plan and Joint Transport Study – November 2015
  - Consultation on planning policy documents
  - As part of the consultations on the Core Strategies of each of the four authorities, Joint Local Transport Plan, and LEP's Strategic Economic Plan.

1.10 All of these reports are available online on the following websites:

- TravelWest – www.travelwest.info/metrowest
- North Somerset Council – www.n-somerset.gov.uk
- West of England LEP – www.westofenglandlep.co.uk

2. Micro-consultations Programme

Scope

2.1 Following the publication of the DCO Stage 1 Consultation Report in late 2015, elements of the scheme have developed further and this has led to some possible design changes significant enough to be consulted on with locally affected parties. These are located in two areas:

1. Pill Station – alternative options for the station forecourt and entrance
2. Ashton Vale Industrial Estate – alternative highway route, and alternative pedestrian and cycle route

Pill Station

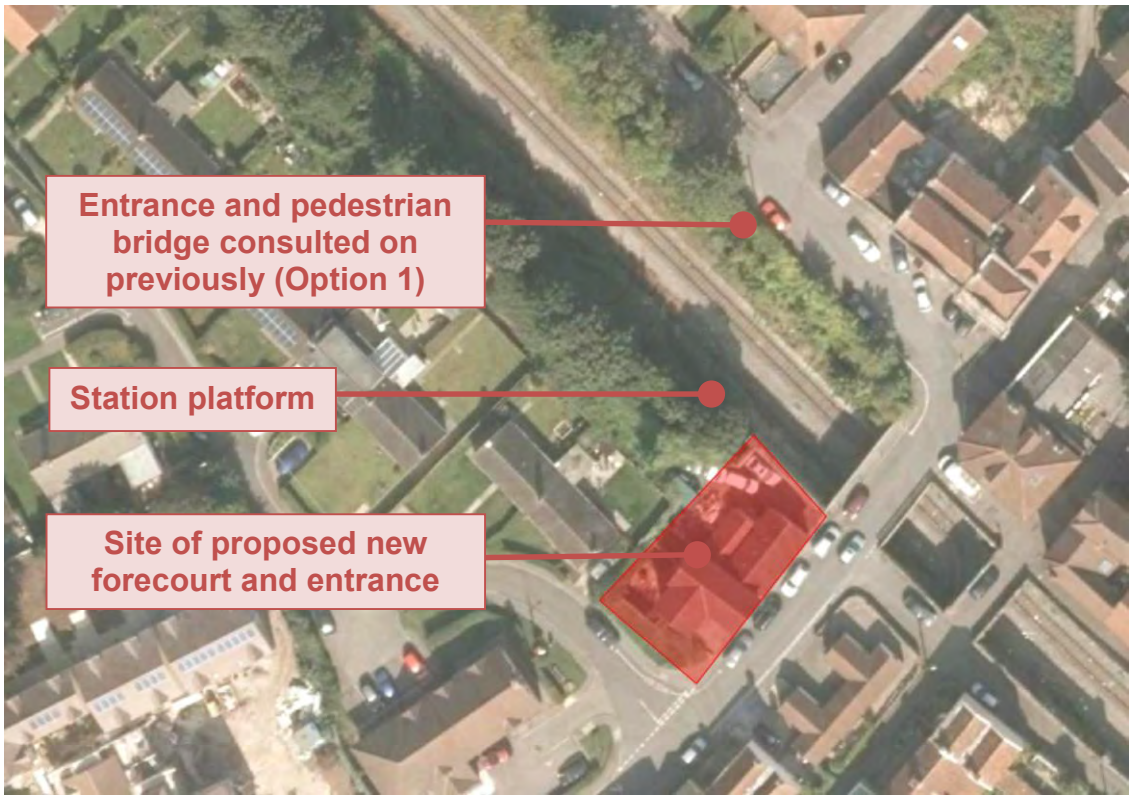
2.2 The first micro-consultation concerned changes to the proposed site of Pill Station. The area is shown in Figure 1.

2.3 The Stage 1 consultation considered a new pedestrian bridge connecting Monmouth Road to the north of the station with the pedestrian ramp leading to the renovated platform on the south side of the station.

2.4 As the scheme has developed, attention has turned to the use of the land occupied by the former station house as the entrance to the station. The demolition of the existing property would enable a small forecourt and disabled parking area to be constructed on the southern side adjacent to the platform, as well as create the opportunity for some urban design works to create a more attractive entrance to the station. Having mobility impaired parking facilities close to the platform would greatly benefit the utility of the station for those who might find parking at the proposed car park at Monmouth Road too challenging a distance. This would also remove the need for a new pedestrian bridge connecting the station ramp to Monmouth Road, reducing costs and avoiding some potentially difficult engineering constraints. The area is shown in Figure 1.

2.5 Four design options were tabled, including the original plans for the public to comment on. These are attached in Appendix A.

Figure 1 - Pill Station



Ashton Vale Industrial Estate alternative access

2.6 The second micro-consultation concerned the Ashton Vale Industrial Estate, accessed only via a level crossing on the existing freight line at Winterstoke Road to the east.

2.7 The modelling of train paths indicated that the level crossing across the highway access into the Estate would be closed to pedestrians and vehicles for a significant amount of time during each hour. This is because the introduction of passenger services and the reservation of freight train paths would result in the barriers staying down for longer and more often than they do presently. As Ashton Vale Road is the only road access to the industrial estate this could lead to significant access restrictions to the businesses located there and cause traffic queues on both sides of the level crossing on Winterstoke Road.

2.8 Alternative highway options have been designed to access the Estate to the west off the A370 / B3128 which would allow traffic to avoid crossing the railway. The six options can be viewed in Appendix B.

2.9 If the level crossing needs to be closed to vehicles, this would also apply to pedestrians and cyclists. The desire lines for these modes demonstrate the

construction of a footbridge over the railway to connect to the east would be needed. There are two alternative options which can be constructed. Option A lies to the north of the level crossing where a ramp can be constructed adjacent to Babcock connecting Ashton Vale Road with the existing A370 railway overbridge. Option B lies to the south of a new bridge constructed at the site of the Baron's Close pedestrian crossing (which will be closed due to safety grounds as a result of this scheme). The two design options are attached as Appendix B.

Figure 2 – Ashton Vale Industrial Estate



Methodology

2.10 The aim of consulting on the scheme amendments at both Pill and Ashton Vale was to ensure all parties were given the opportunity to ask questions, raise issues, or register views. This was achieved through a series of exhibitions, briefings and specific meetings, promoted through a variety of publicity materials, including online consultation websites.

2.11 The issues to be raised could vary widely depending on the individual's location or use, and these needed to be captured. Qualitative rather than quantitative means were deemed the most appropriate, with individuals, businesses and

organisations given the opportunity to respond via letter, email, or using an online form.

2.12 Both consultations were open for 28 days which was considered enough time to inform interested parties of the proposals and for them to respond with their views, given the localised issues and limited consultation areas. The consultation for Pill ran from the 22nd February to the 22nd March 2016. The Ashton Vale consultation opened on 25th February and closed on March 23rd 2016. Neither consultation coincided with any other relevant consultations, and spanned both school time and part of the Easter holiday period.

Consultation publicity material

2.13 The following consultation material was produced and distributed:

- **Letters:**
  - Pill – Approximately 100 letters containing the proposals and exhibition dates were sent to a select number of households and businesses that would be most affected by the proposed changes. These have been detailed in Appendix C.
  - Ashton Vale – Approximately 100 letters containing the proposals and exhibition dates were sent to all businesses located on the industrial estate as they all have to use the level crossing to enter and exit the estate. Letters were also sent to a small number of businesses east of the crossing which, given their proximity, may also be affected. These are also detailed in Appendix C.

- **Posters:**
  - Pill – 5 posters were attached to lamp posts at 200m surrounding the proposed station site, including Station Road and Monmouth Road; and at Pill Resource Centre
  - Ashton Vale – 7 posters were attached to lamp posts in the industrial estate; pedestrian lights at the level crossing; and on Barons Close

- **Press coverage** – Local media were not issued a press release before the consultation period began, however the change to the Pill Station design was covered in the local newspaper.

- **Online** - The TravelWest website hosts information on cross-boundary, cross-promoted transport schemes in the West of England. Within this, two consultation pages were set up which contained the consultation material, links to which were included in all correspondence and on social media. This included electronic copies of the proposals, details of the exhibition

dates and locations, background to the scheme, and previous relevant reports. The consultation pages also encouraged people to read the material or visit an exhibition before responding via the online link, in writing or by email. Some interest groups and other parties informally published the information on their websites as well. The official website addresses were:

  - www.travelwest.info/project/pill-station
  - www.travelwest.info/project/ashton-vale-road

- **North Somerset and Bristol ward Councillors** – Relevant local Councillors were emailed with details of the consultation, including the website addresses, exhibition venues, and consultation timescales.

2.14 Copies of all the publicity material produced are attached as Appendix D.

Parties Consulted

2.15 Both consultations were focussed on defined areas and specific issues. There was an aim to focus on the needs, concerns and issues of individuals directly affected by the proposals as a result of the proposed changes. It was felt that consulting wider would not have been beneficial in these circumstances and at this point in the formation of the concepts for project design.

2.16 For both areas, local residents, and businesses were identified and exhibitions held nearby during the consultation period.

2.17 Relevant statutory bodies were written to, informing them about the proposals and consultation process.

<u>Public, community and local interest groups, and businesses</u>

2.18 Exhibitions were organised during the first week of the consultations. The venues were chosen because of their close proximity to the proposed changes:

- Pill Resource Centre, Thursday 3 March, 12pm - 7pm
- Ashton Gate Stadium, Tuesday 8 March, 12.30pm – 7.30pm

2.19 At each exhibition posters showing the proposals were on display for visitors to examine (those presented in Appendices A and B). Representatives from each of the technical disciplines and partner organisations were in attendance to answer any queries. Attendees were encouraged to respond formally to the proposals via the online form, letter or email. Notes were also taken on the day to capture the issues raised.

2.20 The Ashton Vale proposals only affect businesses in the area as there are no residential properties on the industrial estate or in close proximity that would be directly affected. On the day of the exhibition at Ashton Gate Stadium, a member of the project team visited each business on the industrial estate advising them of the exhibition and invited them to attend. There had been ongoing dialogue with businesses prior to these proposals; visiting on the day of the exhibition acted as a reminder.

2.21 Given the limited focus areas and targeted publicity, both exhibitions were well attended :

Pill Resource Centre, Pill on 3 March 2016	40

Ashton Gate Stadium, Bristol on 8 March 2016	21

Statutory Bodies

2.22 For Ashton Vale Industrial Estate, it was important to contact relevant statutory bodies because of the size of the area being considered and the potential impact on the assets of the statutory bodies or sensitive receptors for which they have responsibility. The primary bodies contacted were the utility companies, with other national bodies also consulted as appropriate and relevant. An email and / or letter with information about the revised proposals and how to respond was sent to each organisation. A copy of the letter sent is attached as Appendix E and a complete list of those contacted is attached as Appendix F.

2.23 The proposals for Pill did not require significant changes to land use and so it was felt more appropriate to consult them formally at the Stage 2 consultation. Consequently, the statutory bodies were not consulted for the micro-consultation.

Engagement Period

2.24 Engagement began following promotion through the methods above in the lead up to the launch date. Respondents were asked to submit their responses online, or by email or letter. The exhibitions served as a useful way to answer some of the queries which may otherwise have been submitted as an official response, allowing people to focus their queries and register specific concerns or support.

2.25 A central MetroWest communications team provided a single point of contact for questions about the consultation process, details of events, how to respond

and where to get further information about the proposals. They also co-ordinate programme-wide consultations, ensuring there was no confusion with exactly what aspects of the project or programme views are being sought on. Finally, they worked with North Somerset Council's and Bristol City Council's communication teams to ensure compliance with their consultation guidelines.

2.26 Responses were accepted for a week after each respective closing date. The responses were recorded in a register and circulated to the relevant workstreams for consideration.

3. Consultation Responses

3.1 A total of 21 responses were received for the Pill consultation, and 45 for Ashton Vale. The majority responded online using the dedicated link, with the rest emailing or writing. Notes taken at the exhibitions corresponded with submitted responses.

Response areas

3.2 Respondents were asked to include their postcode or business address. There were a number of reasons for this. Firstly, it was necessary to ensure that the micro-consultation had been publicised widely enough to draw responses from parties most affected by the proposals. Secondly, there is a lot of historical interest in the scheme both locally and nationally and there could potentially be a need to ensure that the consultation was able to distinguish between interest groups and those who would be affected by the proposals. Postcode data would allow these groups to be disaggregated if needed. Finally it prevented the results from both micro-consultations to be swayed by lobby groups.

3.3 The targeted approach to advertising the consultation resulted in the majority of respondents that gave their postcode being from the respective targeted areas:

- Pill – 18 out of 21 stated that they lived or worked in Pill.
- Ashton Vale – 15 out of 23 stated they worked or had land interests with the industrial estate; the remainder either did not state their postcode or used their home address. Given their comments it is a reasonable assumption that these are employees based on the industrial estate.

3.4 Because of the small number of responses these have not been mapped to avoid identifying individuals or businesses.

Responses

3.5 As per the letters and emails, the format of the online form for both the Pill and Ashton Vale consultations was designed to produce qualitative results to ensure the possible wide ranging and individual issues would be captured. The responses break down as follows:

	Online / email	Letter	Statutory Bodies	**Total**
Pill	13	8	n/a	**21**
Ashton Vale	29	5	11	**45**

3.6 A full breakdown of responses for Pill Station is attached as Appendix G; for Ashton Vale Industrial Estate as Appendix H.

Results

Pill Station

3.7 Four options were consulted on for Pill Station, including the original proposal for access from Monmouth Road using a new pedestrian bridge.

3.8 There was a great deal of support for the new options that included the removal of the old station house and construction of a new forecourt with disabled parking and drop off areas.

3.9 The most popular design was option 4, with more than double the number preferring it to the second most popular (option 3). However the majority of respondents stated a preference for the use of the old station house as a forecourt regardless of layout i.e. options 2 – 4, rather than option 1. Two respondents opposed option 1 entirely.

3.10 Some specific elements of the proposals were favoured, including cycle, disabled, and drop off space being provided much closer to the pedestrian ramp on the new forecourt.

3.11 The biggest concern was parking, a view echoed in previous consultations. Respondents believe that commuters will try and park on the surrounding roads for free rather than pay to park in the station car park, exacerbating currently perceived parking issues. Suggestions to mitigate this potential issue included (in order of most commented):

1. Introducing a residential parking scheme on roads surrounding the station;
2. Making the station car park free;
3. Issuing parking permits to enable residents to use the station car park for free; and
4. Use of single yellow lines on residential streets with some time restrictions to stop commuters parking there all day (multiple submissions regarding Sambourne Lane in particular).

3.12 Traffic speeds and volumes were also of concern, particularly on Monmouth Road, Station Road, Church Walk and New Road.

3.13 There were a number of requests to remove the proposed double yellow lines on Monmouth Road which were included to enable cars to pass safely given

the restricted width and parked vehicles. Residents believe that there will be less traffic using Monmouth Road due to the possible relocation of the drop off area to Station Road making restrictions there unnecessary.

3.14 Other issues related mainly to individual concerns around lighting and bright car headlights whilst waiting in the forecourt area.

Ashton Vale alternative access

3.15 Six options were consulted on regarding the alternative highway access, and two for the alternative pedestrian and cycle access.

Highway access

3.16 The vast majority of respondents and visitors to the exhibitions favoured an alternative highway access. The levels of support for each option are:

	For	**Against**
Option 1	3	8
Option 2	3	2
Option 3	2	2
Option 4	7	2
Option 5	6	2
Option 6	7	2

3.17 There was little support for option 1 which was to retain access via the level crossing only and accommodate queueing vehicles on an extended lane on Winterstoke Road. However a significant number wished for the level crossing to remain open to vehicles and pedestrians as well as providing new accesses, rather than being permanently closed.

3.18 The exception to this was from those who have land interests or tenants on the industrial estate but who are not based there themselves. They were strongly against the closure of the level crossing, even with provision of an alternative access. Concerns were raised about the future viability of the industrial estate if the link with Winterstoke Road was removed affecting passing trade and closer connectivity to the urban area.

3.19 Options 2 – 5 had mixed responses, with the majority of negative views from those land or business owners who would be most affected by that option.

Those in favour of these options caveated their response with minor changes including:

1. providing an entrance/exit to the west of Manheim from the alternative road to prevent car transporters causing congestion; and
2. retaining the level crossing access as well as the new access, considering a one way system or restricted access for certain vehicle types to help traffic circulation.

3.20 Options 4, 5 and 6 were the most favoured.

3.21 A couple of comments related to specific issues with the design, specifically around vehicle movements and volumes of traffic which can be accommodated in the design through minor amendments. Options 4 and 5 were felt to be more appropriate through routes as they do not pass the majority of business units.

3.22 No comments were against the idea of an alternative access completely.

Pedestrian access

3.23 There were mixed opinions on the alternative pedestrian accesses. There was no clear preference between the two options, with many stating that both would be needed in the event of the level crossing being closed permanently.

3.24 Option A was seen as essential by most of those who commented given its close proximity to the level crossing. It was felt that further design considerations would be needed to ensure it was suitable for pedestrians, cyclists and the less-abled to use safely, including looking at connectivity to and from existing routes from the ramp where it meets the A370. Concerns were also raised about the security of nearby buildings adjacent to the ramp.

3.25 A number of respondents thought that the natural desire line from the industrial estate was to and from the shops and food outlets further south on Winterstoke Road. It was felt that Option A was directing people too far in the opposite direction and could lead to the creation of informal crossing points along the railway if the fence was compromised.

3.26 There were also concerns with regards to the use of the ramp on days when the stadium was in use, as large volumes of people could move onto a width restricted ramp and cause crowding close to the A370 with fast moving traffic.

3.27 Option B was a popular choice, but only if Option A was in place as well. Option B was seen to link the industrial estate, Ashton Vale and MetroBus with Winterstoke Road at a more appropriate point than Option A. Comments

regarding the stadium footfall thought that Option B was the only feasible alternative in the event of the level crossing closure, as it is the desire line for MetroBus passengers alighting at Ashton Vale and walking directly to the stadium without a lengthy detour.

3.28 However if delivered on its own, Option B was considered too far south for people wanting to enter the industrial estate from the north who would need to travel almost 600 metres further in total to reach the same point.

3.29 Many commented that the delivery of Option B should in no way compromise the future use of the site for Ashton Gate station (which is not being delivered as part of MetroWest Phase 1).

Other comments

3.30 A number of other issues were raised:

- **Operational/financial impacts** – including the effect on the long term economic viability of the industrial estate; possible compensation for affected businesses including during construction and long term impacts; opportunities to expand businesses onto unlocked land to the west; and concerns over building demolition leading to business relocation.
- **Construction impacts** – concern over disruption and timescales.
- **Impacts to cyclists and pedestrians** – concerns that alternative options could dissuade cycling and walking; lack of connectivity with existing routes; safety concerns with width of shared space routes, proximity to fast moving traffic, and crossing Winterstoke Road; and consideration should be given to more cycle and pedestrian routes and railway crossing points.
- **Traffic impacts** – concerns over potential congestion at the exit / entrance points; concerns over the ability for large vehicles to turn adequately at the junction with the B3128; concerns over the effect of traffic on the A370 due to new vehicle movements exiting Ashton Vale Road; consideration given to some business relocating their entrances should a new highway go ahead; suggest investigating ways to deal with existing parking issues in the industrial estate from lorries belonging to tenants; and consideration given to emergency vehicle access.

Statutory Responses

3.31 Responses were received from 11 bodies:

1. Bristol Port
2. Bristol Water

3. Coal Authority
4. Environment Agency
5. Instalcom
6. KCOM Group PLC
7. Verizon
8. Vodafone
9. Wessex Water
10. Western Power Distribution,
11. WWUtlities

3.32 Each of these raised their own individual issues or advised of the location of their utilities. The statutory bodies with specific issues are:

- Bristol Port – object to Option 1 and believe that the level crossing should be permanently closed to accommodate increased future freight train use;
- Coal Authority – advised that the area may have unrecorded underground coal mining at shallow depth near to both the level crossing and Barons Close;
- Environment Agency – highlighted the fact that the Agency needs constant access to their compound in the industrial estate for up to crane-sized vehicles. They will also use the MetroBus maintenance track in the future instead of the Barons Close pedestrian crossing to access Old Colliters Brook, so do not require bridge Option B. They have concerns over any of the options which would alter the brook due to flooding concerns and the impact on the flood defence system in place. Any proposals to interfere with their compound or equipment will need to be fully tested by the Agency and will likely incur fees. Options 1, 2 and 6 have less impact for them.
- Wessex Water – concerns over Option B due to the location of a sewer in the area
- Western Power – Option 6 would result in the relocation of an electricity sub-station and cost estimates are approximately ten times higher than the other options.

3.33 The various technical workstreams for the project are having continuing dialogue with the statutory bodies across the whole project area and will continue to liaise with them as the project develops.

4. Conclusion and next steps

4.1 The two micro-consultations were deemed successful in highlighting issues and gauging levels of support for the options. The consultation has raised some important issues that will help determine which options will be taken forward. A qualitative summary of all comments on both micro-consultations with a project response is included with Appendices G and H.

4.2 A small number of the responses included comments which are outside the scope of MetroWest Phase 1, with others requiring follow up discussions due to individual need. The remainder of responses raised issues which are now being considered through the development of the engineering design and wider technical case of the project.

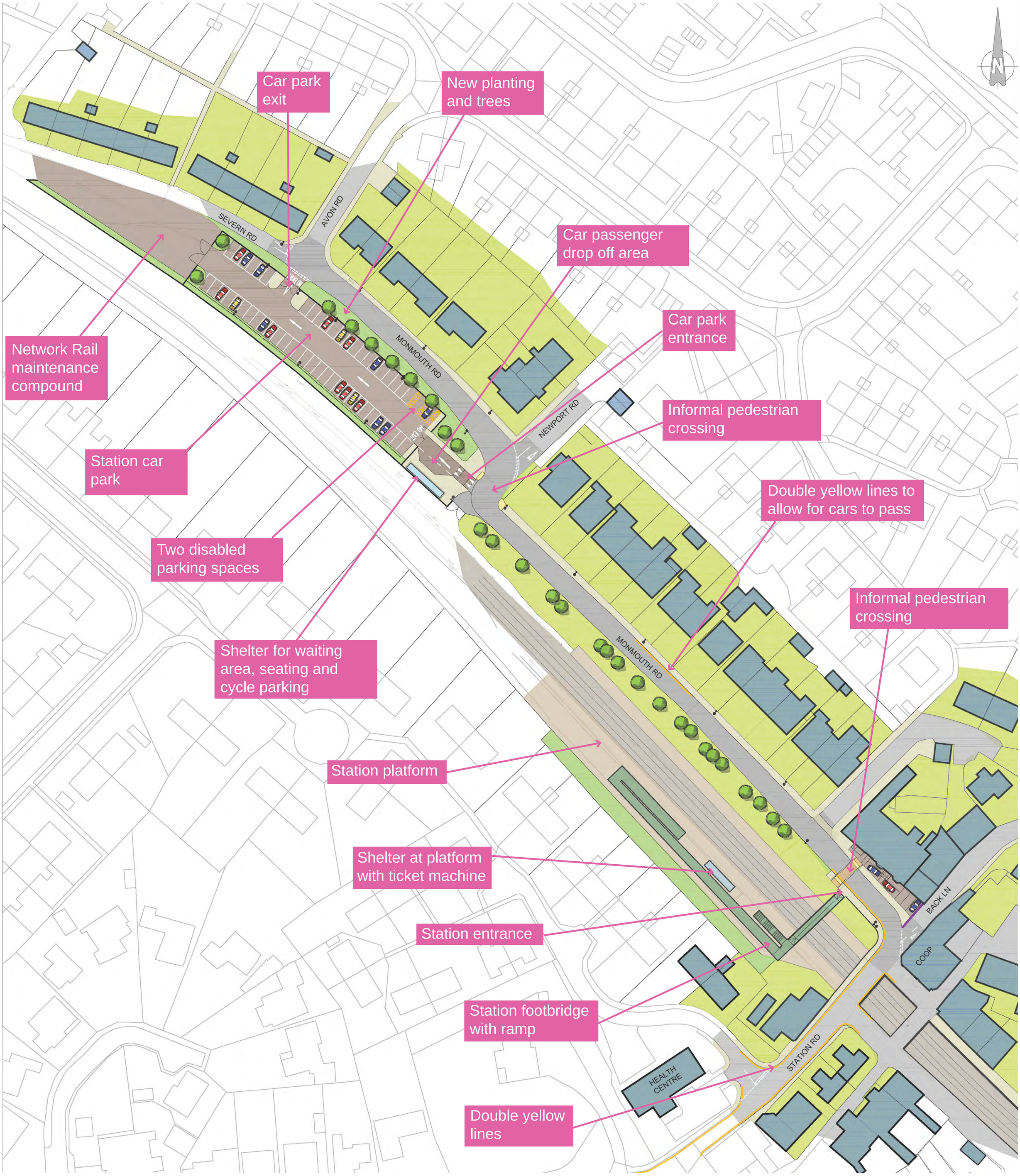
4.3 The micro-consultations have also demonstrated successful engagement with statutory bodies, businesses and interested parties on focussed issues. Once the project outline engineering design has been completed in 2016, a further consultation exercise (Stage 2 consultation) will be launched to give members of the public, statutory bodies, affected parties and wider stakeholders an opportunity to comment on the Portishead Branch Line DCO Scheme proposals, before a Development Consent Order application is submitted to the Planning Inspectorate.

Appendices

Appendix A Pill Station design options
Appendix B Ashton Vale Industrial Estate alternative access options
Appendix C Distribution maps
Appendix D Publicity Material
Appendix E Statutory bodies letter
Appendix F List of statutory bodies
Appendix G Pill Station consultation responses
Appendix H Ashton Vale Industrial Estate responses

Appendix A
Pill Station design options

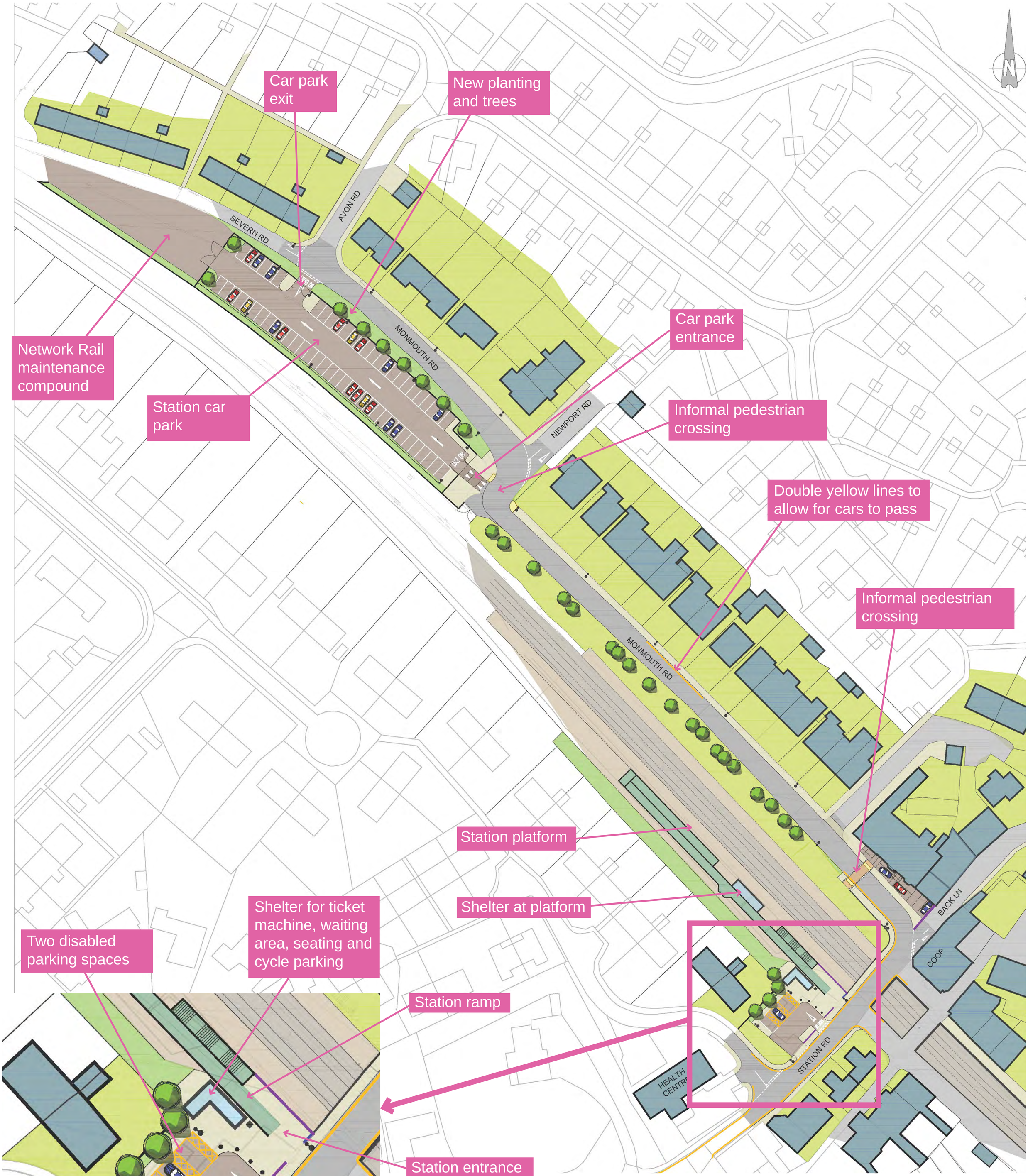
Pill station



Option-1
As consultation summer 2015

MetroWest

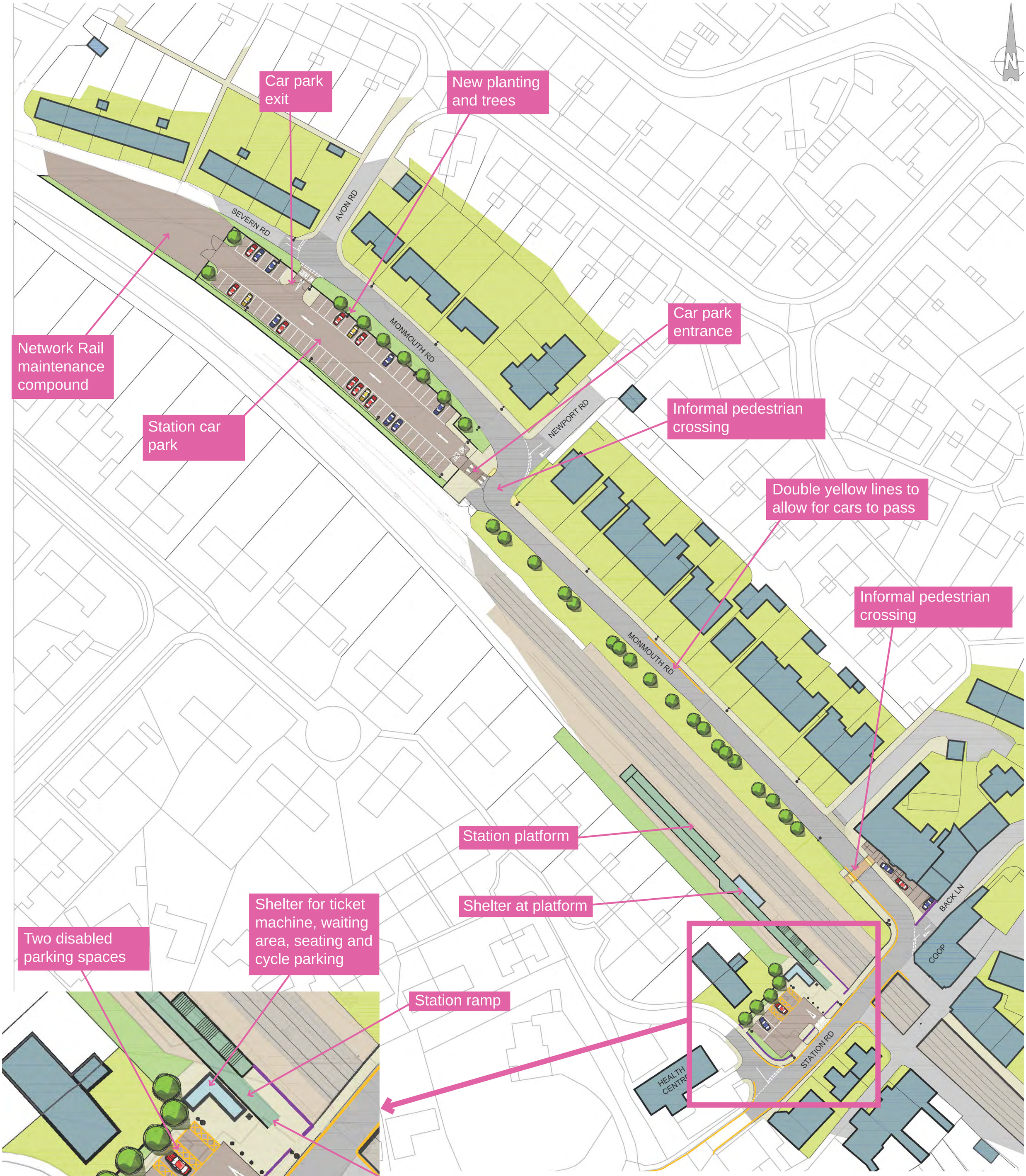
Pill station



Option-2

MetroWest

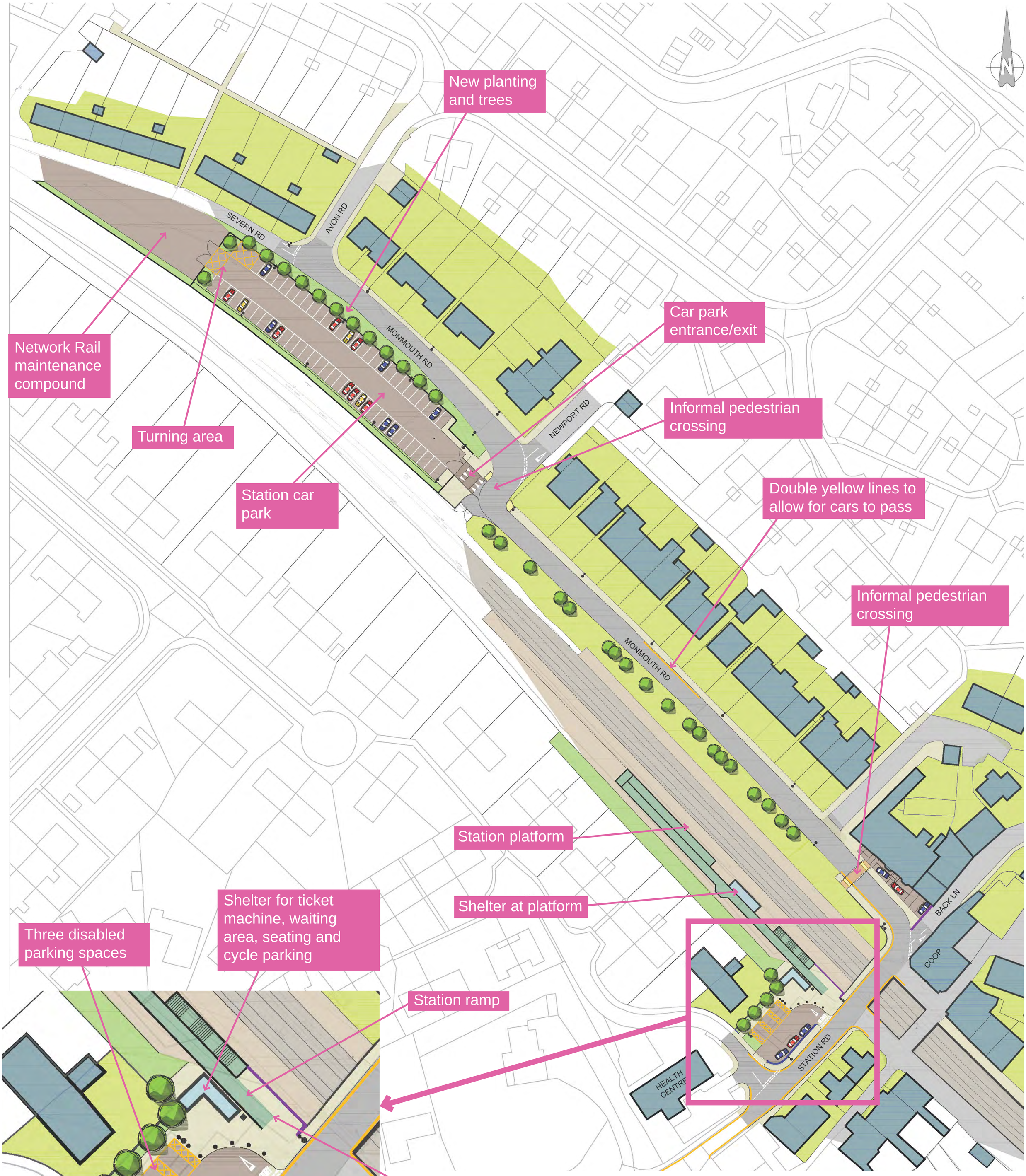
Pill station



Option-3

MetroWest

Pill station

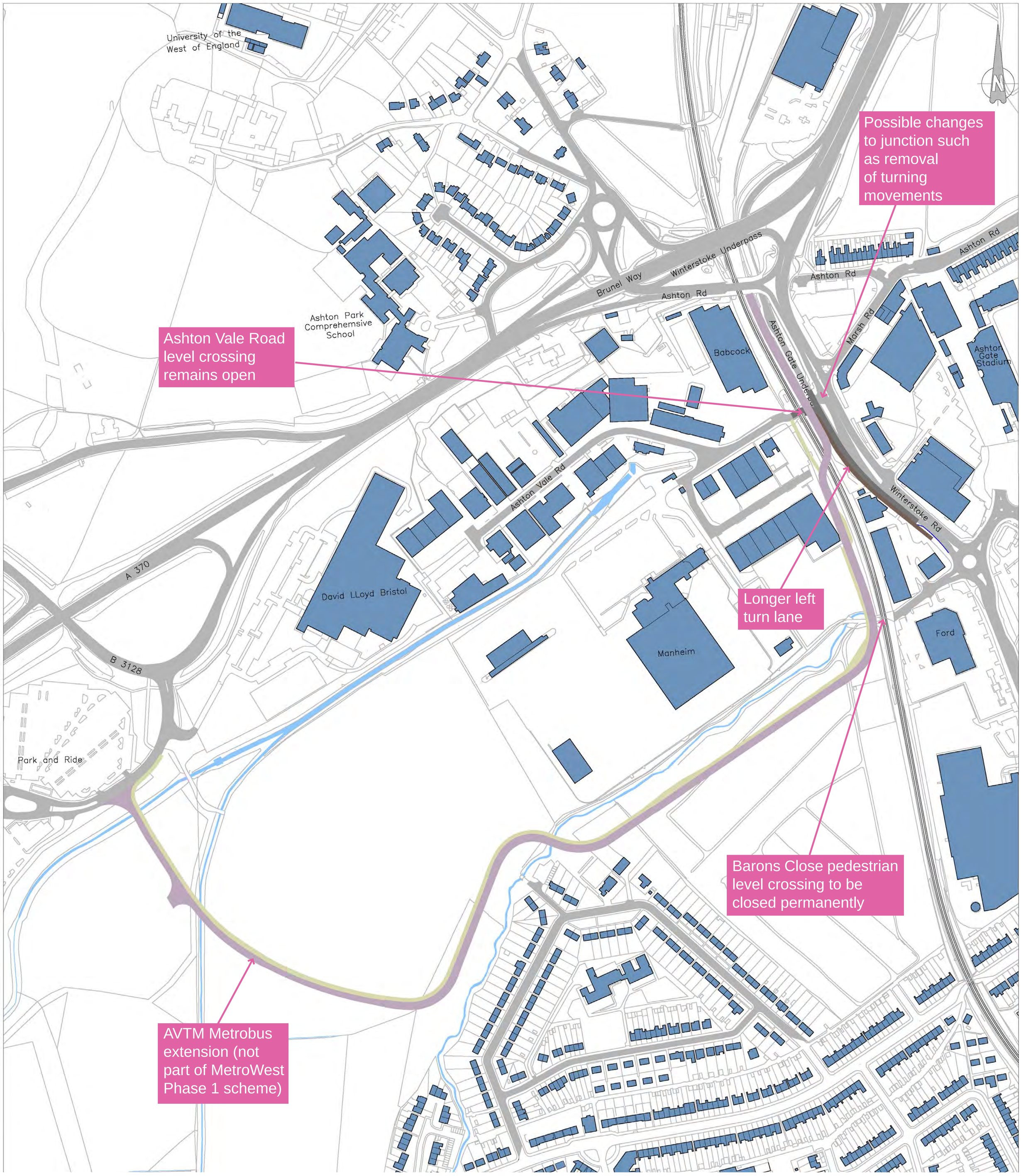


Option-4

MetroWest

Appendix B
Ashton Vale Industrial Estate alternative access options

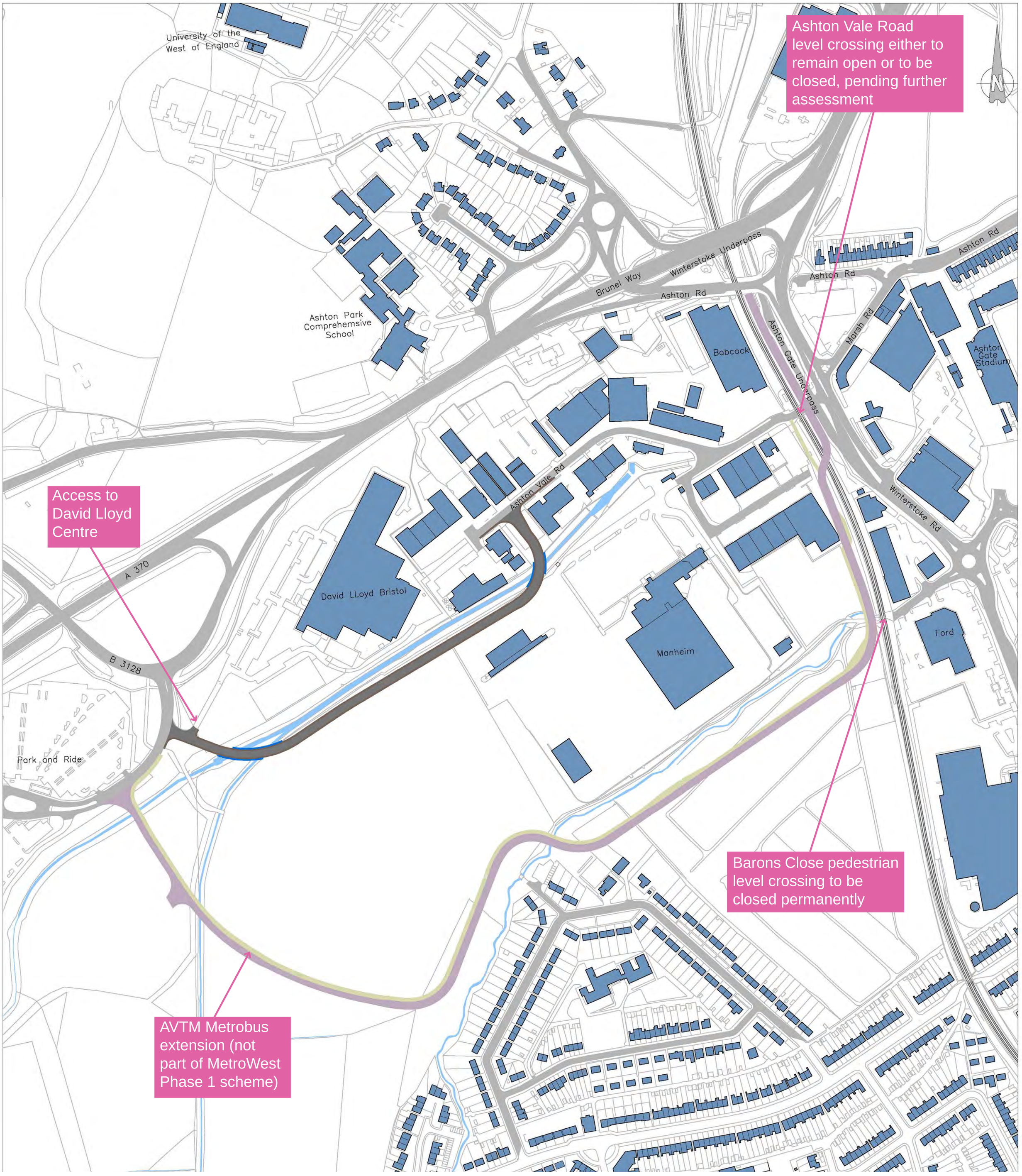
Ashton Vale Road Consultation



Option-1

MetroWest

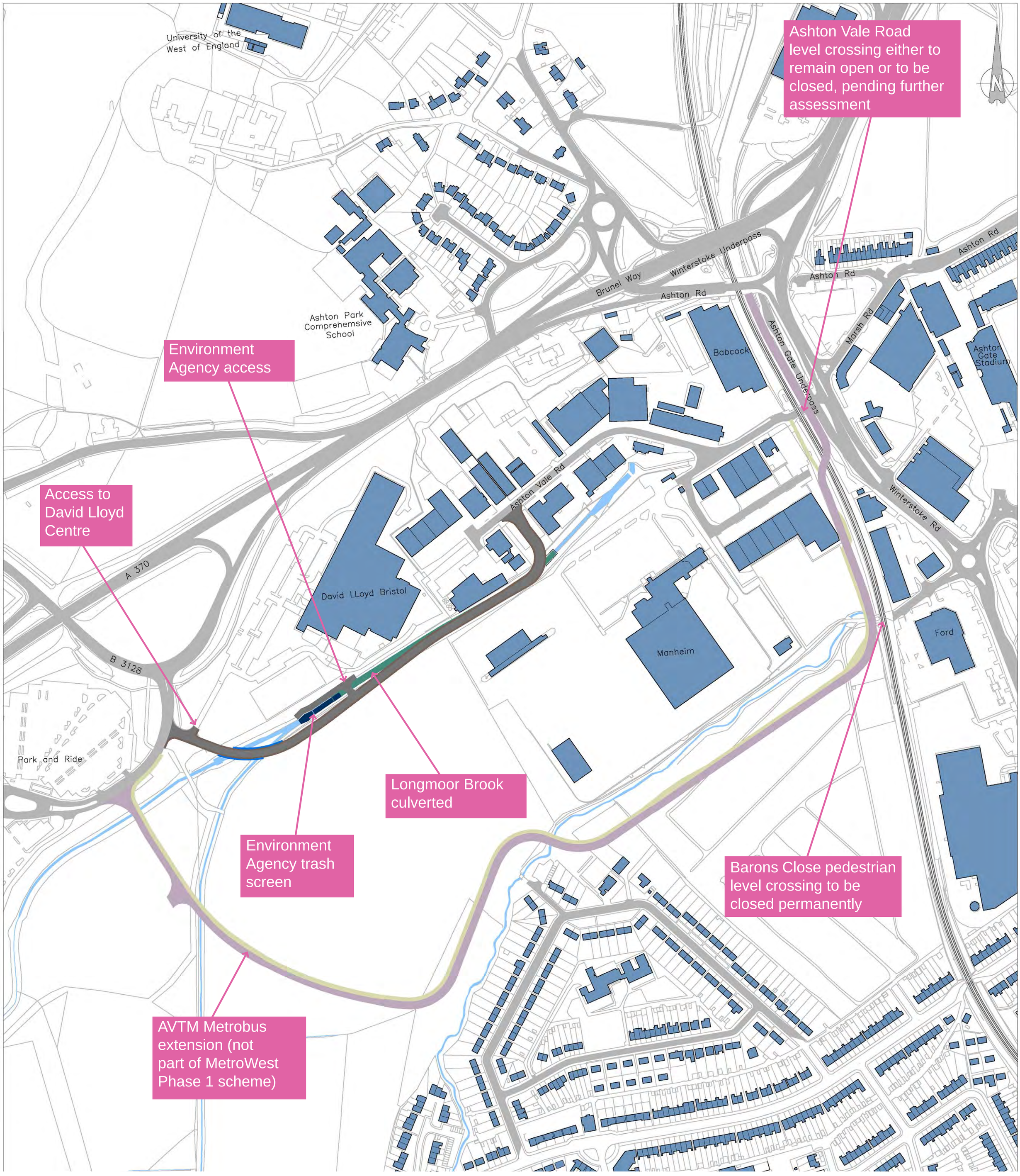
Ashton Vale Road Consultation



Option-2

MetroWest

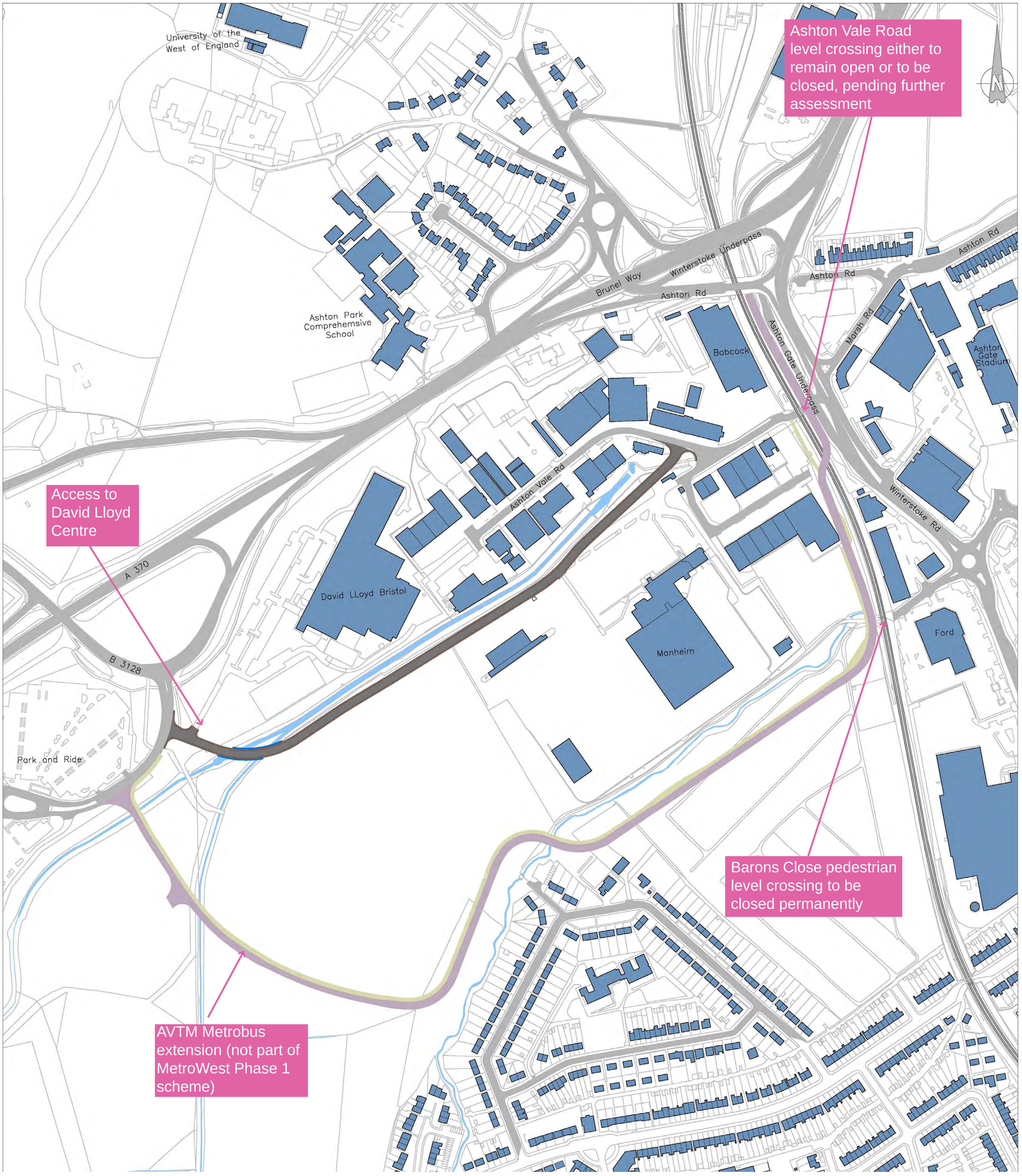
Ashton Vale Road Consultation



Option-3

MetroWest

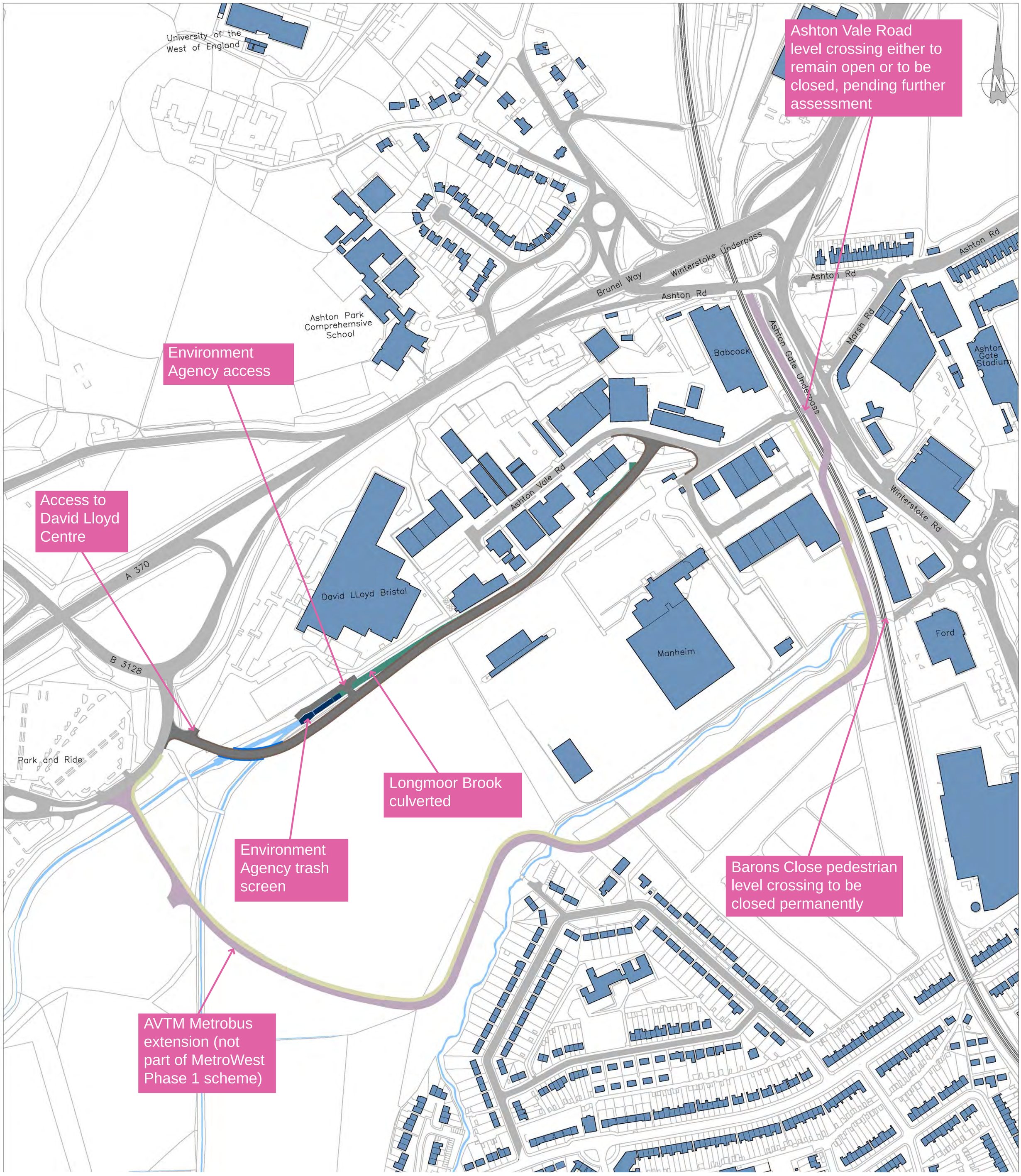
Ashton Vale Road Consultation



Option-4

MetroWest

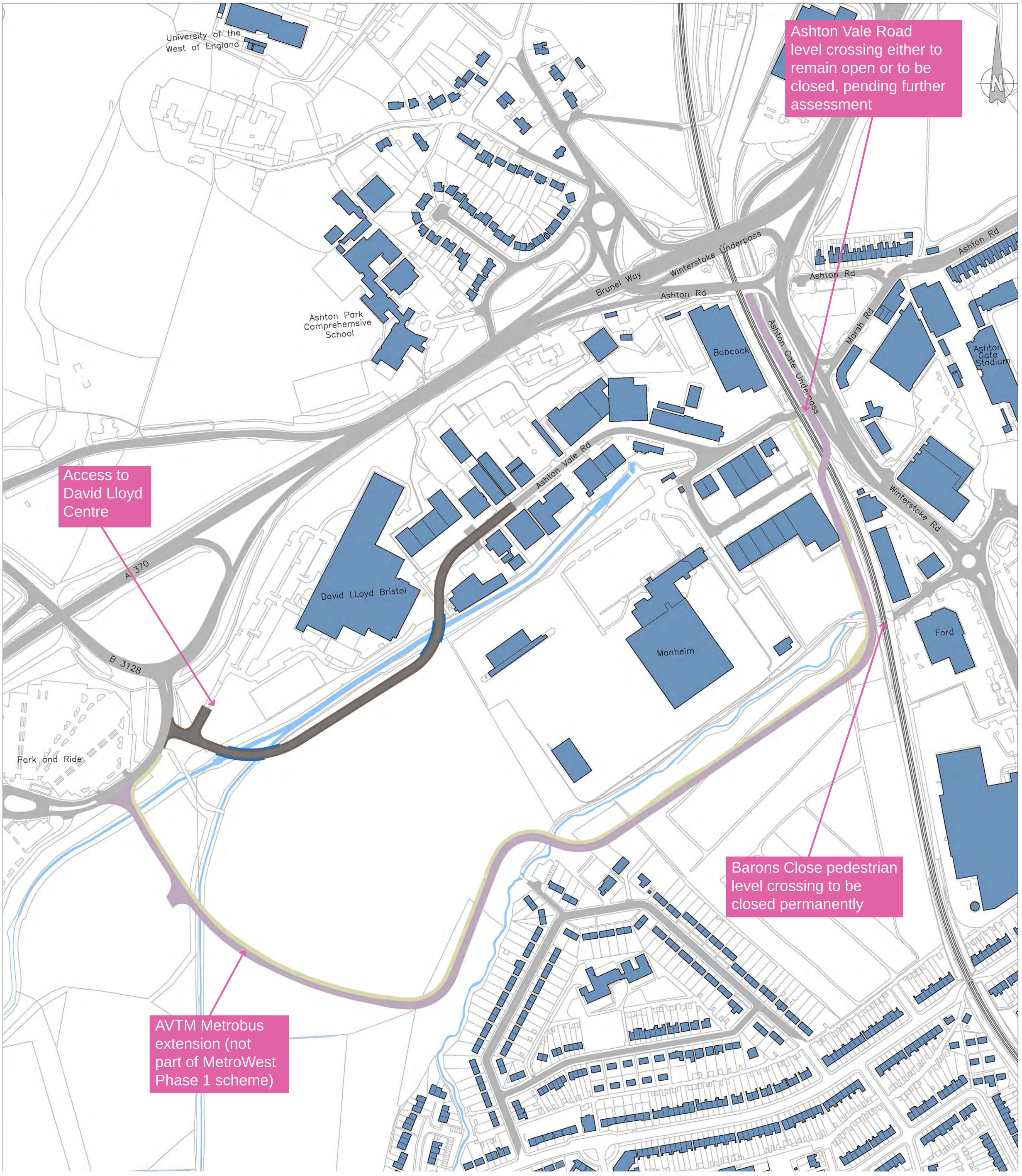
Ashton Vale Road Consultation



Option-5

MetroWest

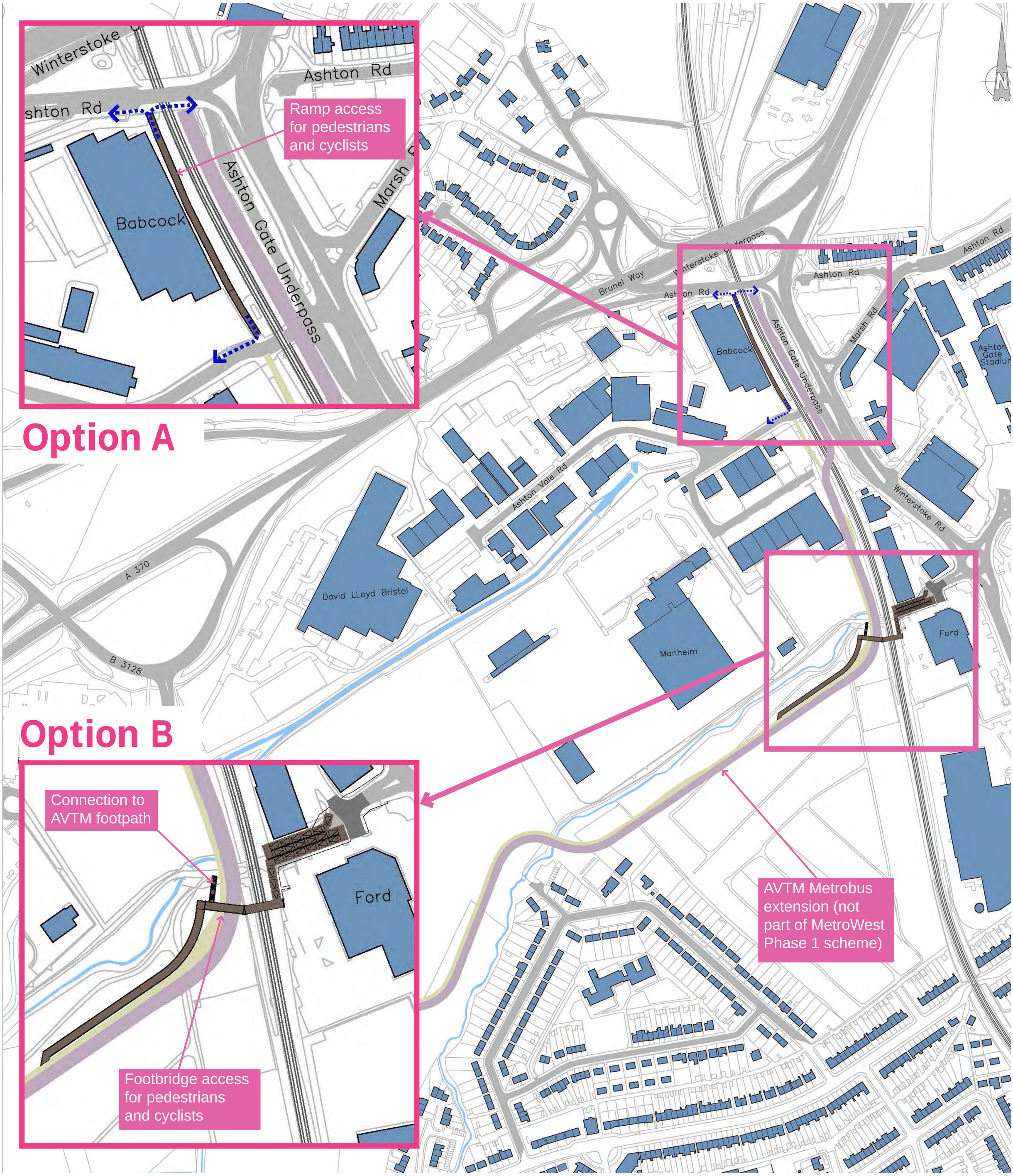
Ashton Vale Road Consultation



Option-6

MetroWest

Ashton Vale Road Consultation



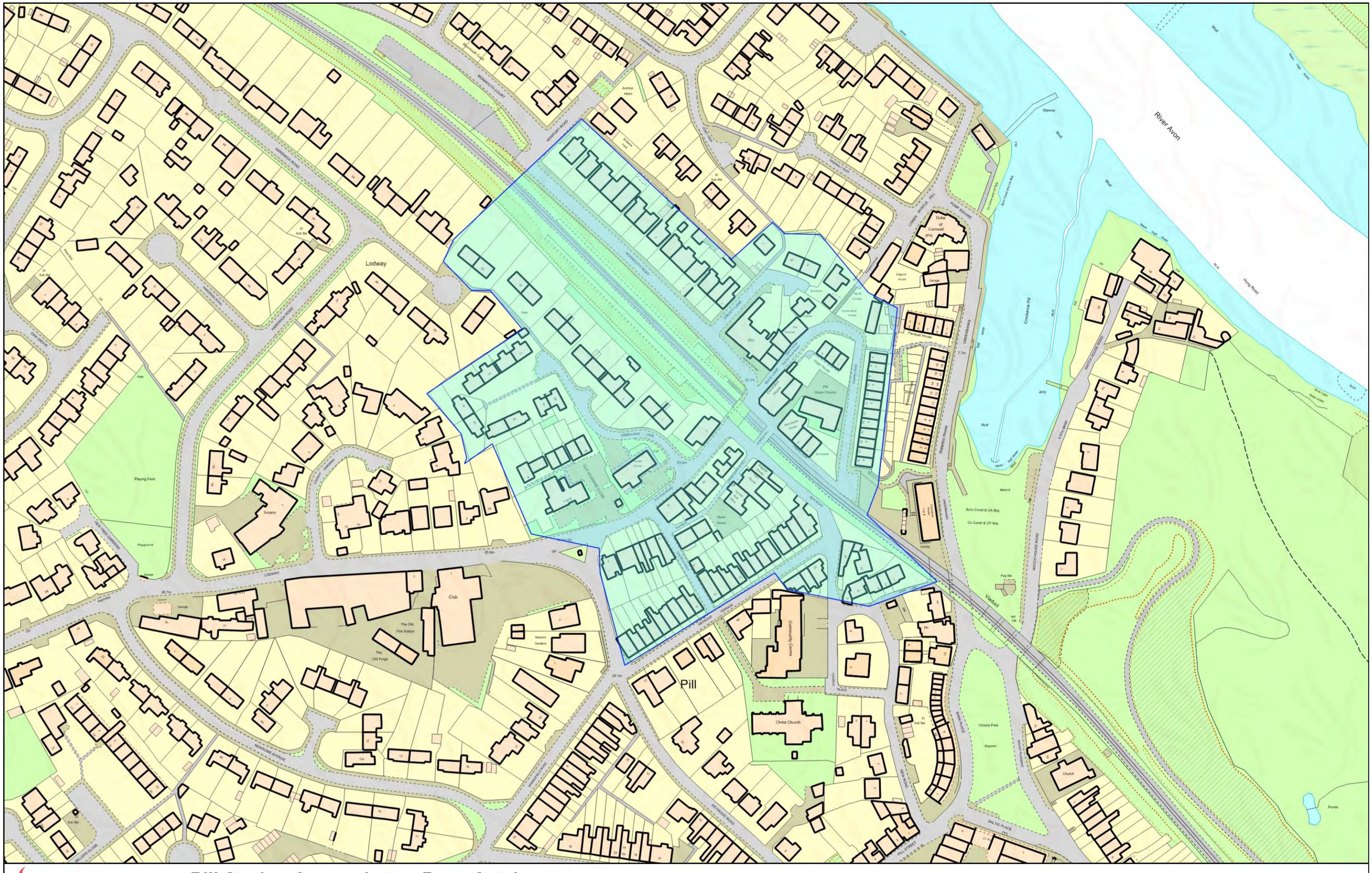
Option A

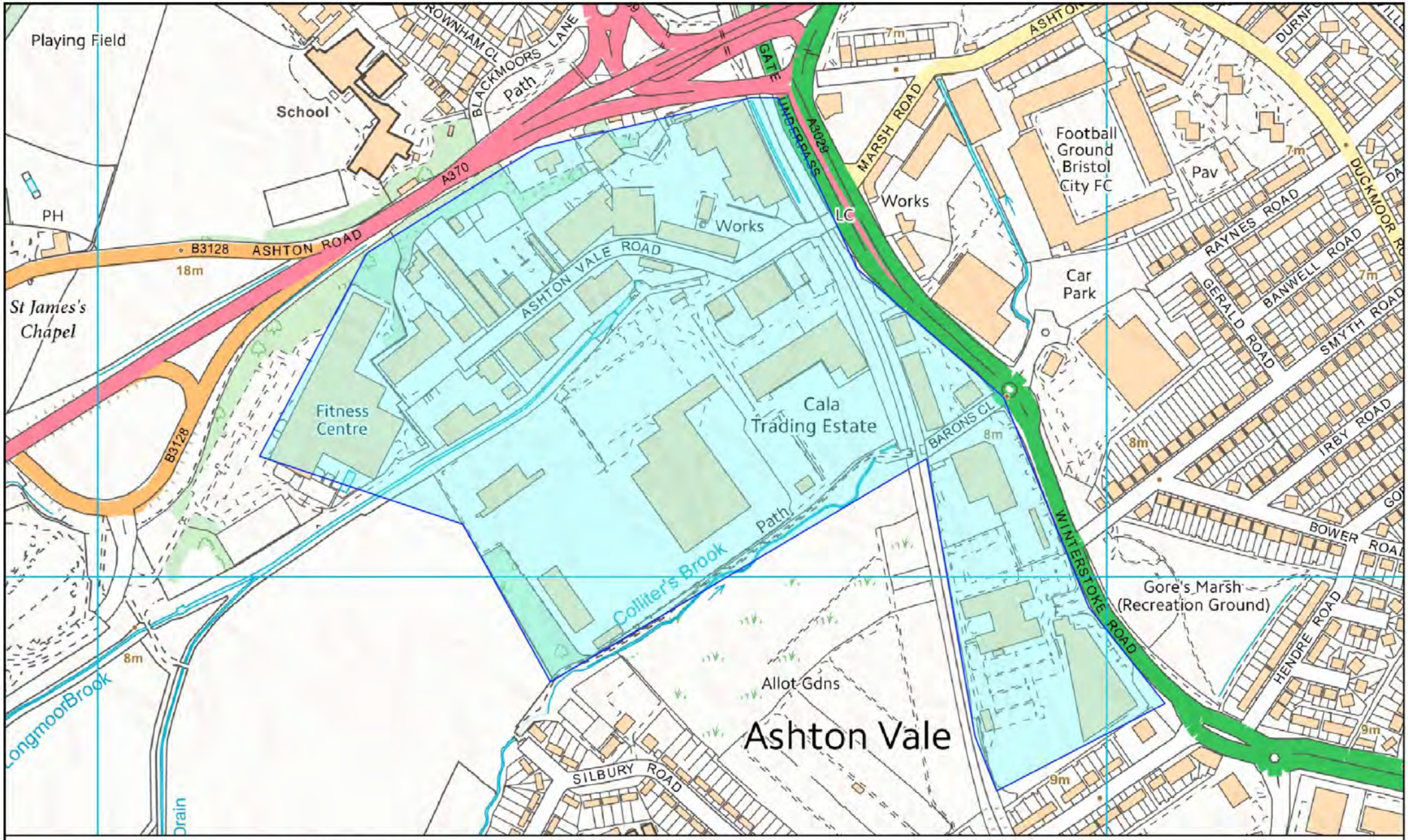
Option B

Pedestrian Access Options

MetroWest

Appendix C
Distribution Maps


Lodway
Pill
River Avon
Mud
Slipway
Jetty
Croome Pill
Duke of Cornwall (PH)
Parkyn House
Wellington House
Myrtle House
Community Centre
Christ Church
Union Church
Victoria Park
Maypole
Playing Field
Playground
Surgery
Club
The Old Fire Station
The Old Forge
Garage
Library
Church
Ponds
Viaduct
Pig Sta
Roro Const & UA Bdy
Co Const & CP Bdy
Monmouth Court
Monmouth Road
Newport Road
Hardwick Road
Lodway
Oak Grove
Rivertree Gardens
Millers Close
Newtame Avenue
Sambourne Lane
Old Hardwick Close
Old Hardwick Road
Crockerne Road
Heywood Road
Pill Street
Baltic Place
Dock Place
Church Place
Watch House Road
Lower Wyndham
Pump Square
Underbanks
Mill Lane
Cumberland Houses
Anchor Holm
Path
Sub Sta
Slip Way
Mast
Quay
Pier
Ro/Ro
Ferry Slip
Mean
Neap
Spring
Wall
Ruins
Rock
Boat Slip
Boat Store
Boat Yard
Boat Shed
Boat House
Boat Repair
Boat Hoist
Boat Ramp
Boat Park
Boat Club
Boat Shop
Boat Sales
Boat Hire
Boat Trip
Boat Tour
Boat Trip
Boat Tour
Boat Trip
Boat Tour



North Somerset Council

Ashton Vale Industrial Estate

alternative access consultation letter drop

Scale: 1:5000
Drawn by: Steven Penaluna
Date: 28 April 2016
Time: 13:56:30

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Appendix D
Publicity Material

MetroWest

Have Your Say

We have developed new options for accessing Pill Station and would like to know what you think.

You can see these options and leave feedback by visiting our website here: travelwest.info/project/pill-station

Alternatively, you may:

- **Email us**: metrowest@westofengland.org
- **Write to us**: MetroWest, Engine Shed, Station Approach, Temple Meads, Bristol, BS1 6QH

You may also discuss the proposals with us in person. We will be running a drop-in session at the Resource Centre on **Thursday 3 March from 12:00pm to 7pm**.

The Resource Centre is located at: 4 Baltic Place, Pill, BS20 0EJ.

Feedback may be provided on the options from **22 February** to **22 March 2016**.

For more information about the MetroWest Phase 1 project, please visit the website: travelwest.info/metrowest

travelwest

Bath & North East Somerset, Bristol, North Somerset and South Gloucestershire councils working together to improve your local transport

Have Your Say

We have developed design options for the Ashton Vale Road level crossing and the Barons Close pedestrian-only level crossing. These options include the possible closure of both level crossings

You can see these options and leave feedback by visiting our website here: http://travelwest.info/project/ashton-vale-road
Alternatively, you may:-

- **Email us**: metrowest@westofengland.org
- **Write to us**: MetroWest, Engine Shed, Station Approach, Temple Meads, Bristol, BS1 6QH

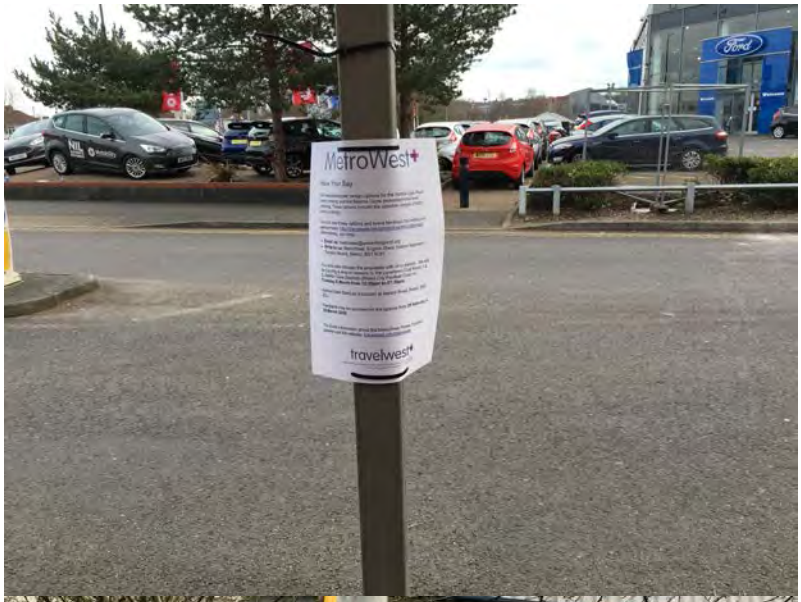
You may also discuss the proposals with us in person. We will be running a drop-in session in the Lansdown Club Room 1 & 2, Ashton Gate Stadium (Bristol City Football Club) on **Tuesday 8 March from 12:30pm to 07:30pm**.

Ashton Gate Stadium is located at Ashton Road, Bristol, BS3 2EJ.

Feedback may be provided on the options from **25 February** to **23 March 2016**.

For more information about the MetroWest Phase 1 project, please visit the website: travelwest.info/metrowest

Bath & North East Somerset, Bristol, North Somerset and South Gloucestershire councils working together to improve your local transport


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MetroWest+
travelwest+


MetroWest
Have Your Say
travelwest
RANGE ROVER
X666 AMY


KEEP
CROSSING
CLEAR
MetroWest
travelwest
SNACK
OPEN
MONDAY
SATURDAY
push button and wait
for signal opposite


KEEP
CROSSING
CLEAR
MetroWest


& DISTRICT
OPEN
URCE CENTRE
MetroWest
Vacancies
Pill Food Bank
Gordano Community Cars


MetroWest
BOOKS
All non-fiction books are now inside (together with more fiction)
SKAMPS
STOLEN!
Little Apples
Resource Centre

MetroWest

MetroWest
Engine Shed
Station Approach
Temple Meads
Bristol BS1 6QH

metrowest@westofengland.org

22 February 2016

Dear resident,

In July 2015 we held a public engagement event in Pill, and set out our proposals for reopening Pill Station as part of the MetroWest Phase 1 rail project. These proposals included:

- A new car park at Monmouth Road; and
- A footbridge connecting Monmouth Road to the station platform on the south side of the rail line (see option 1).

Since that event, we have continued to look at ways to improve the proposals, and in particular the way in which people access the station platform.

The owner of 7 Station Road has agreed to sell the property to us, which means we may investigate further options for accessing Pill Station by opening up the area and providing steps and a ramp directly down to the platform. This would be a much shorter route for passengers walking to the station and the space will also be able to accommodate drop-off spaces, disabled parking and covered cycle parking. With this option, there would still be a car park on Monmouth Road, but there will be no need for a new pedestrian footbridge.

We have developed some examples of what a potential station space may look like on the site of 7 Station Road. These are shown on the attached options 2, 3 and 4. We think the advantage of these options would be to:

- Make the station entrance more obvious for everyone;
- Locate disabled parking places much closer to the platform;
- Provide a new drop-off/ pick-up area right next to the station and avoiding Monmouth Road; and
- Install covered cycle parking conveniently next to the station entrance.

Option 1 which involves construction of a new footbridge and does not require the purchase of 7 Station Road is still a consideration, the plans of which remain unchanged from the previous consultation.

We would like to know what you think. The easiest way to leave feedback, is by filling in a short online form which can be located online, along with electronic copies of the options: travelwest.info/project/pill-station

Alternatively, you may:

- Email us at: metrowest@westofengland.org
- Write to us at: MetroWest, Engine Shed, Station Approach, Temple Meads, Bristol, BS1 6QH

When contacting us about specific issues, please provide as much detail as possible. For example; what is the exact location of the issue? Does it occur on certain days, or times during the day?

You may also discuss the proposals with us in person. We will be running a drop-in session at the Resource Centre on **Thursday 3 March from 12:00pm to 7pm**.

The Resource Centre is located at 4 Baltic Place, Pill, BS20 0EJ.

The date for feedback on these proposals is from **22 February to 22 March 2016**.

For more information about the MetroWest Phase 1 project, please visit the website: travelwest.info/metrowest

We look forward to hearing from you.

Yours faithfully,

Richard Matthews
Principal Transport Policy Officer
MetroWest Phase 1

Option 1 – Original proposal.

Key features:

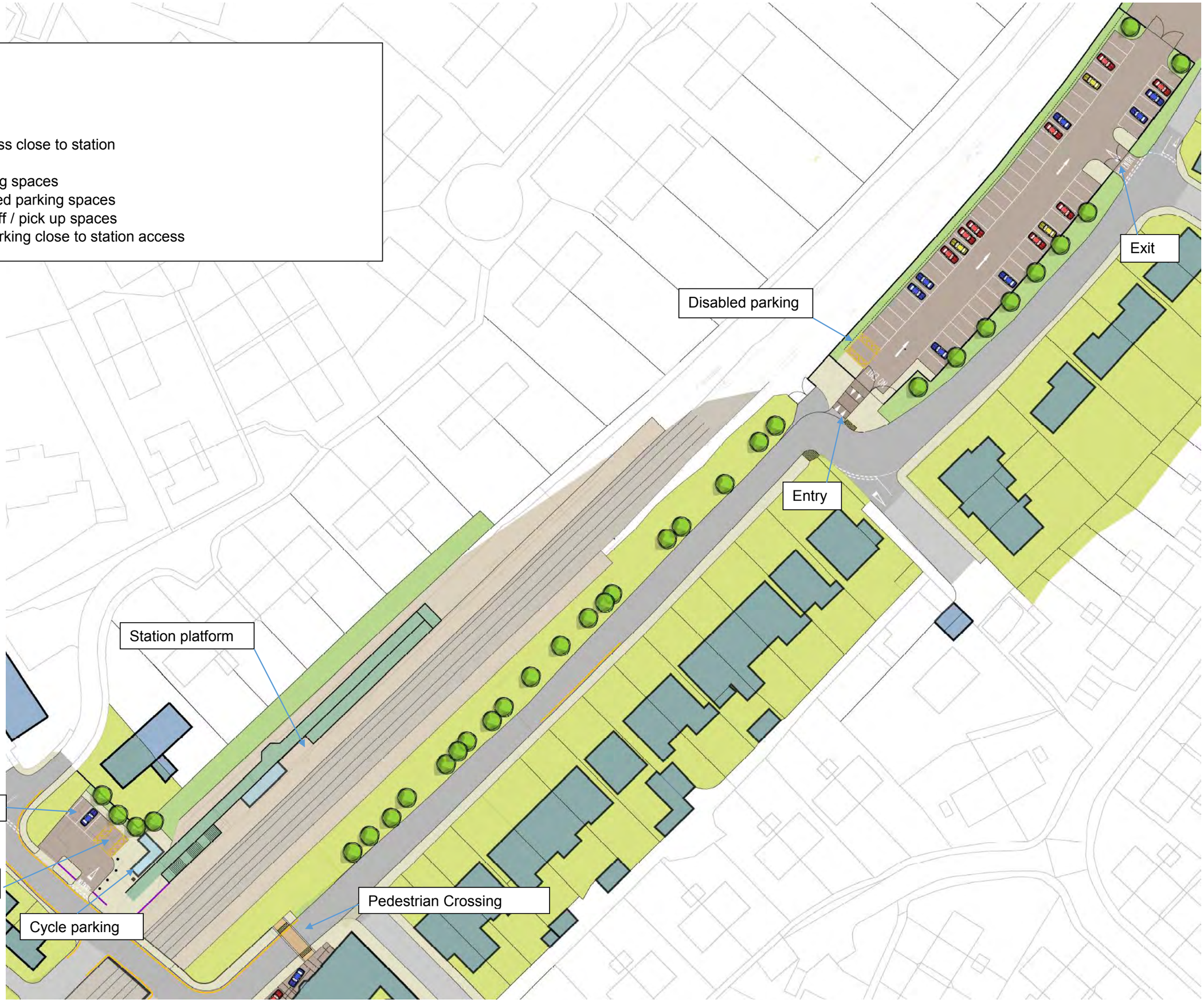
- One main car park
- Total of 54 parking spaces
- Includes 2 disabled parking spaces
- Covered cycle parking at main car park
- New footbridge connecting Monmouth Road to the station platform



Option 2

Key features:

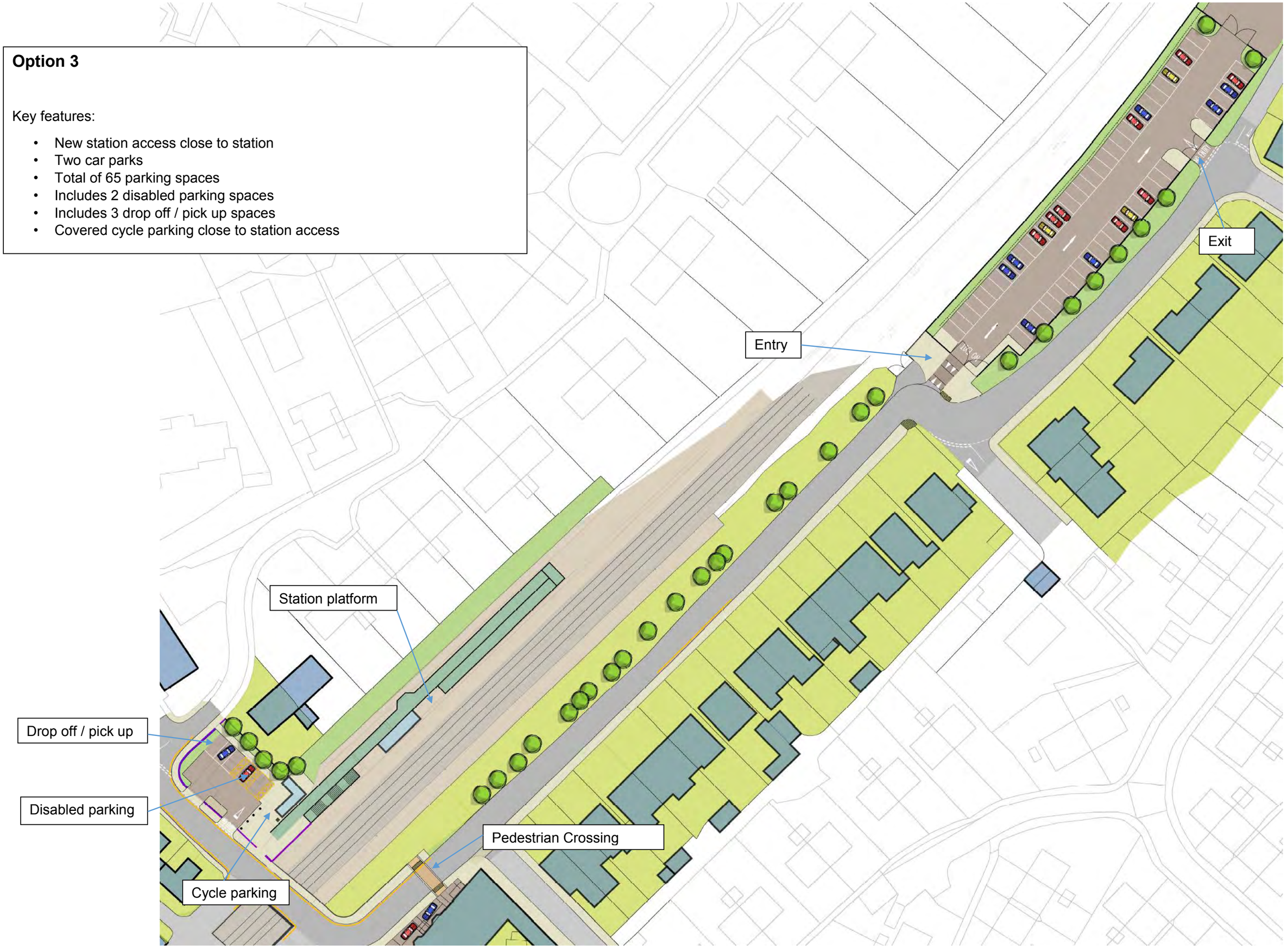
- New station access close to station
- Two car parks
- Total of 63 parking spaces
- Includes 2 disabled parking spaces
- Includes 3 drop off / pick up spaces
- Covered cycle parking close to station access



Option 3

Key features:

- New station access close to station
- Two car parks
- Total of 65 parking spaces
- Includes 2 disabled parking spaces
- Includes 3 drop off / pick up spaces
- Covered cycle parking close to station access



Option 4

Key features:

- New station access close to station
- Two car parks
- Total of 68 parking spaces
- Includes 3 disabled parking spaces
- Includes 3 drop off / pick up spaces
- Covered cycle parking close to station access
- One way in and out of main car park



MetroWest
Engine Shed
Station Approach
Temple Meads
Bristol BS1 6QH

metrowest@westofengland.org

25th February 2016

Dear Stakeholder,

METROWEST PHASE 1 – CONSULTATION ON PROPOSALS FOR ASHTON VALE ROAD LEVEL CROSSING & BARONS CLOSE LEVEL CROSSING

MetroWest Phase 1 is proposing to re-open the Portishead rail line to passenger train services and enhance the passenger train service for the Severn Beach and Bath to Bristol line (local service). The project is being led by North Somerset Council on behalf of the four councils; Bristol City, Bath & North East Somerset, North Somerset and South Gloucestershire.

In July 2015 we held a stage 1 public consultation setting out our indicative operational and infrastructure proposals for the project. Since last summer our project technical development has progressed and are currently preparing our outline engineering design / operational proposal.

I am writing to you specifically about the Ashton Vale Road highway level crossing and the Barons Close pedestrian only level crossing, to seek your views on proposals to make changes affecting the level crossings. These include the possible closure of both level crossings.

Access to and from Ashton Vale Road is currently constrained by the level crossing and by the highway traffic signals with Winterstoke Road. Currently the Ashton Vale Road level crossing barriers operate (barriers down across the highway) on average less than 4 times per day, for the current volume of freight train operations. However our proposed MetroWest Phase 1 train service entails operating up to 30 passenger trains per day in each direction. As a result the level crossing barriers would need to operate significantly more often than they do currently. Our initial train service operational planning indicates a total barrier down time of approximately 20 minutes each hour, with each cycle of the level crossing barrier being down between 3 and 12 minutes.

Emerging work for our Transport Assessment indicates that this would result in traffic impacts on Ashton Vale Road (exiting the industrial estate) and on Winterstoke Road (entering the industrial estate), in respect of longer traffic queue lengths.

Ashton Vale Road proposals

In order to address this traffic impact we have undertaken initial optioneering to evaluate how impacts on highway conditions can be mitigated. This includes an option to revise the existing junction of Ashton Vale Road and Winterstoke Road and a range of options to create a new highway route linking the industrial estate to one of the surrounding highway corridors to the north, west, east or south.

This work has identified 6 potentially feasible highway access options of which 5 options entail a new route to the west to the B3128 Long Ashton Park & Ride junction. Options to create a new highway route linking to the north, east or south are not feasible due to fundamental delivery constraints in respect of; the extent of engineering scope and cost, inability to meet engineering/technical design and safety standards, etc.

The 6 potentially feasible options are:

- Option 1: modify existing junction Winterstoke Road/Ashton Vale Road
- Option 2: new highway access via land owned by Bristol Sport, Manheim Auctions & Bristol City Timber
- Option 3: new highway access via land owned by Bristol Sport and Bristol City Timber
- Option 4: new highway access via land owned by Bristol Sport and Manheim Auctions
- Option 5: new highway access via land owned by Bristol Sport and Delaney Estates
- Option 6: new highway access via land owned by Bristol Sport, David Lloyd and ETM Contractors

Concept plans of the 6 options are attached to this letter. The options 2 to 6 would provide direct access onto arterial highway routes, via the high capacity B3128 Park & Ride junction. Furthermore approx. 500 metres to the west of this junction South Bristol Link (currently under construction) will provide a new A370 to A38 and A4174 arterial route, enhancing highway connectivity further.

Barons Close proposals

The pedestrian only level crossing at Barons Close is proposed to be closed permanently by MetroWest Phase 1. This is primarily due to the higher speeds of the passenger trains, laying a second running line over the site of the crossing and the proposed train service frequency compared with the current freight train operation, which have consequences for the safety of the crossing.

Ashton Vale Road (highway and pedestrian) level crossing will either remain open or may be closed to all users, including pedestrians, pending further assessment. However a new path is to be built by the adjacent MetroBus project between Barons Close and Ashton Vale Road on the western side of the railway. Should Ashton Vale Road level crossing need to be closed to all users, this would result in a need for alternative pedestrian crossing over the railway to allow pedestrians to access Winterstoke Road.

Our optioneering work has identified 2 potentially feasible options

- Option A: a pedestrian/cycle path with ramp next to the location of Ashton Vale Road level crossing heading north along the railway boundary (to the east of Babcock's premises) onto the existing Ashton Road bridge over the railway, or
- Option B: a pedestrian/cycle footbridge at Barons Close over the railway and the MetroBus guideway.

Concept plans of the 2 options are attached to this letter. There is a significant difference in the cost of delivering the 2 options. The estimated construction cost of option A is approx. £500,000, while the estimated cost of option B is approx. £4m. Both options would provide fully inclusive (step free) access, with users of option A having the choice of using the existing pedestrian crossing on Ashton Road and the pedestrian underpass linking to Winterstoke Road or the existing steps from Ashton Road to Ashton Gate Underpass/Winterstoke Road.

How to respond our consultation

We are seeking the views of those directly affected by the options and wider stakeholders before the MetroWest Councils finalise their proposals for formal consultation purposes.. We are targeting our consultation at the businesses and property owners of the industial estate and adjacet properties, the employees of the businesses and statutory bobdies such as the Environment Agency. However the consultation is also open to wider stakeholders and the public.

We will use consultation responses to inform the selection of the highway access and the pedestrian access options to be taken forward for further development of the project design. Following this, in June 16, we intend to undertake formal public consultation, on the project in preparation of our application to the Secretary of State for a Development Consent Order at the end of the year. The project is a nationally significant infrastruture project and therefore requires a Development Concept Order for powers to build and operate the project.

We would like to know what you think about the options outlined above. You can let us have your feedback by either:

- visiting http://travelwest.info/project/ashton-vale-road and submitting an online response, or
- email us at: metrowest@westofengland.org, or
- write to us at: MetroWest, Engine Shed, Station Approach, Temple Meads, Bristol, BS1 6QH

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The consultation is now open and remains open until **midnight 23rd March 2016**.

For more information about the MetroWest Phase 1 project, please visit the website: travelwest.info/metrowest. We look forward to hearing from you.

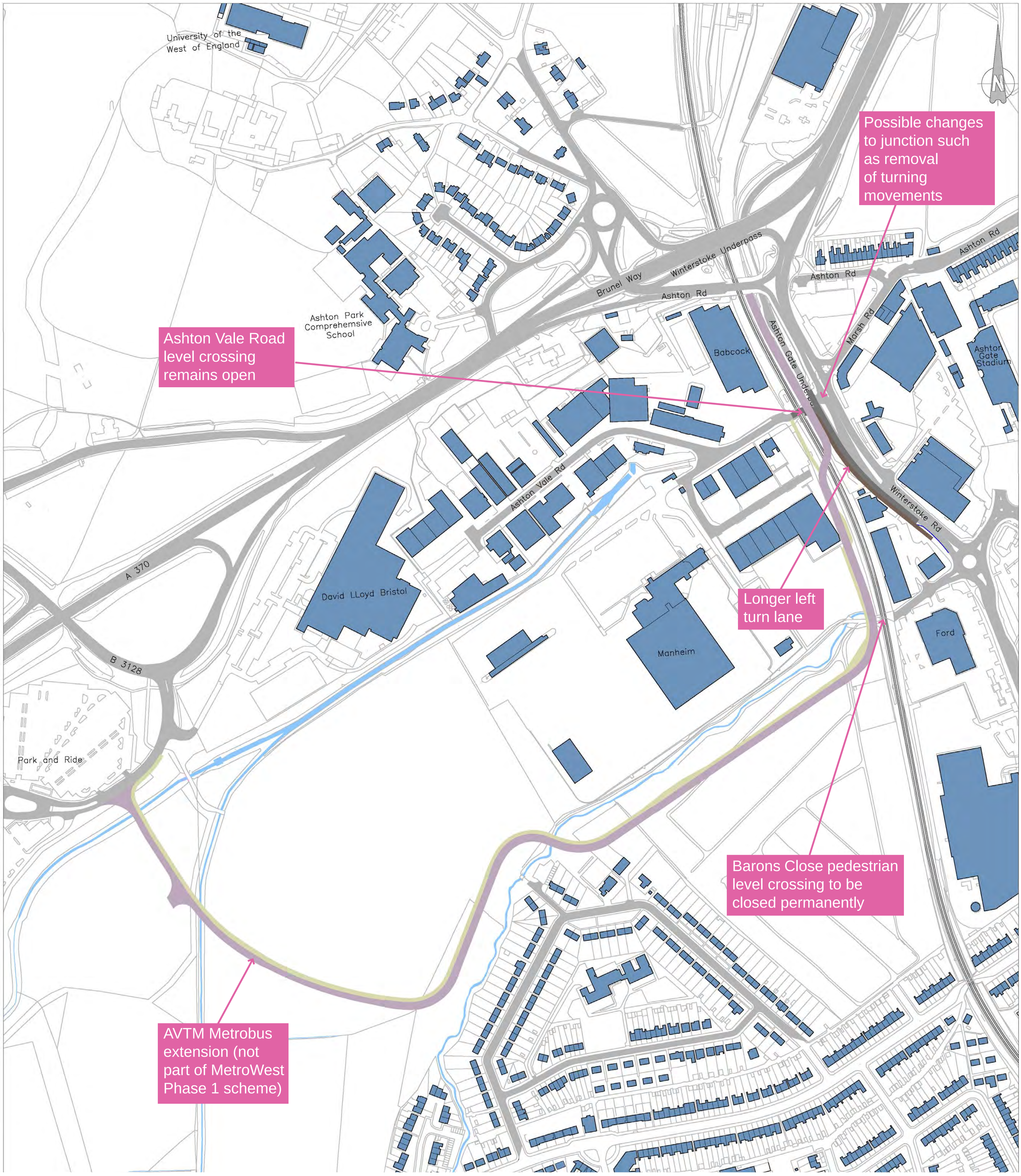
Yours faithfully



James Willcock
MetroWest Phase 1

enc Concept plans of highway access options 1 to 6 and pedestrian access options A & B

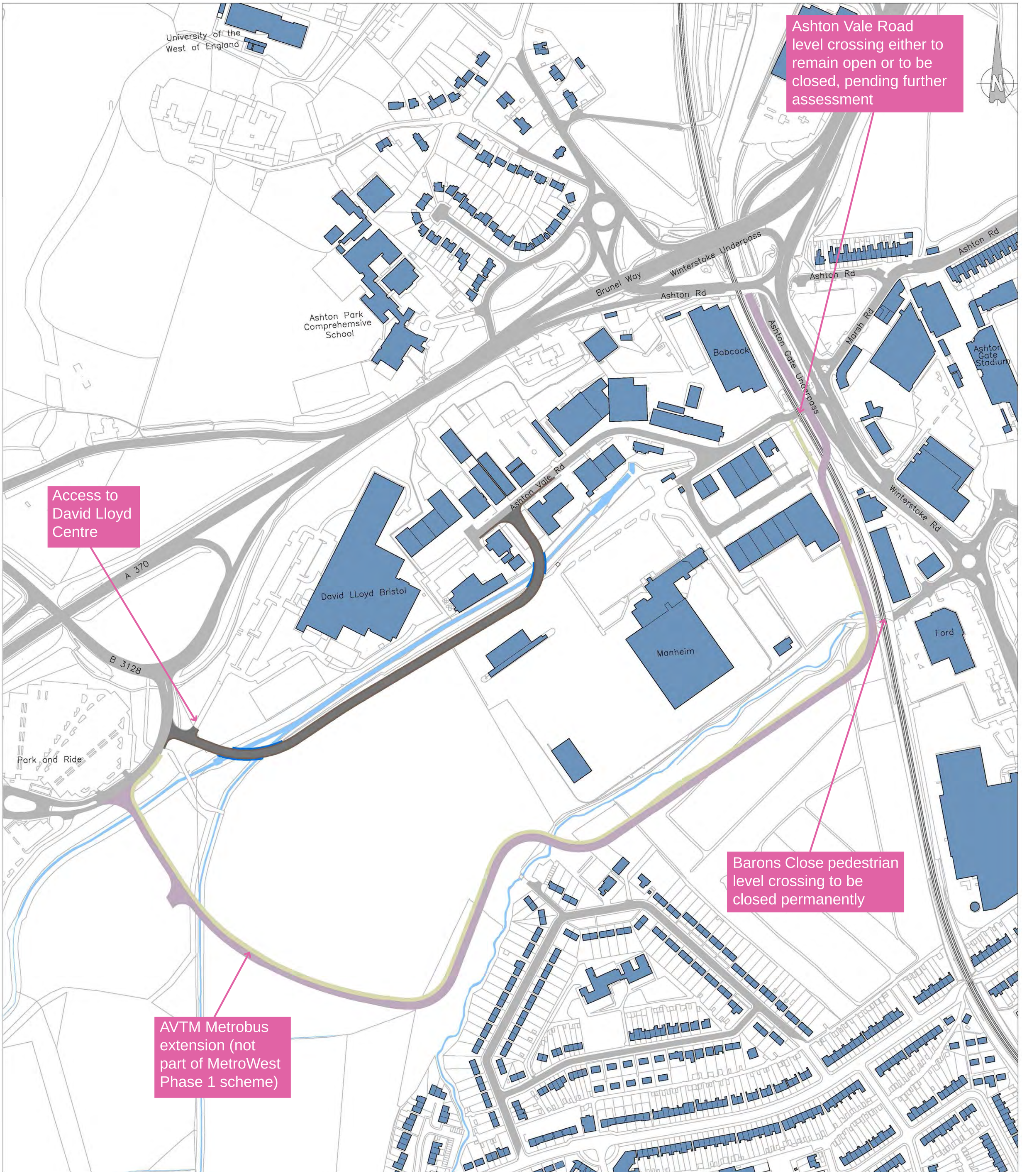
Ashton Vale Road Consultation



Option-1

MetroWest

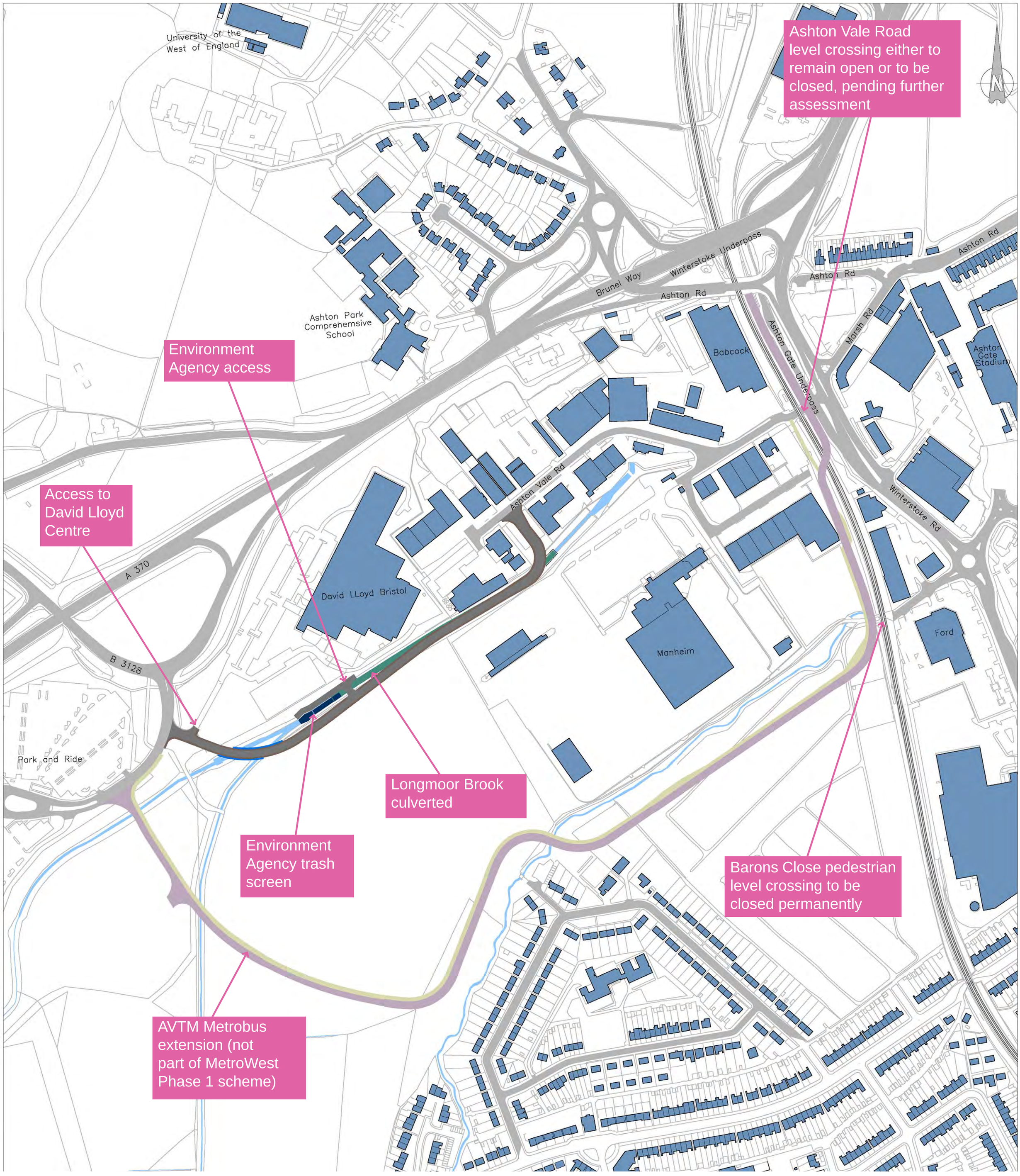
Ashton Vale Road Consultation



Option-2

MetroWest

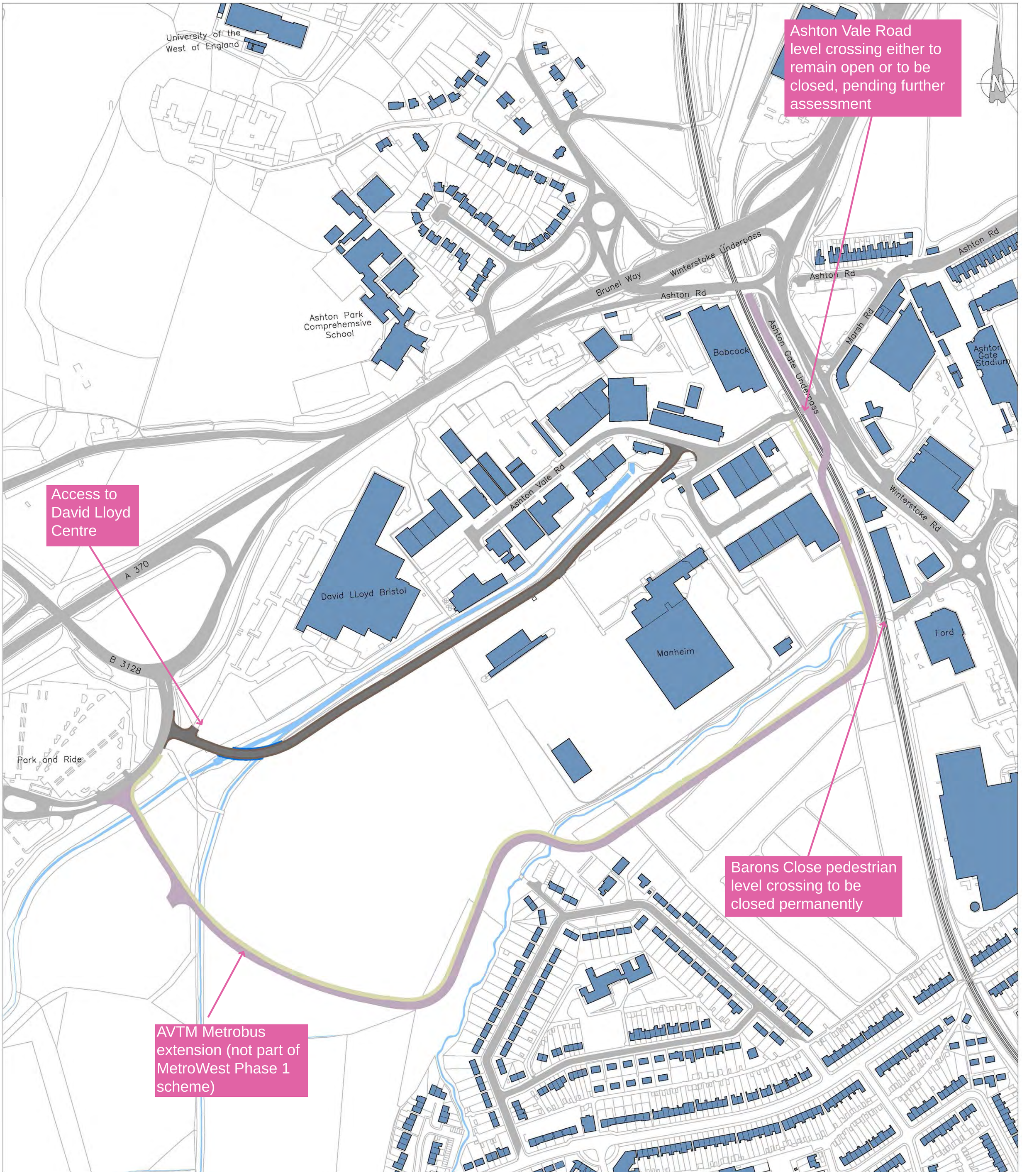
Ashton Vale Road Consultation



Option-3

MetroWest

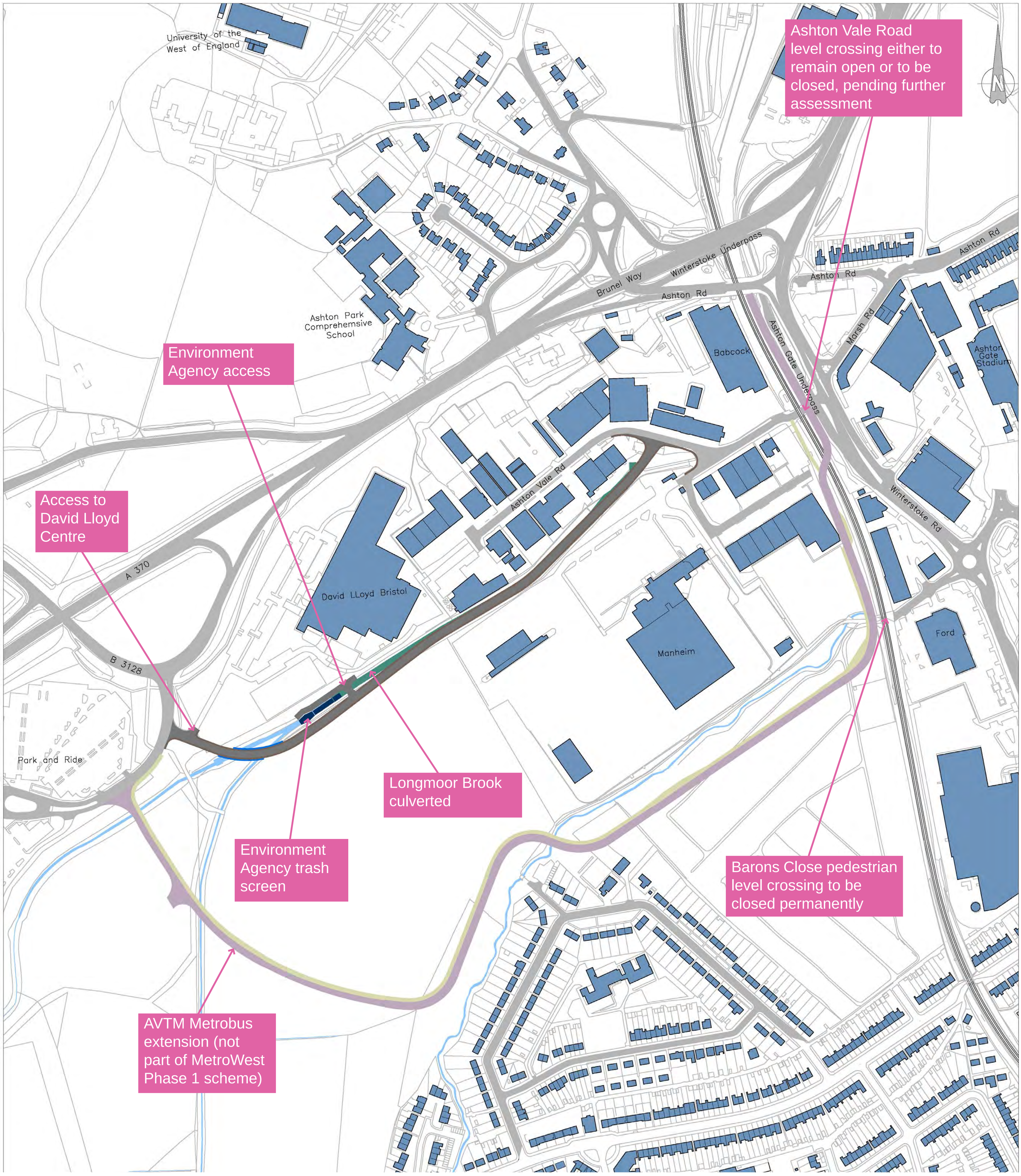
Ashton Vale Road Consultation



Option-4

MetroWest

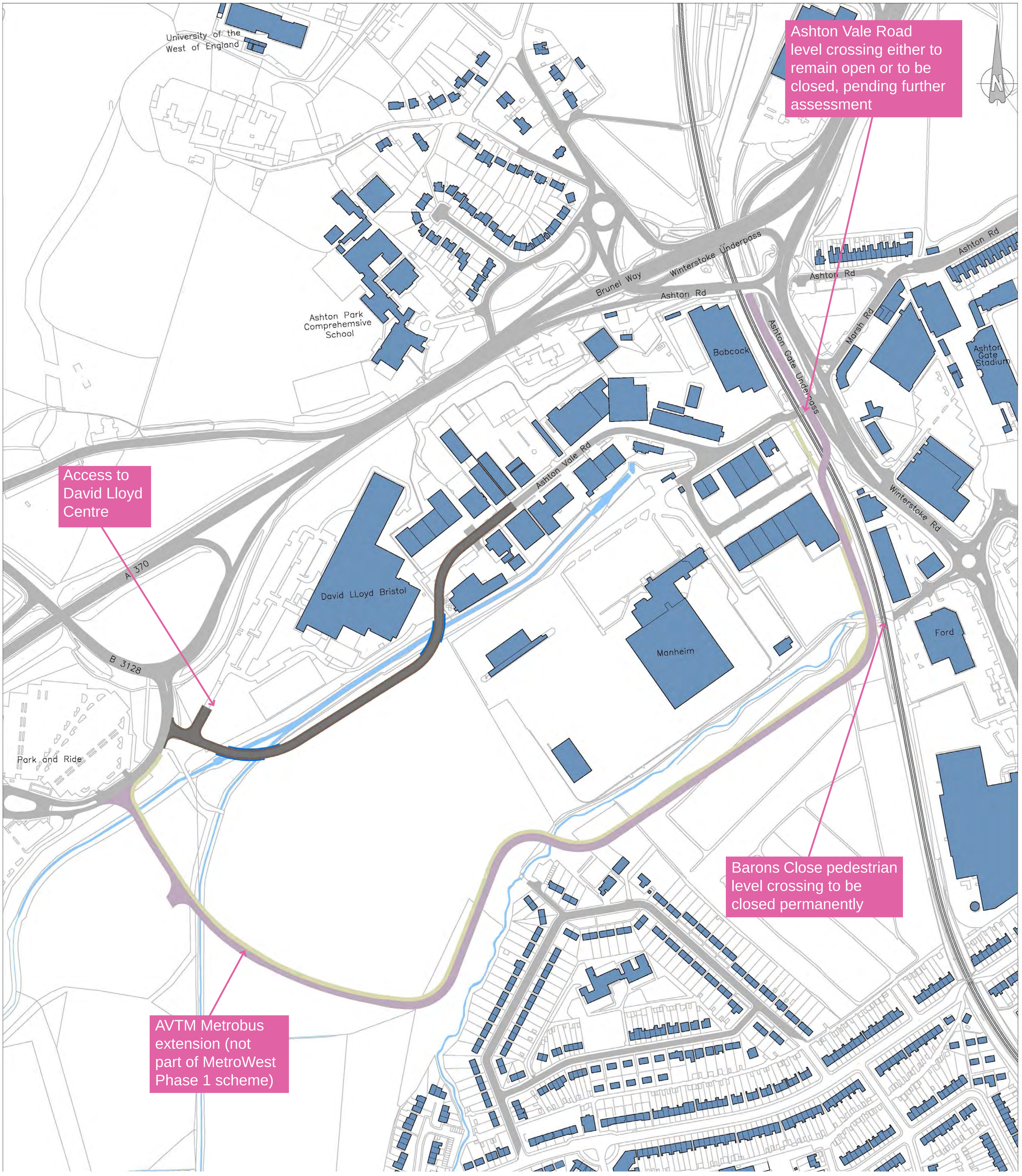
Ashton Vale Road Consultation



Option-5

MetroWest

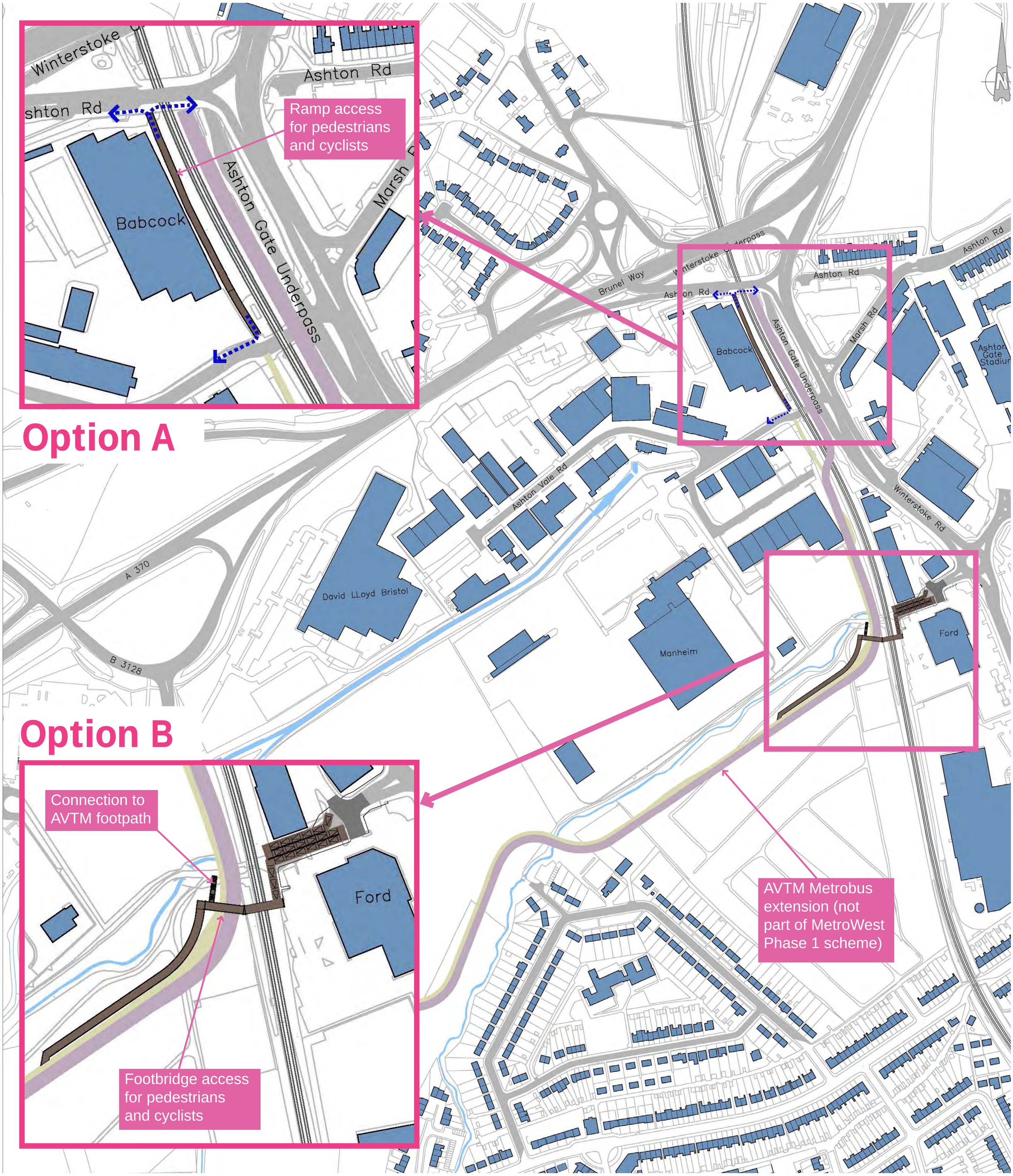
Ashton Vale Road Consultation



Option-6

MetroWest

Ashton Vale Road Consultation



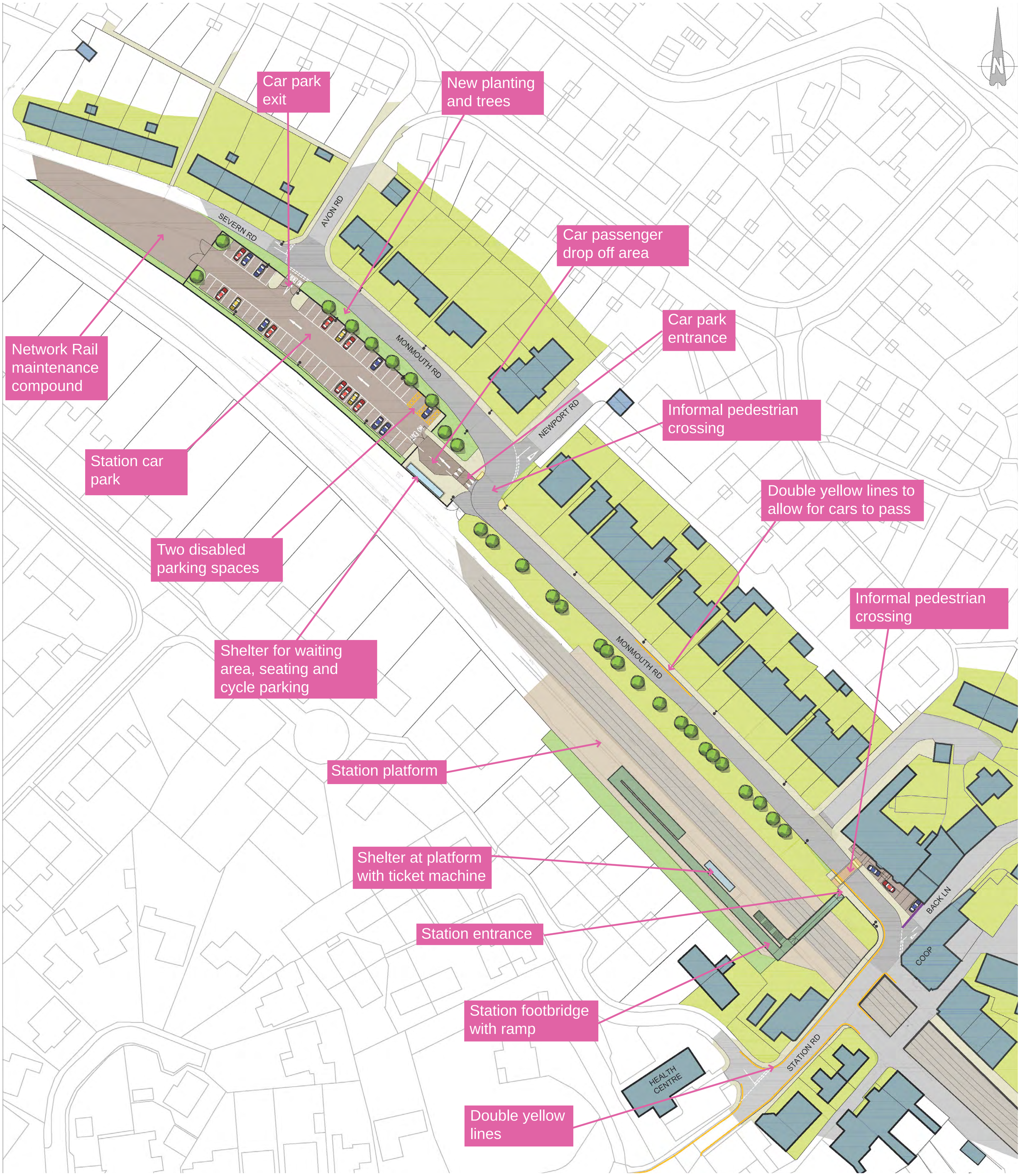
Option A

Option B

Pedestrian Access Options

MetroWest

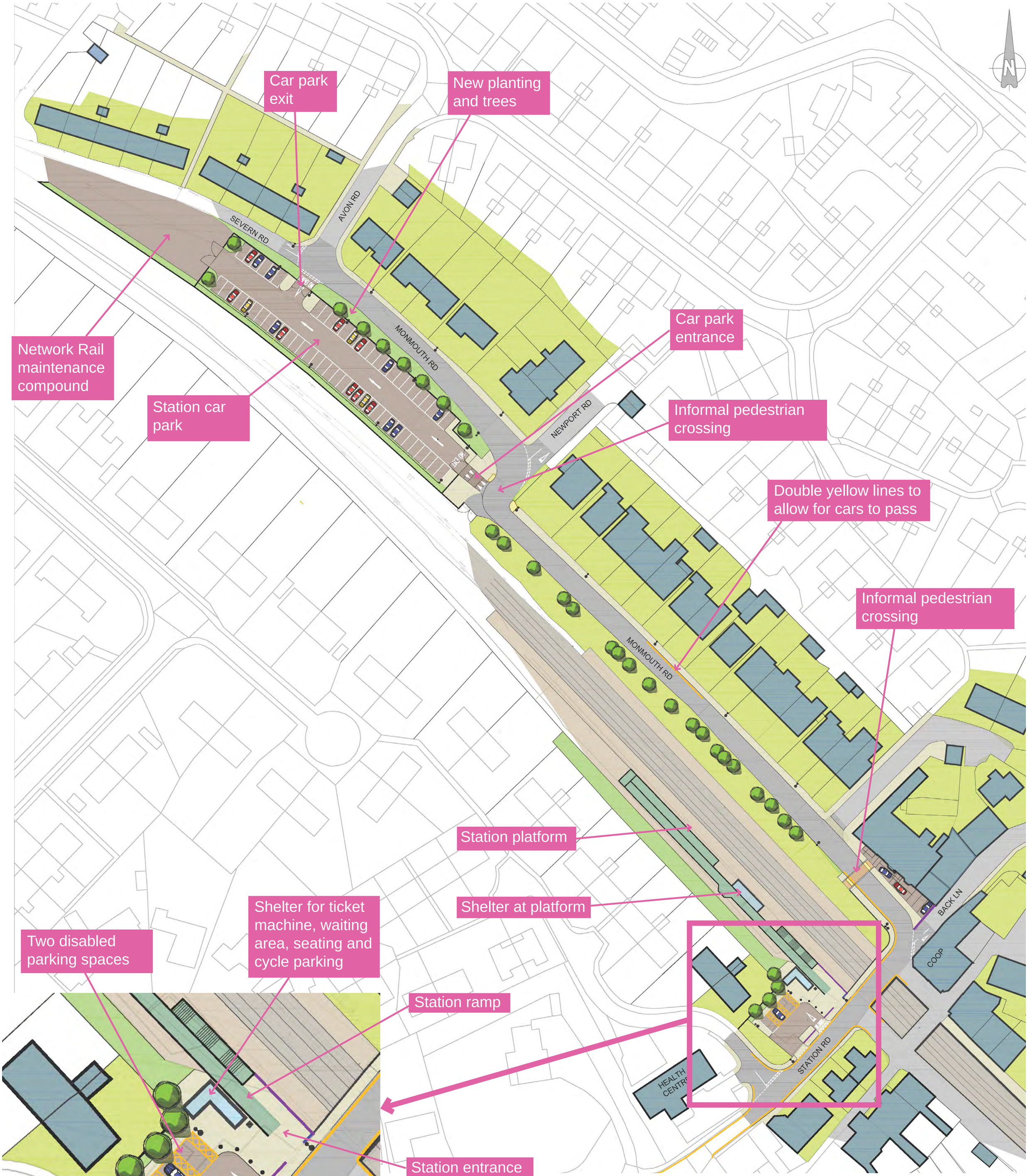
Pill station



Option-1
As consultation summer 2015

MetroWest

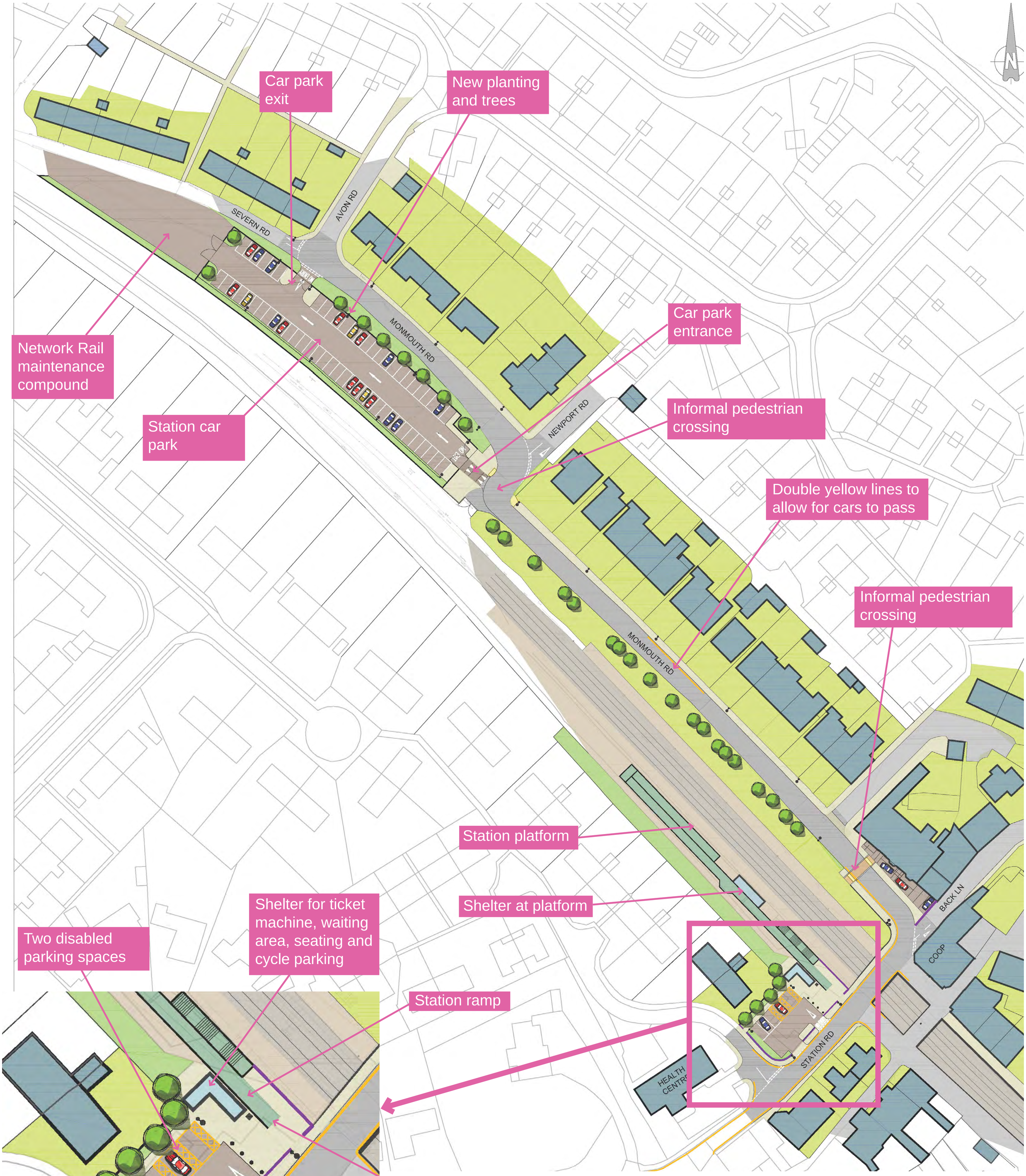
Pill station



Option-2

MetroWest

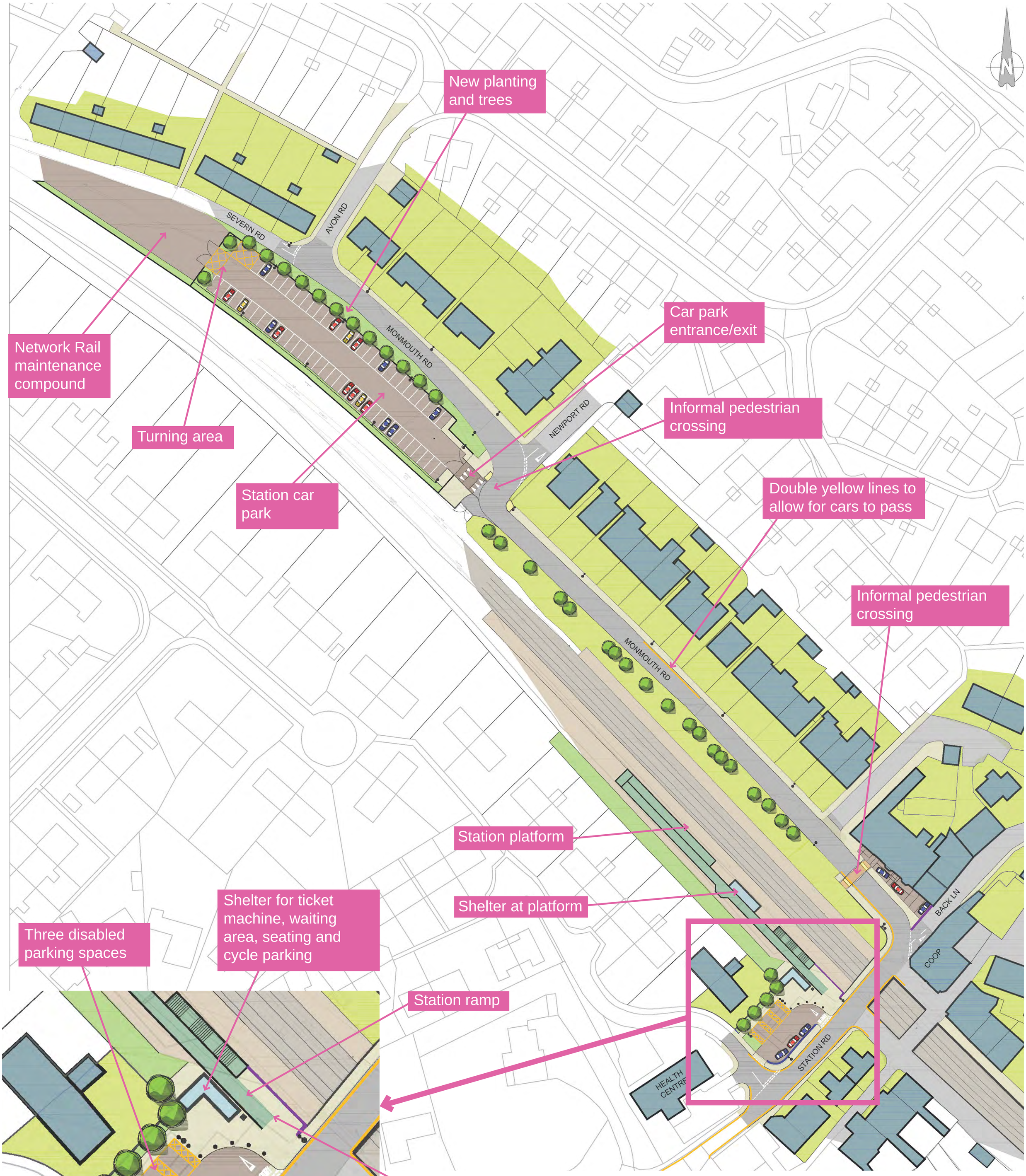
Pill station



Option-3

MetroWest

Pill station



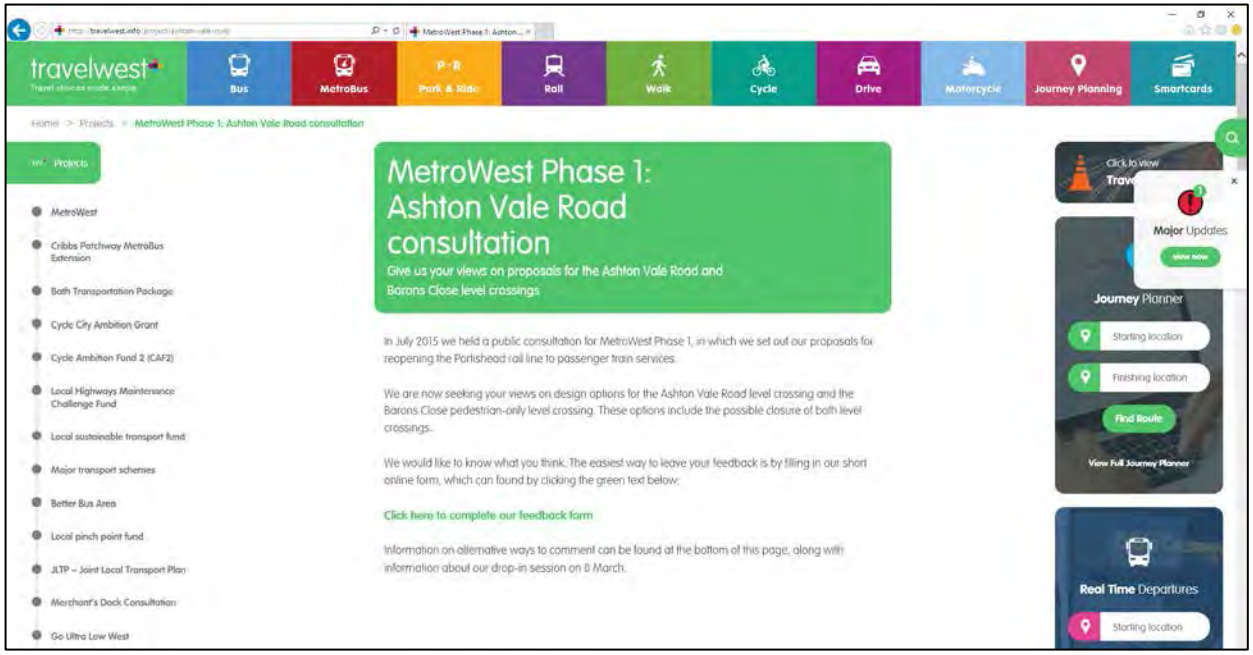
Option-4

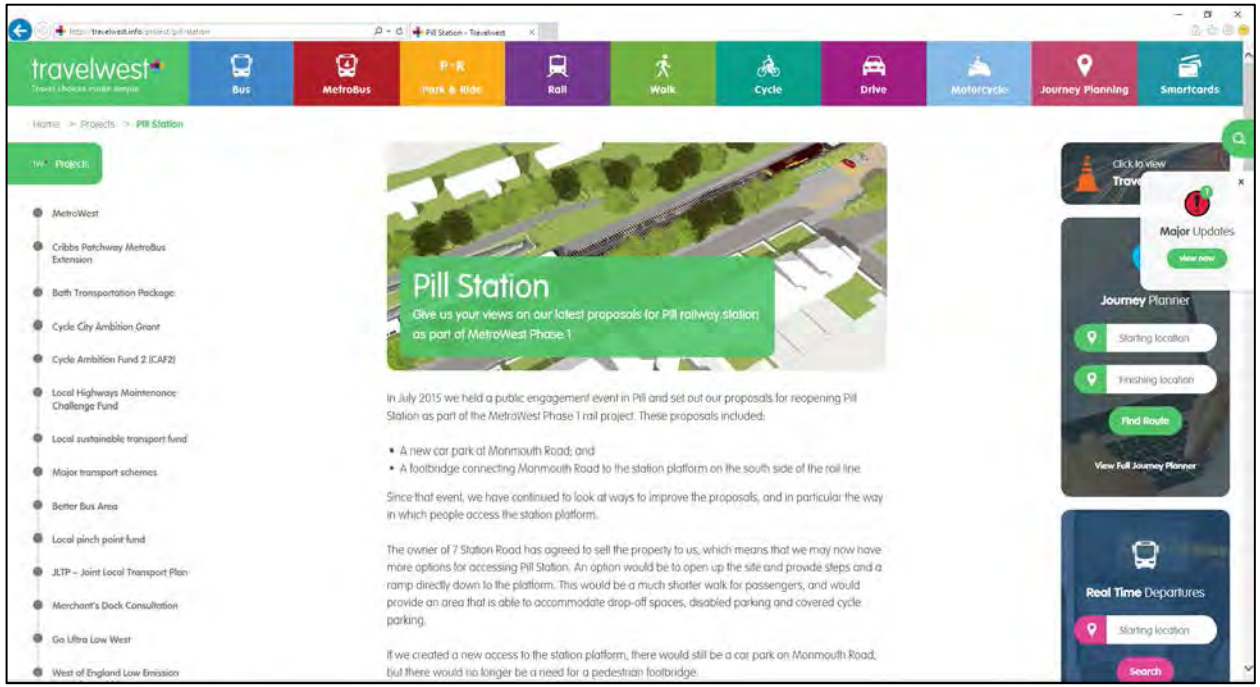
MetroWest

QUESTION 1: What do you think about our new proposals for the Pill Station access?

QUESTION 2: So we can link your views to your neighbourhood, what is your postcode?

Write to us at: MetroWest, Engine Shed, Station Approach, Temple Meads, Bristol, BS1 6QH


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Bus
MetroBus
P+R
Park & Ride
Rail
Walk
Cycle
Drive
Motorcycle
Journey Planning
Smartcards
Home > Projects > MetroWest Phase 1: Ashton Vale Road consultation
Projects
MetroWest
Cribbs Patchway MetroBus Extension
Bath Transportation Package
Cycle City Ambition Grant
Cycle Ambition Fund 2 (CAF2)
Local Highways Maintenance Challenge Fund
Local sustainable transport fund
Major transport schemes
Better Bus Area
Local pinch point fund
JLTP – Joint Local Transport Plan
Merchant's Dock Consultation
Go Ultra Low West
MetroWest Phase 1: Ashton Vale Road consultation
Give us your views on proposals for the Ashton Vale Road and Barons Close level crossings
In July 2015 we held a public consultation for MetroWest Phase 1, in which we set out our proposals for reopening the Portishead rail line to passenger train services.
We are now seeking your views on design options for the Ashton Vale Road level crossing and the Barons Close pedestrian-only level crossing. These options include the possible closure of both level crossings.
We would like to know what you think. The easiest way to leave your feedback is by filling in our short online form, which can found by clicking the green text below:
Click here to complete our feedback form
Information on alternative ways to comment can be found at the bottom of this page, along with information about our drop-in session on 8 March.
Major Updates
view now
Journey Planner
Starting location
Finishing location
Find Route
View Full Journey Planner
Real Time Departures
Starting location


travelwest
Bus
MetroBus
P+R
Park & Ride
Rail
Walk
Cycle
Drive
Motorcycle
Journey Planning
Smartcards
Home > Projects > Pill Station
Projects
MetroWest
Cribbs Patchway MetroBus Extension
Bath Transportation Package
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Local Highways Maintenance Challenge Fund
Local sustainable transport fund
Major transport schemes
Better Bus Area
Local pinch point fund
JLTP – Joint Local Transport Plan
Merchant's Dock Consultation
Go Ultra Low West
West of England Low Emission
Pill Station
Give us your views on our latest proposals for Pill railway station as part of MetroWest Phase 1
In July 2015 we held a public engagement event in Pill and set out our proposals for reopening Pill Station as part of the MetroWest Phase 1 rail project. These proposals included:
• A new car park at Monmouth Road; and
• A footbridge connecting Monmouth Road to the station platform on the south side of the rail line
Since that event, we have continued to look at ways to improve the proposals, and in particular the way in which people access the station platform.
The owner of 7 Station Road has agreed to sell the property to us, which means that we may now have more options for accessing Pill Station. An option would be to open up the site and provide steps and a ramp directly down to the platform. This would be a much shorter walk for passengers, and would provide an area that is able to accommodate drop-off spaces, disabled parking and covered cycle parking.
If we created a new access to the station platform, there would still be a car park on Monmouth Road, but there would no longer be a need for a pedestrian footbridge.
Major Updates
view now
Journey Planner
Starting location
Finishing location
Find Route
View Full Journey Planner
Real Time Departures
Starting location
Search

Appendix E
Statutory Bodies letter

MetroWest
Engine Shed
Station Approach
Temple Meads
Bristol BS1 6QH

metrowest@westofengland.org

25th February 2016

Dear Stakeholder,

METROWEST PHASE 1 – CONSULTATION ON PROPOSALS FOR ASHTON VALE ROAD LEVEL CROSSING & BARONS CLOSE LEVEL CROSSING

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The consultation is now open and remains open until **midnight 23rd March 2016**.

For more information about the MetroWest Phase 1 project, please visit the website: travelwest.info/metrowest. We look forward to hearing from you.

Yours faithfully



James Willcock
MetroWest Phase 1

enc Concept plans of highway access options 1 to 6 and pedestrian access options A & B

Appendix F
List of statutory bodies

List of Statutory Bodies Contacted

National bodies
British Transport Police
Coal Authority
Environment Agency
Historic England
Natural England
Office of Rail and Road
PIN's
Local Authorities
Bristol City Council Planning Department
North Somerset Council Planning Department
Bristol City Council Environmental Health
North Somerset Environmental Health
Bristol City Council Diversity officers
North Somerset Council Diversity officers
Bristol City Council Development Control
North Somerset Council Development Control
Bristol City Council ward members
North Somerset Council ward members
Utilities
Bristol Internal Drainage Board
Bristol Port Company
Bristol Water PLC
BSKYB
BT Openreach
Cable & Wireless
City Fibre Holdings
Gas Transportation Company
Government Pipelines and Storage System (GPSS) / CLH
Instalcom
KCOM (Kingston communications)
MCI WorldCom Ltd (Verizon)
Virgin Media
Vodafone
Wales and West Utilities (British Gas)
Wessex Water PLC
Western Power Distribution

Appendix G
Pill Station Consultation Responses

Subject	Count	Collated summarised consultation comments and issues
Parking	8	Concern that there is currently limited space for parking in the locality of the station and that parking restrictions coupled with station users not using the car parks (to avoid parking charges or because parking on-street is more convenient) will exacerbate parking issues, making it difficult for some local residents to park.
	4	Does not believe that there is a need for parking restrictions on Monmouth Road, as there are already passing spaces provided by the location of residential driveways.
	3	Would it be possible to provide a residential parking scheme, such as the use of parking permits or allowing residents to park in the station car park?
	2	Specific concern about people parking on Samborne Lane if parking restrictions are in place on adjacent roads.
	1	Suggestion that parking restrictions are only implemented after a trial period following the opening of Pill Station and when there is a better understanding of traffic issues.
	1	Supportive of parking restrictions along Station Road to improve traffic flow.
	1	Supportive of parking restrictions along Samborne Lane to prevent station users parking.
	1	Supportive of 1 hour parking only on Monmouth Road to deter station users from parking.
	1	Will there be compensation for the inconvenience caused by parking restrictions?
	1	Would it be possible to use the Memorial Club car park as a station car park?
	1	Would it be possible to provide short stay parking on Station Road for visitors to the Co-op.
	1	Concern that the station car park is not large enough for all station users.
Option preference	11	Generally supportive of the new options that replace 7 Station Road (Station House) with a station forecourt with parking (options 2-4)
	7	Preference for option 4.
	4	Supportive of drop-off parking spaces at the station forecourt.
	3	Preference for option 1.
	3	Supportive of disabled parking located at the station forecourt.
	2	Preference for option 3.
	1	Supportive of provision for cycle parking.
	1	Concern that 2 disabled parking spaces would be inadequate.
	1	Concern that in options 2 and 3 the headlights of vehicles using the disabled parking spaces would shine into the property opposite the proposed station forecourt.
Traffic	2	Would like to ensure that there are controls in place to prevent speeding on Monmouth Road, particularly near the entrance to the main station car park.
	2	General concern about the potential for increased levels of traffic as a result of the new station.

	2	Concern about the potential for increased levels of traffic on Monmouth Road specifically.
	2	Concern that larger vehicles, such as refuse vehicles and emergency vehicles, would find it difficult to negotiate Pill if there is an increase in on-street parking and traffic caused by station users.
	2	Concern about the potential for increased levels of traffic on Station Road, Church Walk and New Road.
Access to the station platform	1	Preference for a bridge linking the main car park to the platform.
Rail service	2	View that Pill Station is not necessary and would not be heavily utilised.
Station facilities	1	Would like a waiting shelter to protect from the rain and the provision of train information displays.
	1	Preference that lighting associated with the new station is designed to minimise light pollution to neighbouring properties.

Appendix H
Ashton Vale Industrial Estate Responses

Subject	From	Comment
Option 1	Affected business	**Option 1** unlikely to be sufficient to deal with delays caused by increased barrier down time.
	Affected business	**Option 1** is a non-starter which would have a major impact on viability and profitability and would impact jobs. We formally object to this option.
	Affected business	**Option 1** is no option at all for commercial businesses on the estate and must not be contemplated.
	Affected business	A barrier down time of 20 minutes each hour would have a very detrimental effect on our business and pose real safety risks.
	Affected business	A total barrier down time of 20 minutes each hour at the existing road junction would be a logistical nightmare for us and our suppliers, and would have a very detrimental effect on our business. It would also pose real safety risks. We do not object to the closure of this junction combined with a replacement access road to the west.
	Member of public	**Option 1** will cause a lot more traffic problems than it will solve.
	Affected landowner	The Ashton Vale Level Crossing must be retained. If the level crossing is destined to be operating for 40 uninterrupted minutes per hour then it has to be suitably safely modified (with possible stacking lanes on Winterstoke Road approaches) together with the rear access routes shown in combination on Options 4 or 5.
Option 2	Affected business	**Option 2** preferred.
	Affected business	**Option 2** takes valuable land away from Manheim which will have an impact on the business in terms of causing an operating capacity reduction. All traffic (including car transporters) would need to travel a lengthy route almost the full length of Ashton Vale Road.
	Affected business	If **Option 2** were to be implemented we would favour a land swap arrangement where alternative land could be provided to mitigate the loss of land subject to CPO. We would also like to discuss a new direct access on to the new road.
	Affected business	**Option 2** a potentially workable option and we rate it as our option preference No. 4 (where No. 1 is the most desirable).
Option 3	Affected business	**Option 3** is one of the better options but we are concerned as to the implications of access via Ashton Vale Road. We would be interested in a direct access on to the new road. This as our option preference No. 3 (where No. 1 is the most desirable).
Option 4	Affected business	**Option 4** entails the greatest land take [redacted] [redacted name(s)] and would result in huge disruption to flows, loss of considerable operational land and a huge reduction in capacity and profitability.
	Affected business	We formally object to **Option 4** unless we are to be compensated by the provision of new land on which to operate on. We do not believe this to be a practical option we have not rated it in terms of a preference ranking.
	Affected business	**Option 4** has some merit in that it leaves intact the employment potential of the estate as no businesses are materially affected.
	Member of public	**Option 4** preferred. Requires the least loss of green and blue space.
	Member of public	**Option 4** would be enhanced if specific provision for Manheim vehicle transporters to unload off the main highway were included. Currently, they frequently block Ashton Vale Road completely.

Option 5	Affected business	**Option 5** is best, due to the close proximity of the road to the car auctions entrance which causes the most traffic issues in the industrial estate.
	Affected business	**Option 5** requires no land take from Manheim) and circumvents the congestion issues identified in **Options 2 & 3**. This is a very good option and is our option preference No. 2 (where No. 1 is the most desirable).
	Affected business	**Option 5** would have the effect of terminating a business that currently runs a taxi fleet of 420 vehicles and books over 4000 trips a day. I am not in favour of the destruction of unit 4a.
Option 6	Affected business	**Option 6** requires no land take from Manheim and is therefore considered a good option. On the assumption that good traffic flow can be assured through the trading estate, this is our option preference No. 1.
	Affected business	**Option 6** is the best option.
	Member of public	**Option 6** looks to be the most effective.
	Member of public	**Option 6** is the best option, as right and left turns would just contribute to horrendous local traffic.
	Member of public	The documents make reference to an earlier engineering option deemed too costly. Can details of this be made publicly available?
	Member of public	**Option 6** is the best solution, with easy access onto the main road network, and through into the estate.
All road options	Affected landowner	The Estate currently enjoys access directly onto Winterstoke Road which thereby affords direct and easy access to and from the City Centre and routes both north and south. The options to close the level crossing whilst re-opening the closed line to rail and diverting the estate traffic via the A370 to a rear access to the estate, will prove severely detrimental to the future popularity and wellbeing of the estate as it will no longer have direct access to Winterstoke Road and hence the City Centre. New signage for the diversion onto the A370 and B1323 will cause confusion as to how to gain access to the estate which will lose prominence and accessibility. Traffic will also be caught up in the inevitable queuing which builds on the Cumberland Basin routes especially during commuting hours.
	Affected business	The level crossing should remain open (alongside one of the new road options) with reduced access and with filter lane extended. Consideration should be given to limiting access/egress to trucks only or to exit-only movements.
	Affected business	If the crossing is closed, Babcock will need to move its entrance gates West, leading to alterations in parking facilities
	Affected business	None of the proposals are satisfactory until a way can be found of gaining access into the north east of the auction site using **Options 2, 3 & 6**.
	Affected business	**Options 4 & 5** for new access road preferred. It would create a new through road for access which does not have entrances to units or sites and appears more practical and safer than **Options 2, 3, & 6**.
	Affected business	Our preferred road options are **Options 4 & 5**.
	Affected business	**Option 1** will make entry / exit to Ashton Vale Road almost impossible due to the number of train movements. **Options 2, 3 & 6** would have a major impact on the traffic at the west end of the road, The waste transfer station already has an extremely high number of vehicle movements and extra vehicles coming in this way would only exacerbate the situation.
	Affected business	**Options 2, 3, 4 & 5** are acceptable.
	Affected business	We do not object to the closure of the junction combined with replacement access to the west.

	Affected business	**Option 2 & 3** would solve the problem of the skip and recycling lorries as they would no longer need to exit by the level crossing. However, this could lead to transporter lorries from the car auction causing increased congestion as they take greater advantage of parking in the road.
	Affected business	If access into the auction site can be by a spur from the new **Option 2 & 3** road, the best of all worlds would be achieved and the result would be highly satisfactory.
	Affected business	**Option 6** may be as equally effective as **Options 2 & 3** but leaves the issue of the transporter lorries.
	Affected business	We prefer **option 4 or 5**. This would create a new through road for access, i.e. one which does not have entrances to units or sites. As such, it is a more equivalent replacement to the access resulting from the closure than **options 2, 3, or 6**. It appears to be more practical and safer than a partially new access road as shown in **options 2, 3, and 6**.
	Affected business	Could the Mannheim entrance be moved to the west end of their land? This would reduce the heavy traffic within the Ashton Vale site whichever option is chosen.
	Member of public	It is most feasible to proceed with **Options 2 to 6** because traffic could become very bad on Winterstoke Road with long crossing closures.
	Member of public	**Options 4, 5, 6** are the best options but will only work if the crossing/barriers are permanently closed. Traffic waiting at the crossing often form a long queue and **options 4, 5, 6** will create long tailbacks that will bring the estate to a standstill unless the crossing is closed.
	Member of public	Ashton Vale Road should stay open. A good compromise would be to make it one way to help the A3029 run smoothly e.g. site access only, removing the need for the traffic lights.
	Member of public	I would vote for closing the Ashton Vale Road junction into Winterstoke road. This is a notably disagreeable junction to use, because of the delays getting out onto Winterstoke Road. I have no preference between **Options 2 to 6**.
	Member of public	The railway was there long before the businesses, they should just put up with the increase in rail traffic on this crossing.
	Member of public	Turning circle of car transporters and large loads could be limited.
	Member of public	Vehicles travelling down Winterstoke Road will have longer journeys if the level crossing is permanently closed.
Pedestrian crossing, options A & B	Affected business	Ramp in Barons Close **option A** must not compromise the security of the site. The ramp should be enclosed and consideration given to additional lighting and CCTV.
	Affected business	**Option A** is no good as most pedestrians want access to Sainsbury's or local shops and this sends you in the wrong direction.
	Affected business	**Option B** is by far the best option for pedestrian access.
	Affected business	Any footbridge crossing the railway line at Baron's Close must be integrated into the future design of Ashton Gate station.
	Affected business	**Option A** seems to be unsafe as there could be large volumes of people trying to gain access to the stadium via this route on match days and that could cause crowding on a very busy road with fast moving cars. This seems to be dangerous and unnecessary. In the event of the level crossing closure we believe that **Option B** is the only way to go. It would enable stadium visitors using MetroBus to alight at Ashton Vale and walk to the stadium.
	Affected landowner	The closure of pedestrian access routes south towards local shops and Sainsbury's will mean that employees on the estate will have a lengthy, convoluted route for

		convenience shopping and other services which can be easily accessed at present.
	Local Campaign Group	**Option B** should be taken forwards, amended as necessary, to ensure the footbridge can also serve Ashton Gate Station.
	Local Campaign Group	Both pedestrian options should be built. **Option A** is also needed for access to Ashton Vale Road trading estate.
	Local Campaign Group	A footbridge at Barons Close would serve the large number of people who will want to walk between the stadium / Ashton Gate area, the Long Ashton Park & Ride site and Ashton Vale MetroBus stop along the MetroBus path.
	Affected business	Our preferred pedestrian option is **Option A**, otherwise people will still cross the road at the same point & not walk down to the crossing point further away from the estate.
	Member of public	It essential to have at least **option A** as it is relatively low cost. Only having option B would mean a considerable detour for pedestrians and cyclists wishing to access Ashley Vale Road from the north.
	Member of public	With **option A**, a ramp could be considered under Ashton Gate Underpass to give easier access to the top of the ramp. Cycling through the tunnel is not very safe especially when many school pupils are around.
	Member of public	Pedestrian access via Babcock will not get approved. [redacted] [redacted statement]
	Member of public	Pedestrian access to Ashton Vale Road would have to be maintained (via a footbridge) as many of the workers in the area walk to work.
	Member of public	The pedestrian bridge should be built rather than making people walk around Babcock, The majority of pedestrians that leave the estate head to shops located in the opposite direction. The Babcock route would be challenging for those who are less mobile and could also deter people who walk from local areas from using services on the estate.
Operational/ Financial impact	Affected business	We assume that any additional costs would be reimbursed by the scheme.
	Affected business	Proposals have a major financial impact on our business. A robust solution is needed to preserve access for staff, customers and the many daily vehicular transporters attending our site to deliver in and collect cars.
	Affected business	We wish to put on record our interest in acquiring additional land to further grow our operations, and hence employment on site, should there be any opportunities of doing so.
	Affected landowner	The potential loss of direct access onto Winterstoke Road has already led to concern amongst clients' tenant occupiers and is causing them to think short term in considering lease renewal and investment options. The proposed scheme is already causing generalised blight to the estate and will seriously damage investment value, from now and over a period of years to come.
	Member of public	One of the options requires demolition of the V Cars building. This potentially removes a business, and also space for further businesses. What help would be offered to the V Cars business for relocation etc?
Construction impacts	Affected business	Construction of **Options 2-6** must be completed before any works on the level crossing.
	Affected business	Construction will cause major disruption for 18 months and might in some cases result in a terminal situation. Business rates should be suspended for a period of at least 2 years and thereafter reduced to 50% of the current rate.
	Member of public	What drainage and sewerage options are being proposed during the build project and once the metro system is up and running?

Cyclists / pedestrians	Member of public	The two options proposed do not meet the needs of existing cyclists and will not encourage new users to consider the cycle as a viable form of transport for South Bristol.
	Member of public	Scheme will result in increased cycle traffic on routes that at present are mostly used by pedestrians.
	Member of public x 2	**Option A** has good points but requires dangerous cycling manoeuvres in order to connect with Paxton Drive and Festival Way.
	Member of public x 2	It is not acceptable to provide a new rail connection at the expense of cyclists.
	Member of public x 2	Potential alternative cycle routes are too narrow for shared use, with tight turns and in places adjacent to a 40mph road (plan provided). Cyclist should not be expected to dismount.
	Member of public x 4	Problems can largely be resolved by providing an additional route over unused land in between the allotments and the railway line (plan provided).
	Member of public x 2	Can cycle/pedestrian access be provided using the existing bridges to the south of Baron's Close?
	Member of public	Concerned about ease and safety for pedestrians/cyclists crossing the junction and Winterstoke Road.
	Member of public	A safer and convenient way of crossing both Winterstoke Road and the A370 should be provided, particularly given the high number of school children that require access to Ashton Park.
	Member of public	Cyclists going to Ashton Vale Road will have to ride along the carriageway near the Sam FM building. This is a dangerous section due to traffic speeds and multiple lane changes. A dedicated cycle path access from both the city side and the Long Ashton side of Ashton Vale Road needs to be added to the plan for safety reasons.
Traffic issues	Affected business	Appropriate traffic management needed to avoid congestion at David Lloyd facility and P&R at peak times.
	Affected business	Junction with B3128 needs to provide adequate turning radius for large HGVs and oversize loads.
	Member of public	Scheme will result in increased delays at peak times northbound on the A370 due to traffic exiting the Aston Vale Road.
	Member of public	Access to the east should be considered in addition to the proposed access to the south.
	Affected business	Could the Mannheim entrance be moved to the west end of their land? This would reduce heavy traffic within the Ashton Vale site.
	Affected business	Problems are currently caused by transporter lorries parked in Ashton Vale Road and by the movements of skip lorries. Any plan that reduces these problems would be helpful.
	Affected business	Skip lorries pass hazardously close to cars parked either side of the road. Environment Agency has previously been asked to help reduce the hazard of the skip vehicles, but problems have recurred.
	Affected business	A roundabout should be constructed on the B3128 with preferential traffic lights at peak times for egress from Ashton Vale.
	Affected business	Emergency vehicle access to businesses on Ashton Vale trading estate must be considered.
Potential Ashton	Affected business	Further thought should be given to providing a station at Ashton.
	Member of public	Opening of an Ashton rail station adjacent to Brunel Ford is a brilliant idea.

Gate station	Member of public	If the level crossing is to be closed, there is an opportunity is to reinstate the Ashton Vale Station to serve local businesses and the Stadium.
	Member of public	Ashton Gate station should have pedestrian access to David Lloyd and interchanges with the Metro Bus.
Statutory consultee response	Bristol Port	The fourth paragraph of your correspondence refers to the Ashton Vale Road level crossing being operated on average less than 4 times per day. I remind you that current freight traffic on the rail link is no indication of future traffic and that the limit on freight traffic is an average of 20 trains daily per calendar year in and out of the Port (NSC full planning permission ref: 11/P/1893/F dated 2 December 2011). In response to the current consultation The Bristol Port Company considers that the impact of permitted freight traffic and the proposed passenger services will require a new highway access to Ashton Vale Road and that Option 1, being the proposal to modify the level crossing in an effort to accommodate all the new train paths, is not workable. Given our view that the existing level crossings at Ashton Vale Road and Barons Close must both be closed we have no particular view on the arrangements for pedestrians and either of the options suggested appear satisfactory
Statutory consultee response	Bristol Water	We attach a copy of the ordnance survey sheet upon which we have marked the sizes and approximate positions of our water mains in the area of your proposals, which are normally laid with 750mm of cover in footpaths and verges and 900mm of cover in roads. We do not normally keep records of service pipes, however, a number of such pipes may be indicated upon our ordnance sheet, but no guarantee as to the accuracy of this information can be given. As you see, your proposals will affect our mains. When you have selected your preferred option, we would be pleased to receive further details including existing and proposed ground levels over and adjacent our mains, any change of use or cover over our mains. Should you propose to lower ground levels we may require to divert our mains at your cost. Your Contractor will be required to take great care when excavating in the vicinity of our mains.
Statutory consultee response	Coal Authority	I have reviewed the proposals and can confirm that the proposed works at Ashton Gate Level Crossing and Barons Close Level Crossing would be located within the defined coalfield, and accordingly due consideration should be afforded to ground conditions and the potential for unstable land resulting from past coal mining activities to impact on the proposed development options. Our coal mining records indicate the presence of recorded mine entries within the vicinity of the Ashton Gate Level Crossing and Barons Close Level Crossing, and the likely presence of historic unrecorded underground coal mining at shallow depth within this part of the Bristol urban area. Accordingly, we would expect due consideration to be afforded to ground conditions and these potential coal mining legacy risks, including any proposals for intrusive site investigations and/or remedial measures if necessary, to inform any proposed development in this area and to ensure that new development would be safe and stable.
Statutory consultee response	Environment Agency	Please find hereunder the Agency's comments in respect of the options submitted: Option 1

		We have no major concerns with this option, however, we highlight that the Agency needs to have 24/7/365 access for both emergency works and routine maintenance to the Agency's compound for the Ashton Vale weed screen structure off Ashton Vale Road. The access needs to be sufficient for crane-size vehicles. We also highlight that we currently use the Barons Close pedestrian level crossing for access to check the entrance to the Old Colliters Brook. We note that you intend to close this crossing permanently, however, this should not be a problem for us as we have reached an agreement with the AVTM Metrobus (BCC) for us to use the AVTM Metrobus maintenance track along the route from which we could gain access to the new trash screen arrangement on the Old Colliters Brook. Option 2 It is unfortunate that this option involves new bridge crossings on the New Colliters Brook, which follows the construction of another new crossing just upstream as part of the AVTM Metrobus route. Any proposed new bridge crossing should be clear span in design and tested through modelling (CAFRA model) to demonstrate that the capacity of the Ashton Vale Flood Defence Scheme will not be reduced. Furthermore, the proposed road along the right bank of the New Colliters Brook should be no less than 10m from the top of bank of the watercourse to provide maintenance access for the Agency. A suitable crossing over the road would need to be provided. As with Option 1, we highlight that the Agency needs to have 24/7/365 access for both emergency works and routine maintenance to the Agency compound for the Ashton Vale weed screen structure off Ashton Vale Road. The access needs to be sufficient for crane-size vehicles. Option 3 This option proposes to significantly alter the Ashton Vale Flood Defence Scheme. We require much more detail to explain the intentions. The plan indicates an Environment Agency trash screen where there currently is not one - does this imply that a new trash screen will be constructed on the assumption that the Agency will maintain it? We would then have two structures to maintain. Who would maintain the new culvert structure? We may also seek commuted sums for any new structure we are expected to maintain. The proposals must be fully tested through modelling (CAFRA model) to demonstrate that the capacity of the Ashton Vale Flood Defence Scheme will not be reduced. As with Option 1 and 2 we highlight that the Agency needs to have 24/7/365 access for both emergency works and routine maintenance to the Agency compound for the Ashton Vale weed screen structure off Ashton Vale Road and for any new structure we are expected to maintain. The access needs to be sufficient for crane-size vehicles. A full WFD assessment will be required for the significant length of proposed culverting. Option 4 This option appears to involve a new road being constructed through our Ashton Vale weed screen compound off Ashton Vale Road. We have not previously been approached about this and we have significant concerns about it. The Agency needs to have 24/7/365 access for both emergency works and routine maintenance to the Ashton Vale weed screen compound. The access needs to be sufficient for crane-size vehicles. Again as with the other options, it is unfortunate that this option involves new bridge crossings on the New Colliters Brook, which follows the construction of another new

		crossing just upstream as part of the AVTM Metrobus route. Any proposed new bridge crossing should be clear span in design and tested through modelling (CAFRA model) to demonstrate that the capacity of the Ashton Vale Flood Defence Scheme will not be reduced. Furthermore, the proposed road along the right bank of the New Colliters Brook should be no less than 10m from the top of bank of the watercourse. Option 5 Like Option 3, this option also proposes to significantly alter the Ashton Vale Flood Defence Scheme. We require much more detail to explain the intentions. The plan indicates an Environment Agency trash screen where there currently is not one - does this imply that a new trash screen will be constructed on the assumption that the Agency will maintain it? Who would maintain the new culvert structure? The proposals must be fully tested through modelling (CAFRA model) to demonstrate that the capacity of the Ashton Vale Flood Defence Scheme will not be reduced. As with the other options we highlight that the Agency needs to have 24/7/365 access for both emergency works and routine maintenance to the Agency compound for the Ashton Vale weed screen structure off Ashton Vale Road and for any new structure we are expected to maintain. The access needs to be sufficient for crane-size vehicles. We may also seek commuted sums for any new structure we are expected to maintain. A full WFD assessment will be required for the significant length of proposed culverting. Option 6 As with the other options, it is unfortunate that this option involves new bridge crossings on the New Colliters Brook, which follows the recent construction of another new crossing just upstream as part of the AVTM Metrobus route. Any proposed new bridge crossing should be clear span in design and tested through modelling (CAFRA model) to demonstrate that the capacity of the Ashton Vale Flood Defence Scheme will not be reduced. Furthermore, the proposed road along the right bank of the New Colliters Brook should be no less than 10m from the top of bank of the watercourse to provide maintenance access for the Agency. A suitable crossing over the road would need to be provided. As with Option 1 we highlight that the Agency needs to have 24/7/365 access for both emergency works and routine maintenance to the Agency compound for the Ashton Vale weed screen structure off Ashton Vale Road. The access needs to be sufficient for crane-size vehicles.
Statutory consultee response	Instalcom	With reference to your enquiry regarding the above noted location, I can confirm that LEVEL 3, GLOBAL CROSSING (UK) LTD, GLOBAL CROSSING PEC FIBERNET UK LTD and FIBRESPAN LTD networks **DO NOT** have any apparatus within the immediate proximity of your proposed works.
Statutory consultee response	KCOM Group PLC	With regards to your request for details of existing services in the search area supplied, we can confirm that based on the details provided to us, we have no buried plant or equipment in the identified area. This is valid for 3 months from the date of receipt of this email.

Statutory consultee response	Verizon	We have reviewed your plans and have determined that Verizon (Formally known as MCI WorldCom, MFS) has no apparatus in the areas concerned.
Statutory consultee response	Vodafone	Please accept this email as confirmation that Vodafone: Fixed **does not** have apparatus within the vicinity of your proposed works detailed below.
Statutory consultee response	Wessex Water	Having reviewed your client's proposals, please find our comments below to enable you to progress forward: **1. The proposed works to provide new vehicular access to the David Lloyd Centre: Options 1-6)** Having reviewed options 1 to 6, Wessex Water can advise that any of the proposed works over the stated options themselves, will generate negligible impact upon our existing public waste water sewers within the area, on the basis that we have these existing public sewers recorded as being at least 2.0m deep to invert. This assessment is based upon where options 1-6 will seek to have a maximum excavation depth of no more than 0.5m deep to accommodate and allow for the new highway construction itself and will not seek to permanently reduce the levels significantly, resulting in reduced coverage over our existing waste water public sewers at the above location and may subsequently seek to increase the risk of disruption in Wessex Waters ability to meet and satisfy current service levels We note that these options are high level and indicative only and are subject to selection, which will then be subject to further site investigation as deemed appropriate to enable the preferred option to progress to detailed design stage. However, if permanent lowering of the existing levels are required either for the new proposed access to DLC or as part of the existing permanent way level crossing, then further consultation will be required with WW to agree a suitable way forward. **2. The proposed pedestrian access: (Options A & B)** Having reviewed options A & B, Wessex Water can advise that we have some concerns with regards to option B only, of which this proposal consists of proving new ramped access for pedestrians and cyclists. Wessex Water can confirm that we have an existing 150mm diameter FW public sewer recorded as being located within this area and will be more than likely be impacted upon by the proposed option B, where we have the depth of this sewer being recorded as ranging from 0.7m to 1.45m deep to invert. Our maps are only indicative, therefore, if option B is progressed, WW advises that further site investigation will be required to ascertain the real depths and location of this sewer relative to the location of proposed option B, to ensure that option B does not negatively impact on the performance of this sewer itself as not to seek to increase the risk of sewage flooding or pollution in the downstream catchment, where any scheme as part of the overarching sewer protection issue

		in this location will need to include items such as maintaining our current access arrangements for maintenance at the MH's, and ensuring that minimum cover to the existing sewer is maintained, - where it is not, - the developer will need to agree suitable adequate protection measures are constructed as appropriate and promote this to use for further appraisal and comment. Wessex Water would need to understand the impact of any supporting structure and their associated foundations under option B, where we anticipate will penetrate deep into the ground in the location of where we believe our FW public sewer is located. I have attached and included an extract of our asset sewer plan for your reference, highlighting the public sewer in question that we believe may be impacted upon by proposed option B.
Statutory consultee response	Western Power Distribution	We do have some electricity cables (low voltage (230v / 400V) and high voltage (11,000v)) present in the areas of the proposals as well as some electricity substations. If any of these cables or substations need to be repositioned then these work would be chargeable. I have attached copies of our records for your information. I would like to make a few comments about each option together with budget costs. All budget costs exclude VAT. **<u>Ashton Vale Road :</u>** Option 1 : We do have cables present here but they are laid in ducts underneath the existing line and hopefully they should not be affected by the proposals. Option 2 : There are cables present where the new access road meets Ashton Vale Road which would need to be lowered. Budget cost £4k Option 3 : There are cables present where the new access road meets Ashton Vale Road which would need to be lowered. Budget cost £4k Option 4 : There are cables present where the new access road meets Ashton Vale Road which would need to be lowered. Budget cost £4k Option 5 : There are cables present where the new access road meets Ashton Vale Road which would need to be lowered. Budget cost £4k

		Option 6 : (1) We have a substation close to the proposed new access road. Hopefully this should not be affected but if it needed to be moved then a budget cost for this would be £40k - £50k (2) There are cables present where the new access road meets Ashton Vale Road which would need to be lowered. Budget cost £6k **<u>Barons Close :</u>** We have no cables present here so neither option should affect us.
Statutory consultee response	WWUtilities	WWU has an 8" Low Pressure Gas Main in this level crossing, see screen print below. This crossing of the existing railway by our gas main is covered by WWU's Statutory Rights under the Gas Act 1986 and NRSWA and we assume the level crossing would be closed by means of a stopping up order and we request that such order reserves these statutory rights in the normal way. If works are required in addition to the Stopping Up Order these may require protection of the pipe or diversion at the cost of the Metro West Operator and access will be required to effect such works.



MetroWest

Portishead Branch Line (MetroWest Phase 1)

TR040011
Applicant: North Somerset District Council

5.1 – Consultation Report and Appendices
Appendix I6: Ashton Vale Road alternative access micro-consultation (additional and shortlisted options, informal consultation)

Planning Act 2008: Sections 37(3)

Author: North Somerset District Council
Date: November 2019

Network Rail · West of England Local Enterprise Partnership · West of England Combined Authority · HM Government · Bath & North East Somerset Council · Bristol City Council · North Somerset Council · South Gloucestershire Council · travelwest

Ashton Vale Industrial Estate alternative access report on second micro-consultation

MetroWest Phase 1

January 2017

THIS REPORT REMAINS IN DRAFT FORM AS THE WORKSTREAM ENDED AND IS MADE AVAILABLE FOR INFORMATION ONLY

MetroWest

Date	Author	Review	
30/12/16	SP	JWK / JD	v1
04/01/17		JWK / CM	v2
11/01/17		JWK/CM/RPB	v3

MetroWest Phase 1
Ashton Vale Industrial Estate alternative access
Report on second micro-consultation

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Appendix E List of statutory bodies
Appendix F Ashton Vale Industrial Estate responses

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1. Introduction and background

MetroWest Programme overview

1.1 The West of England Councils[1] are working together on proposals which will deliver investment of over £100 million in improvements to the local rail network over the next five to ten years, known as the MetroWest programme. It consists of a series of projects including large to small scale enhancements to the local rail network. The overall aim is to introduce fast and frequent metro rail services across the local area, by making better use of existing local passenger lines and freight lines and reopening viable disused lines.

1.2 The MetroWest programme, which includes enlarging the existing local passenger rail network, increasing the frequency of train services and extending train routes in the West of England, will complement the investment being made by Network Rail and extend the benefits of projects such as the electrification of the Great Western main line. The proposals are supported by the rail industry and are being developed with Great Western Railway, freight operating companies, the Department for Transport and Network Rail.

1.3 With so many improvements being made to the rail network over the next few years, delivering the MetroWest proposals at the same time has some challenges, and therefore a phased approach has been taken through MetroWest Phase 1, MetroWest Phase 2 and specific new station projects. MetroWest Phase 1 entails re-opening the Portishead - Bristol line to passenger train services and enhancing the train service frequency on the Severn Beach - Bristol line and the Bath - Bristol line. MetroWest Phase 2 involves re-opening the Henbury – Bristol line to passenger train services and enhancing the train service frequency on the Yate – Bristol line with an extension of the improved frequency to Gloucester being considered.

1.4 Under the Planning Act 2008, that part of Phase 1 consisting of the re-opening of the disused railway between Portishead and Pill is classed as a Nationally Significant Infrastructure Project (NSIP) and a development consent order (DCO) needs to be obtained from the Secretary of State for Transport.

1.5 MetroWest Phase 1 is being led by North Somerset District Council.

[1] Bristol City Council, Bath and North East Somerset Council, South Gloucestershire Council and North Somerset District Council

Development Consent Order (DCO) consultation

1.6 Consultation is a formal requirement for the elements of MetroWest Phase 1 that require a Development Consent Order (DCO). The Portishead Branch Line DCO Scheme comprises the reopening the branch line to Portishead, by reinstating the railway from Pill along the old alignment which closed to passengers in the 1960s and forms the NSIP, and upgrading parts of the existing freight line between Pill and Ashton Gate will be included as associated development in the application for development consent. The remaining works required at Parson Street Junction and at Bedminster, which are required to provide passenger train services all the way from Bristol Temple Meads to Portishead, will be undertaken by Network Rail under their permitted development rights.

1.7 The DCO application process requires extensive consultation with affected and interested parties. North Somerset District Council has decided to hold two consultation stages. In June 2015 Stage 1 of this process began, with North Somerset District Council consulting the public, statutory bodies, and stakeholders including community and local interest groups on the plans.

1.8 Following the Stage 1 consultation in 2015 and further scheme development, two areas were identified as requiring possible changes to the design; at Pill Station site and access to Ashton Vale Industrial Estate. The design changes were felt to be significant enough to consult with the local communities to explain the options and gauge opinion. These micro-consultations were carried out in February 2016 and enabled the scheme to be developed further in more detail. A second micro-consultation specifically focused on the Ashton Vale Industrial Estate was required in November 2016 following the decision to explore an alternative access route not consulted on previously.

1.9 Formal consultation (Stage 2 consultation) on the DCO part of the scheme will follow, before the council submits the DCO application to the Planning Inspectorate. Stage 2 consultation is scheduled for spring 2017 and will be published and advertised when available. The micro-consultations are informal consultations for the purposes of the 2008 Act but will be fully considered by the MetroWest authorities before publicising the proposals for the next stage of formal consultation.

Previous consultation

1.10 Since the MetroWest Phase 1 project began in 2013, several informal consultations have taken place to help develop the proposal:

- Portishead Station Site Consultation – February 2013

- Portishead Station Location – June 2014
- DCO Stage 1 Consultation – June 2015
- Micro-consultations for Pill Station House and Ashton Vale alternative highway access – February 2016
- Wider engagement and consultation
  - Local Transport Body Board part of the Joint Transport Board (held in public)
  - Engagement with the West of England Local Enterprise Partnership
  - MetroWest Stakeholder meetings
  - Engagement with rail interest groups
  - MetroWest information brochures
  - TravelWest stakeholder event - 13 October 2013
  - Joint Local Transport Plan 3 - 2011 to 2026 consultation
  - Consultation on the Strategic Economic Plan (SEP)
  - Rail conference 2011
  - Memorandums of understanding
  - Consultation on Joint Spatial Plan and Joint Transport Study – November 2015
  - Consultation on planning policy documents
  - As part of the consultations on the Core Strategies of each of the four authorities, Joint Local Transport Plan, and LEP's Strategic Economic Plan.

1.11 All of these reports are available online on the following websites:

- TravelWest – www.travelwest.info/metrowest
- North Somerset Council – www.n-somerset.gov.uk
- West of England LEP – www.westofenglandlep.co.uk

2. Micro-consultation Programme

Scope

2.1 Following the publication of the DCO Stage 1 Consultation Report in late 2015, elements of the scheme have developed further and this has led to some possible design changes significant enough to be consulted on with locally affected parties. One of these concerns the Ashton Vale Industrial Estate, accessed only via a level crossing on the existing freight line at Winterstoke Road.

2.2 The modelling of train paths indicated that the level crossing across the highway access into the Estate would be closed to pedestrians and vehicles for a significant amount of time during each hour. This is because the introduction of passenger services and the reservation of freight train paths would result in the barriers staying down for longer and more often than they do presently. As Ashton Vale Road is the only road access to the industrial estate this could lead to significant access restrictions to the businesses located there and cause traffic queues on both sides of the level crossing on Winterstoke Road.

2.3 Alternative highway options have been designed to access the Estate to the west off the A370 / B3128 and it is very likely the level crossing will have to be closed for safety reasons, along with the Barons Close pedestrian level crossing.

Previous micro-consultation

2.4 Six options were consulted on in February 2016; five alternative highway options and one which retained access across the level crossing, albeit with increased barrier closure times.

2.5 The report concluded that there were no fundamental issues with any of the alternative highway options, although some could be considered more popular than others. There was clear support for an alternative route to be provided.

2.6 Following the micro-consultation, the options were developed further and narrowed down to two – option 2 (now option A), and option 4 (now option B). It was also decided to proceed with pedestrian access option A – the provision of a new pedestrian ramp between Babcock and the railway.

2.7 The report for the first micro-consultation can be viewed at www.travelwest.info/metrowest

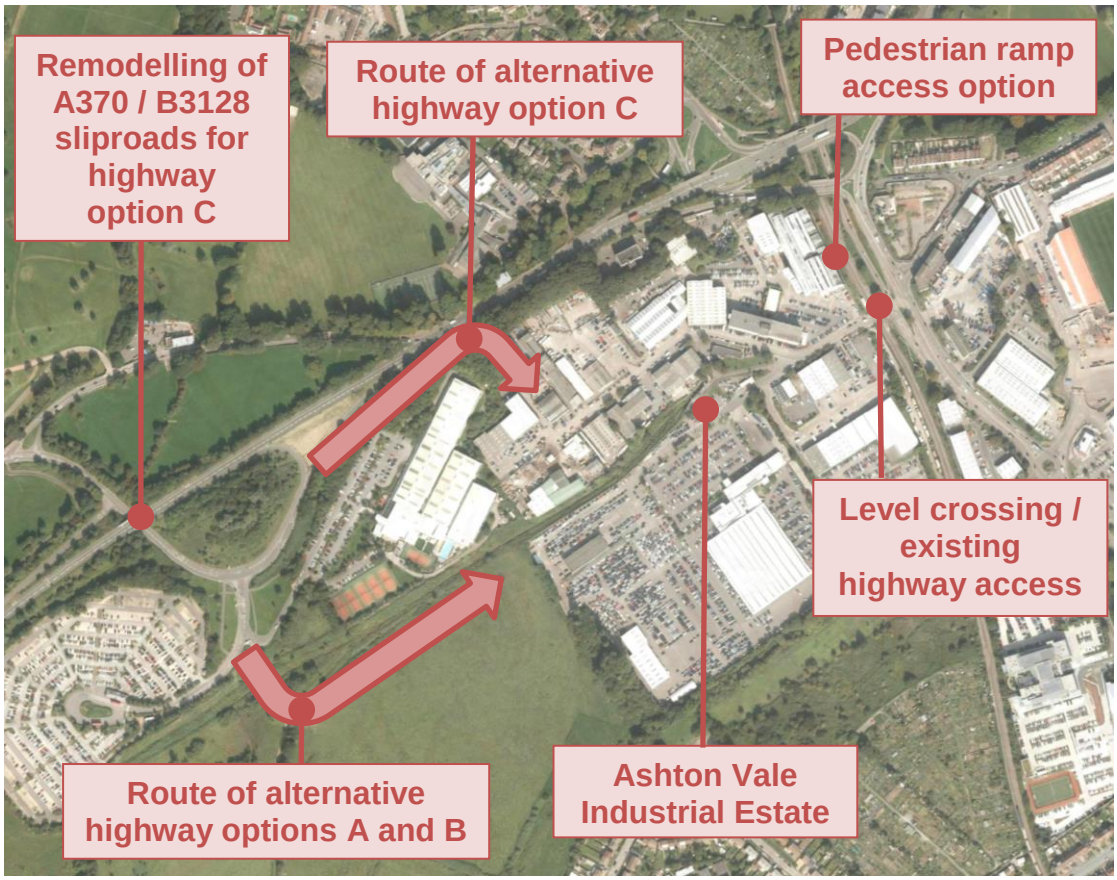
Development of a third highway option

2.8 Following the previous micro-consultation, another road option emerged which involves remodelling of the existing A370 / B3128 junction to allow the diversion of an existing slip road as access into the industrial estate. This new option was considered significant enough to consult on. It also presented an opportunity to seek views on the two options being carried forward from the previous round of consultation. All three options are presented in Appendix A.

2.9 It also allowed views to be sought on the proposed cycling and pedestrian routes into the industrial estate. These had been previously consulted on and so the opportunity was taken to present the pedestrian ramp access option taken forward.

2.10 There are also minor amendments required to the public rights of way in the area which were also presented.

Figure 1 – Ashton Vale Industrial Estate



Methodology

2.11 The aim of consulting on the two options taken forward from the previous micro-consultation and the additional option was to ensure all parties were given the opportunity to ask questions, raise issues, or register views. This was achieved through an exhibition, briefings and specific meetings, promoted through a variety of publicity materials, including online consultation websites.

2.12 The issues to be raised could vary widely depending on the individual's location or use, and these needed to be captured. Qualitative rather than quantitative means were deemed the most appropriate, with individuals, businesses and organisations given the opportunity to respond via letter, email, or using an online form.

2.13 The consultation was open for 28 days which was considered enough time to inform interested parties of the proposals and for them to respond with their views, given the localised issues and limited consultation areas. The consultation ran from the 14th November to the 12th December 2016.

Consultation publicity material

2.14 The following consultation material was produced and distributed:

Letters

2.15 Approximately 100 letters containing the proposals and exhibition date were sent to all businesses and landowners located on the industrial estate as they all have to use the level crossing to enter and exit the estate. Letters were also sent to a small number of businesses east of the crossing which, given their proximity, may also be affected. A distribution map is presented in Appendix B.

Posters

2.16 9 posters were attached to lamp posts in the industrial estate; pedestrian lights at the level crossing; Barons Close; and at either end of the public right of way affected by option C.

Online

2.17 The TravelWest website hosts information on cross-boundary, cross-promoted transport schemes in the West of England. Within this, a consultation page was set up which contained the consultation material, links to which were included in all correspondence and on social media. This included electronic copies of

the proposals, details of the exhibition date and location, background to the scheme, and previous relevant reports. The consultation page also encouraged people to read the material or visit the exhibition before responding via the online link, in writing or by email. The official website address was www.travelwest.info/ashton-vale-road

North Somerset and Bristol ward Councillors

2.18 Relevant local Councillors were emailed with details of the consultation, including the website address, exhibition venue, and consultation timescales.

2.19 Copies of all the publicity material produced are attached as Appendix C.

Parties Consulted

2.20 It was decided to focus on defined areas and specific issues, repeating what was conducted for the first micro-consultation. There was an aim to focus on the needs, concerns and issues of property owners directly affected by the proposed options.

2.21 Businesses were identified and an exhibition held nearby during the consultation period.

2.22 Relevant statutory bodies were written to, informing them about the proposals and consultation process.

Public, community and local interest groups, and businesses

2.23 An exhibition was organised during the second week of the consultation on Tuesday 22nd November 12:30pm – 7.00pm. It was decided to use Ashton Gate Stadium as this was the venue used for the first event because of its close proximity to the proposed changes.

2.24 At the exhibition posters showing the proposals were on display for visitors to examine (those presented in Appendix A). Representatives from each of the technical disciplines and partner organisations were in attendance to answer any queries. Attendees were encouraged to respond formally to the proposals via the online form, letter or email. Notes were also taken on the day to capture the issues raised.

2.25 The proposals only directly affect businesses in the area as there are no residential properties on the industrial estate or in close proximity that would be directly affected. However given the impact the new option (option C) would have on the A370 / B3128 junction due to the reconfiguration of the slip road

arrangements, the catchment was widened slightly to include others not consulted during the first round. This included a pub, school, and Ashton Court Estate.

2.26 Given the limited focus area and targeted publicity, the exhibitions was well attended, with 22 visitors arriving over the course of the day.

Statutory Bodies

2.27 It was important to contact relevant statutory bodies because of the size of the area being considered and the potential impact on the assets of the statutory bodies or sensitive receptors for which they have responsibility. The primary bodies contacted were the utility companies, with other national bodies also consulted as appropriate and relevant. An email and / or letter with information about the revised proposals and how to respond was sent to each organisation. A copy of the letter sent is attached as Appendix D and a complete list of those contacted is attached as Appendix E.

Engagement Period

2.28 Engagement began following promotion through the methods above in the lead up to the launch date. Respondents were asked to submit their responses online, or by email or letter. The exhibitions served as a useful way to answer some of the queries which may otherwise have been submitted as an official response, allowing people to focus their queries and register specific concerns or support.

2.29 A central MetroWest communications team provided a single point of contact for questions about the consultation process, details of events, how to respond and where to get further information about the proposals. They also co-ordinate programme-wide consultations, which helped to ensure there was no confusion with exactly what aspects of the project or programme views are being sought on. Finally, they worked with North Somerset Council's and Bristol City Council's communication teams to ensure compliance with their consultation guidelines.

2.30 Responses were accepted for two weeks after each respective closing date because of the closeness to the festive period. The responses were recorded in a register and circulated to the relevant workstreams for consideration.

3. Consultation Responses

3.1 A total of 43 responses were received for the micro-consultation. The majority responded via letter or email, with the remainder using the online form. Notes taken at the exhibition corresponded with submitted responses.

Response areas

3.2 Respondents were asked to include their postcode or business address. There were a number of reasons for this. Firstly, it was necessary to ensure that the micro-consultation had been publicised widely enough to draw responses from parties most affected by the proposals. Secondly, there is a lot of historical interest in the scheme both locally and nationally and there could potentially be a need to ensure that the consultation was able to distinguish between interest groups and those who would be directly affected by the proposals. Postcode data would allow these groups to be disaggregated if needed.

3.3 The targeted approach to advertising the consultation resulted in the majority of respondents being an employer, employee or having some other interest in the industrial estate (for example investment groups).

3.4 Because of the small number of responses these have not been mapped to avoid identifying individuals or businesses.

Responses

3.5 As per the letters and emails, the format of the online form was designed to produce qualitative results to ensure the possible wide ranging and individual issues would be captured. The responses break down as follows:

Online / email	Letter	Statutory Bodies	**Total**
13	21	9	**43**

3.6 A full breakdown of responses is attached as Appendix F.

Results

3.7 Three options were consulted on regarding the alternative highway access. For this micro-consultation very few responses questioned the need for an alternative access and instead focussed on their opinions of the different options. These are summarised below.

Option A

3.8 There was very little support for option A which was to provide a new highway to the south of the brook across land owned by Bristol Sport. It would connect to Ashton Vale Road through Bristol City Timber which would be relocated. Concerns were raised on the impact to this business should they have to find new premises given the locality of their customers.

3.9 This option would convert Ashton Vale Road into a through route, which respondents believed would create new issues. This included parked cars causing issues for two way traffic movements, and large vehicles struggling to navigate the new 'T'-junction. There was a belief that any proposed parking restrictions to mitigate these issues would not be adhered to and make an existing issue worse.

3.10 A parcel of land would be required from Manheim which they state will cause issues with their operations, even if the suggested replacement land is forthcoming.

3.11 Bristol Sport also objected to this option due to the impact it would have on the land they own. They stated that if options A or B were to go ahead it would need to be realigned to consider any possible future plans for the land.

Option B

3.12 There was a significant amount of support for option B. This route would again provide a new highway to the south of the brook across land by owned by Bristol Sport. It would then extend further east across the northern part of Manheim's business and connect with Ashton Vale Road much closer to the level crossing and negate the need to turn the remainder of Ashton Vale Road into a through route.

3.13 A significant number of those who supported option B did so in part because of the belief that a new western entrance could be provided to Manheim's business. This would remove the current issues with congestion created in part by the large car transporters entering and leaving the site. Whist a new western entrance could be included, it would cause some complications for Manheim due to the operational workflow of their site.

3.14 One of the main supporting arguments for option B is because of its close proximity to the existing entrance/exit point which is viewed as replicating the current situation. It is also believed to cause the least amount of disruption to the flow of vehicles through the estate because traffic movements would be similar to existing conditions.

3.15 Concerns were raised by multiple respondents that either option A or C would make navigating the estate more difficult and could damage both the estate's attractiveness to tenants, and trade for the tenants themselves. It is believed that option B is the better option to mitigate these concerns.

3.16 Manheim would be the most affected business operating on the industrial estate if option B were to go ahead, and raised a number of concerns over access to their site and the business impact on their operations. They are therefore not in favour of this option.

3.17 Bristol Sport also objected to this option due to the impact it would have on the land they own. They stated that if options A or B were to go ahead it would need to be realigned to consider any possible future plans for the land.

Option C

3.18 Option C would create a new highway to the north of the estate utilising in part an existing slip road. This would be made possible by the reconfiguration of the A370 / B3128 junction and creation of a new entry and exit slip road, thereby enabling the existing slip road to be converted into an access route into the estate. The diverted road would connect with Ashton Vale Road across land owned by the Kenny Group, which would involve the business and its tenants being relocated.

3.19 Option C received mixed responses. A significant number were not in favour of the route, however the majority of these were connected to the Kenny Group, either owners, employees or tenants. Of those not associated with the Kenny Group, there were many positive reactions who saw the reconfiguration of the junction as an improvement and believed it would provide an appropriate route into the estate.

3.20 The main concerns raised with option C were similar to those raised for option A which related to the conversion of Ashton Vale Road into a through route. Many respondents believe it is not suitable for this use given the existing issues with traffic and parking. Some of the businesses on the western side of the estate, queue vehicles on the highway whilst waiting to enter their respective business. This causes issues for the other businesses in respect of access, congestion, and parking.

3.21 The issue of queueing vehicles had previously been identified, and so the proposals suggested mitigating with the provision of a new holding bay. However there were a number of comments stating that the proposed bay was not long enough, suggesting 6 – 8 lorries can queue at any one time.

3.22 Many respondents commented that Ashton Vale Road suffers with parking issues for employees and visitors. It had been identified that parking space is limited as many of the units do not have allocated parking which sees many vehicles park on Ashton Vale Road itself, some of which use the pavement because of the restricted width. Concerns were raised over safety and proposed parking restrictions.

3.23 Long Ashton Parish Council raised concerns over the reconfiguration of the A370 / B3128 junction and subsequent additional traffic flows through the parish. They are against the closure of the level crossing.

3.24 Bristol Sport also questioned the need for the level crossing to be closed at all. However they believe that option C is the only possible option should one be needed, with the caveat that it must not preclude the creation of a road access onto their land from the A370.

3.25 It should also be noted that there is a large strength of feeling from those associated with the Kenny Group against relocation. Multiple respondents asked for the option to be dropped, stating the impact upon the business, tenants and employees would be hugely detrimental. There were concerns that given the specific nature of the business and its recent refurbishment, suitable premises could not be found in the nearby locality and there would be the risk of loss of contracts or possible closure, particularly if the relocation was a significant distance away.

Other comments

3.26 A number of other issues were raised:

- **Land and planning -** the landowners believe that the proposed highway to the south of the brook in options A and B takes up more land than necessary and could be moved closer to the brook to the north. There are also queries raised on strategic fit with longer term aspirations for the area.
- **Operational/financial impacts** – raised mainly be investors and land owners, there are concerns with the long term economic viability of the industrial estate, with options A and C believed to be less attractive to visitors who would pass older buildings whilst entering the estate. Babcock raised specific concerns over their operations, security, and possible compensation.
- **Traffic impact / journey times** – a number of responses highlighted their concerns that the options will increase journey times to and from the estate; increased congestion on the underpass system due to traffic being

rerouted; and that the traffic impacts have not been assessed with future schemes in operation or planned, including the South Bristol Link (under construction at the time of the consultation) and possible park and ride expansion.

- **Ashton Vale Road suitability** – concerns were raised that the road is not suitable as a through route, including its structure (road surface, drainage capabilities, width) as well conversion to a through route.
- **Environmental** – concerns were raised with crossing the watercourse and the impact of water draining into the brook; and concerns over the possible increase to the risk of the brook flooding.
- **Impacts to cyclists and pedestrians** – safety concerns were raised regarding the width of Ashton Vale Road; concerns over the junction of the pedestrian ramp and Ashton Road and its proximity to fast moving traffic; concerns over the ease of access to the estate from the east; and that consideration should be given to more cycle and pedestrian routes and railway crossing points.

Statutory Responses

3.27 Responses were received from 9 statutory bodies:

1. Historic England
2. Environment Agency
3. North Somerset Council highways
4. Bristol Water
5. Instalcom
6. Sky Telecommunications Services Ltd
7. Verizon
8. Vodafone
9. Wessex Water

3.28 Historic England advised that the setting of the historic environment be assessed to include key views within the landscape and inter-visibility between heritage assets and the routes of the three proposed options.

3.29 The Environment Agency raised points with all three options, reflecting their concerns raised in the first micro-consultation relating to their equipment in the area and the potential impact on the watercourses. They also raised concerns over access to a variety of interests, such as their compound and existing structures which would be affected by options A and B, but predominantly option B. They therefore advised that option C is preferable overall due to its minimal impact on their interests.

3.30 North Somerset Council's highway department gave detailed technical responses to all three options. In principle, all options would be acceptable; however there were recommendations given to improve all three, particularly regarding the interaction with the A370 / B3128 junction to improve flows and priorities, road alignments, safety / visibility, and consideration given for non-motorised users and the links with existing cycle and footways in the area. Comments were also received regarding the maintenance of the proposed structures.

3.31 The utility companies that responded either stated that they had no apparatus in the area or provided maps of their assets.

3.32 The various technical workstreams for the project are having continuing dialogue with the statutory bodies across the whole project area and will continue to liaise with them as the project develops.

4. Conclusion and next steps

4.1 The second micro-consultation was successful in highlighting issues and gauging levels of support for the options. The consultation has raised some important issues that will help determine which option(s) will be taken forward. A qualitative summary of all comments on the micro-consultations is included as Appendix F.

4.2 The responses raised issues which are now being considered through the development of the engineering design and wider technical case of the project.

4.3 The micro-consultation has also demonstrated successful engagement with statutory bodies, businesses and interested parties on focussed issues. A further consultation exercise (Stage 2 consultation) will be launched in March 2017 to give members of the public, statutory bodies, affected parties and wider stakeholders an opportunity to comment on the Portishead Branch Line DCO Scheme proposals, before a Development Consent Order application is submitted to the Planning Inspectorate.

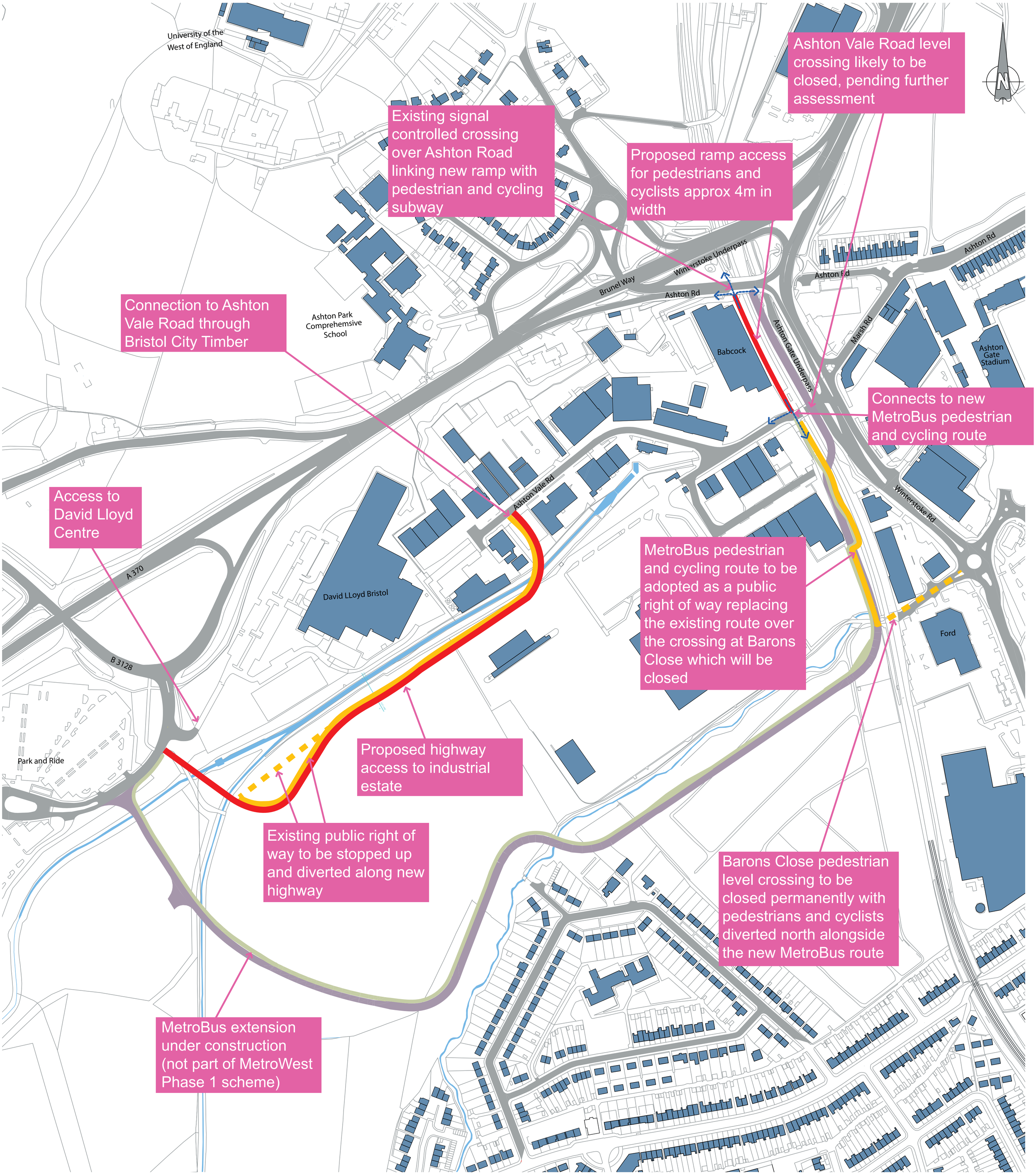
THIS REPORT REMAINS IN DRAFT FORM AS THE WORKSTREAM ENDED AND IS MADE AVAILABLE FOR INFORMATION ONLY

Appendices

Appendix A Ashton Vale Industrial Estate alternative access options
Appendix B Distribution maps
Appendix C Publicity Material
Appendix D Statutory bodies letter
Appendix E List of statutory bodies
Appendix F Ashton Vale Industrial Estate responses

Appendix A
Ashton Vale Industrial Estate alternative access options

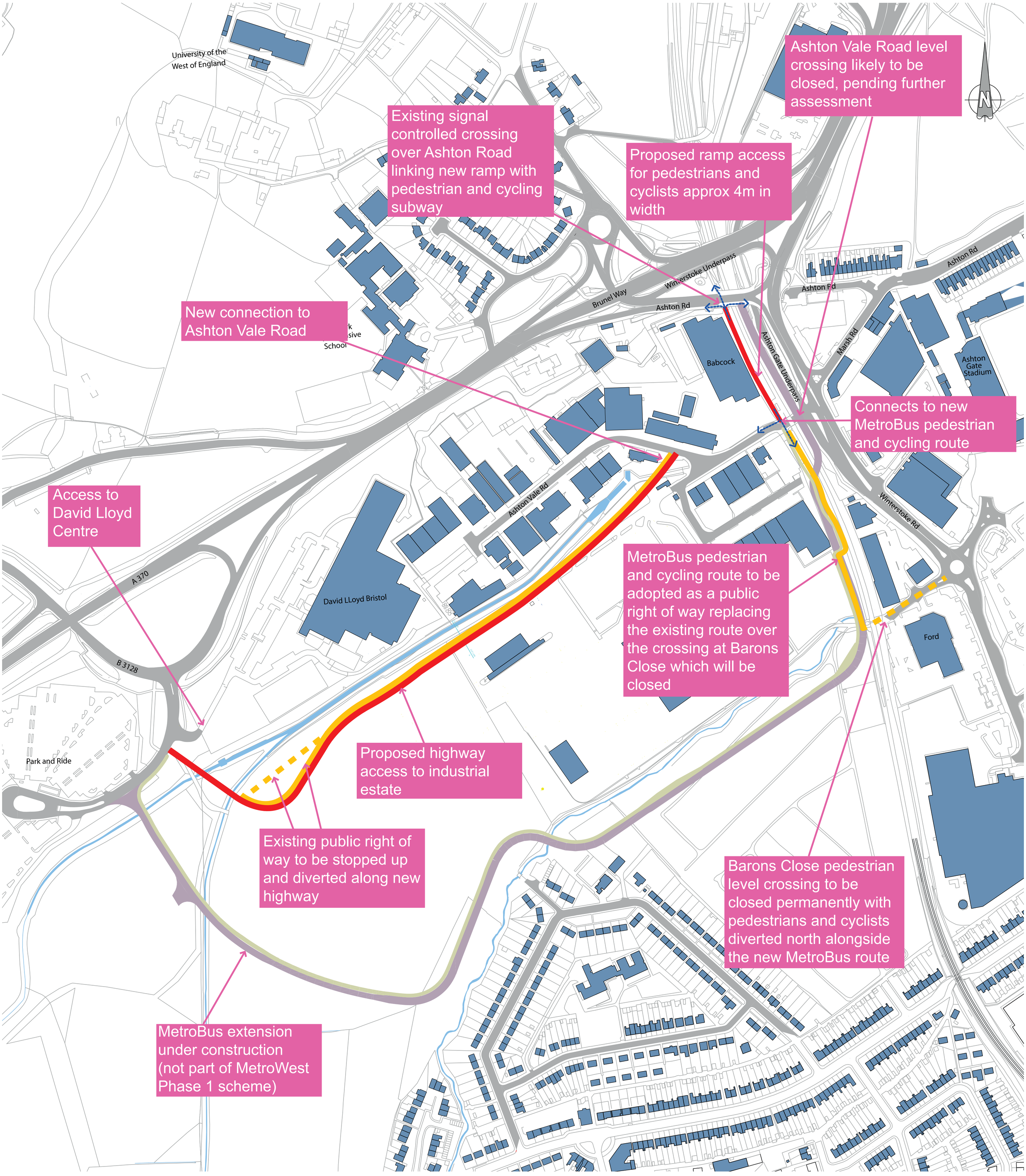
Ashton Vale Road Consultation



Option A

MetroWest

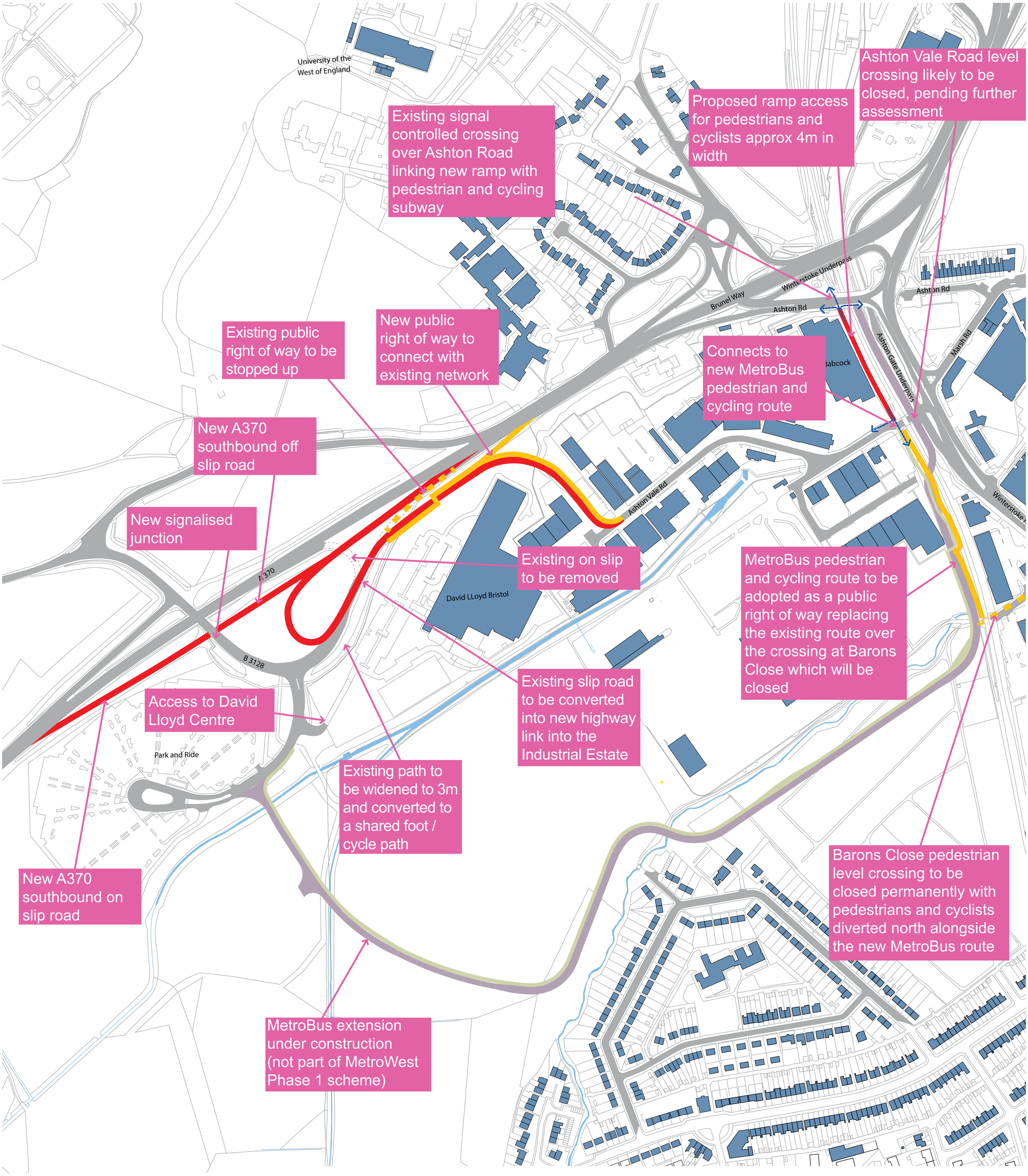
Ashton Vale Road Consultation



Option B

MetroWest

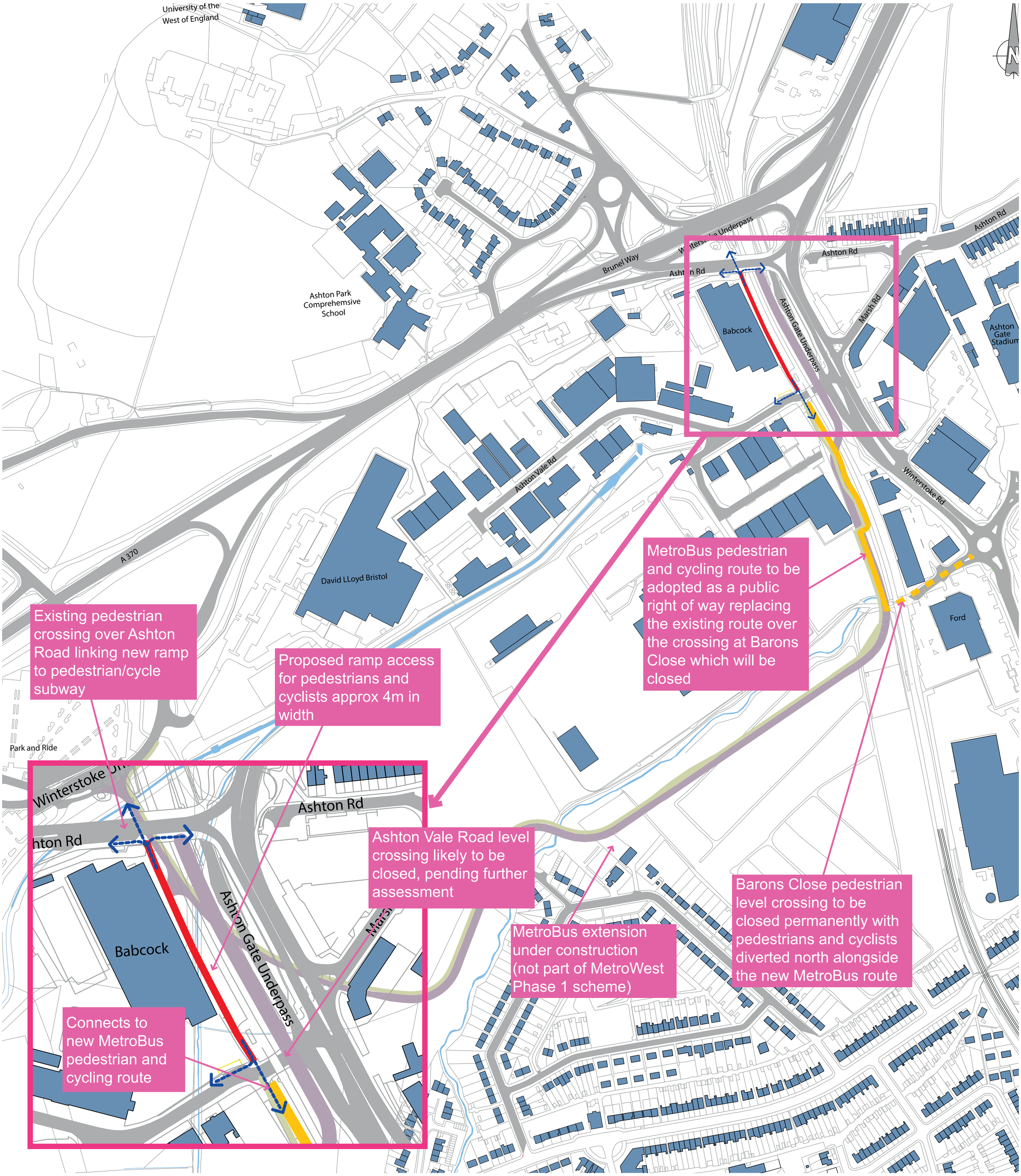
Ashton Vale Road Consultation



Option C

MetroWest

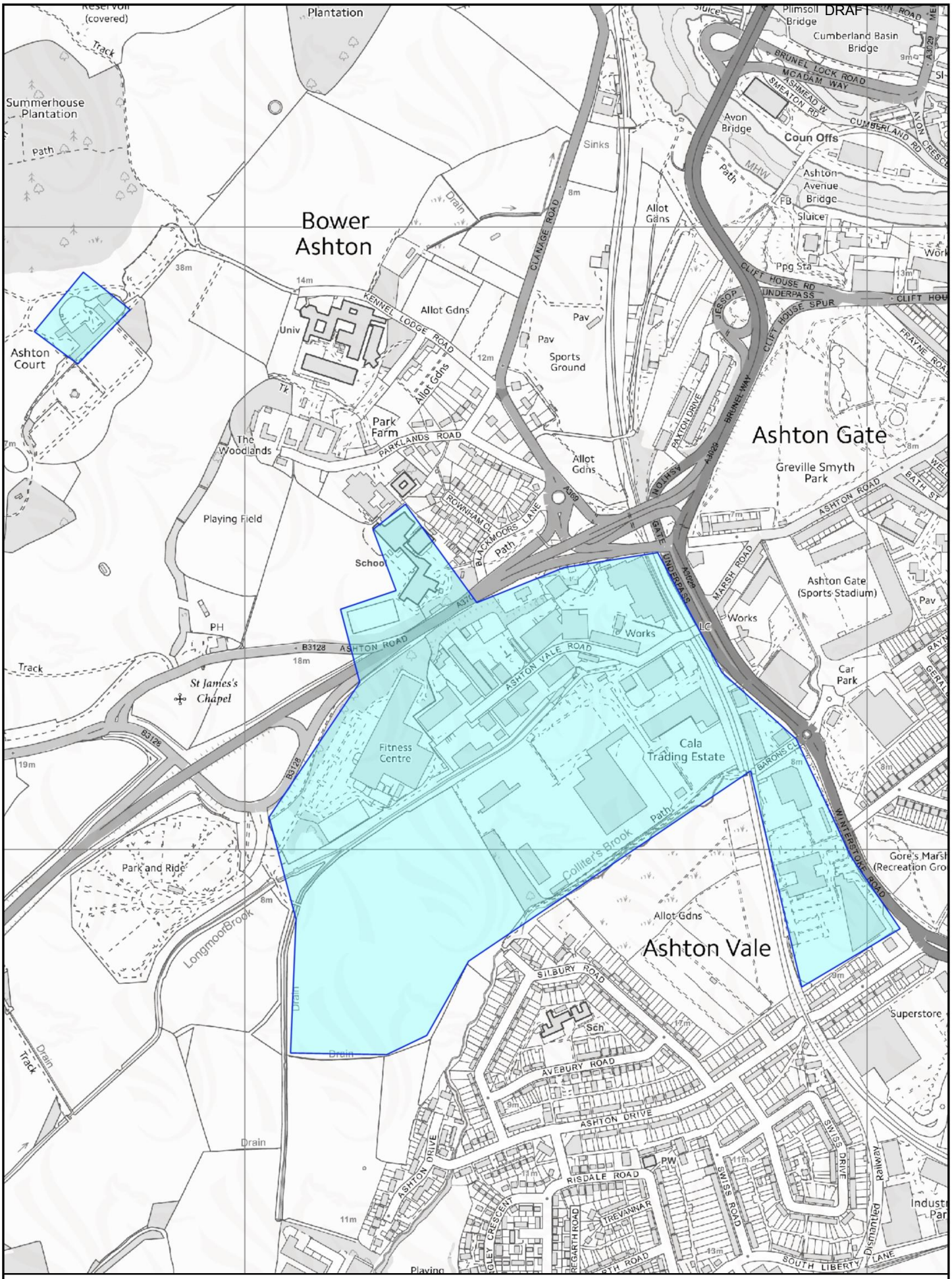
Ashton Vale Road Consultation



Details of proposed pedestrian and cyclist access

MetroWest

Appendix B
Distribution Map



Consultee distribution map

Scale: 1:8000
Date: 11 January 2017

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Appendix C
Publicity Material

DRAFT

MetroWest

MetroWest
Engine Shed
Station Approach
Temple Meads
Bristol BS1 6QH

metrowest@westofengland.org

November 11, 2016

Ref: Ashton Vale Road, Bristol

Dear Stakeholder,

METROWEST PHASE 1 –
SECOND INFORMAL CONSULTATION ON PROPOSALS FOR ASHTON VALE ROAD

In February 2016 we consulted on six alternative highway, pedestrian and cycling access routes to the Ashton Vale Industrial Estate as part of the MetroWest Phase 1 project.

Following on from that work, we have selected two of these options for further consideration, and are seeking your views on these, along with an additional new option that has been identified.

This consultation closes at midnight on 12th December. More information, including details of a drop-in event on 22nd November, can be found below.

Background information

MetroWest Phase 1 is proposing to re-open the Portishead rail line to passenger train services and enhance the passenger train service for the Severn Beach and Bath to Bristol line (local service). The project is being led by North Somerset Council on behalf of the four councils; Bristol City, Bath & North East Somerset, North Somerset and South Gloucestershire.

The consultation held in February 2016 was as a result of emerging work for our Transport Assessment which indicated that the MetroWest Phase 1 half hourly train service of up to 30 passenger trains per day in each direction would result in traffic impacts on Ashton Vale Road (exiting the industrial estate) and on Winterstoke Road (entering the industrial estate), in respect of longer traffic queue lengths. As a result the level crossing barriers would need to operate significantly more often than they do currently. Our initial train service operational planning indicates a total barrier down time of approximately 20 minutes each hour, with each cycle of the level crossing barrier being down between 3 and 12 minutes.

Ashton Vale Road & Barons Close alternative access options

We consulted on six highway options to mitigate this issue, and from that work we have selected two options for further consideration. We also consulted on two pedestrian and cycling options as the pedestrian only level crossing at Barons Close will have to be closed permanently for safety reasons. We have selected one of these two options to take forward.

The report from the February consultation is available online at www.travelwest.info/metrowest.

During the development of the engineering design over the last few months, a third possible route has been identified which we are now also seeking views on. This third option reconfigures the A370 / B3128 junction introducing new on and off slips and utilises an existing off slip road before connecting through to the industrial estate.

The three options are:

- **Option A:** new highway access via land owned by Bristol Sport, Manheim Auctions and Bristol City Timber (previously option 2)
- **Option B:** new highway access via land owned by Bristol Sport and Manheim Auctions (previously option 4)
- **Option C:** reconfiguration of the A370 / B3128 junction with additional on and off slips and a new highway access via land owned or leased by David Lloyd, Bristlewand / Kenny Group and Sandhurst Plant Hire (new option)

As a result of the February consultation we are proposing to take forward the pedestrian and cycling access on the eastern side of the estate for all three options, via a new ramp running parallel to the railway adjacent to Babcock. The existing pedestrian only level crossing at Barons Close is to be closed permanently. The public right of way at Barons Close is to be diverted onto a new path linking to Ashton Vale Road, currently being constructed by the MetroBus project. The proposed pedestrian and cycling ramp will connect Ashton Vale Road to Ashton Road linking with various on-street and off street pedestrian / cycling routes to Winterstoke Road and beyond, including via the subway.

The three options can be viewed on the enclosed concept plans and it is these which we are now seeking views on.

Ashton Vale Road Level Crossing

The proposed intensification of the existing railway with the re-introduction of passenger train services operating 30 trains per day in each direction, raises some safety concerns for the level crossing. There is an increased risk of pedestrians or road users becoming frustrated waiting to cross and then attempting to cross during the level crossing sequence, i.e. while the barriers are being lowered or have been lowered. On-going technical assessment on the safety of the level crossing indicates it is likely that the level crossing will have to be closed permanently.

How to respond our consultation

We are seeking the views of those directly affected by the options and wider stakeholders. We are targeting our consultation at the businesses and property owners of the industrial estate and adjacent properties, the employees of the businesses and statutory bodies such as the Environment Agency. However the consultation is also open to wider stakeholders and the public.

We will use consultation responses to inform the selection of the highway access options to be taken forward for further development of the project design. Following this, we intend to undertake formal public consultation in spring 2017 on the whole project.

The project is a nationally significant infrastructure project and therefore requires a Development Consent Order for powers to build and operate the project. We are aiming to submit our application to the Secretary of State for a Development Consent Order in Autumn 2017.

We would like to know what you think about the options outlined above. You can let us have your feedback by either:

- visiting https://travelwest.info/ashton-vale-road and submitting an online response, or
- email us at: metrowest@westofengland.org, or
- write to us at: MetroWest, Engine Shed, Station Approach, Temple Meads, Bristol, BS1 6QH

When providing a response please indicate whether you are responding as a business or an organisation or whether for instance as an employee. It would help us of you can also be specific about issues, and provide as much detail as possible. For example; what is the exact location of the issue? Does it occur on certain days, or times during the day?

You can also discuss the proposals with us in person. We will be holding a drop-in session at the nearby Ashton Gate Stadium (Bristol City Football Club) Dolman Lounge 2 & 3 on **Tuesday 22nd November from 12:30pm to 7.00pm**. Ashton Gate Stadium, Ashton Road, Bristol, BS3 2EJ.

The consultation opens on the **14th November** and remains open until **midnight 12th December 2016**.

For more information about the MetroWest Phase 1 project, please visit the website: travelwest.info/metrowest. We look forward to hearing from you.

Yours faithfully

James Willcock
MetroWest Phase 1

enc: Concept plans of highway access options A, B & C, and pedestrian and cyclist access

DRAFT

MetroWest

MetroWest
Engine Shed
Station Approach
Temple Meads
Bristol BS1 6QH

metrowest@westofengland.org

November 11, 2016

Dear Stakeholder

METROWEST PHASE 1 –
CONSULTATION ON PROPOSALS FOR CLOSURE OF ASHTON VALE ROAD LEVEL CROSSING AND BARONS CLOSE FOOT CROSSING, AND PROVISION OF ALTERNATIVE ACCESS

In February 2016 we consulted on six alternative highway, pedestrian and cycling access routes to the Ashton Vale Industrial Estate as part of the MetroWest Phase 1 project due to the likely closure of the Ashton Vale Road level crossing and Barons Close foot crossing.

Following on from that work, we have selected two of these options for further consideration, along with an additional new option that has been identified. We would welcome your views on the proposals, specifically how you believe they may impact users of all characteristics. Your comments will be used for the equality impact assessment work for the closures and associated mitigations.

The consultation closes at midnight on 12th December. More information, including details of a drop-in event on 22nd November, can be found below.

Background information

MetroWest Phase 1 is proposing to re-open the Portishead rail line to passenger train services and enhance the passenger train service for the Severn Beach and Bath to Bristol line (local service). The project is being led by North Somerset Council on behalf of the four councils; Bristol City, Bath & North East Somerset, North Somerset and South Gloucestershire.

The consultation held in February 2016 was as a result of emerging work for our Transport Assessment which indicated that the MetroWest Phase 1 half hourly train service of up to 30 passenger trains per day in each direction would result in traffic impacts on Ashton Vale Road (exiting the industrial estate) and on Winterstoke Road (entering the industrial estate), in respect of longer traffic queue lengths. As a result the level crossing barriers would need to operate significantly more often than they do currently. Our initial train service operational planning indicates a total barrier down time of approximately 20 minutes each hour, with each cycle of the level crossing barrier being down between 3 and 12 minutes.

Ashton Vale Road Level Crossing & Barons Close Foot Crossing

With an increase in operation of level crossing barriers, it raises some safety concerns for the level crossing. There is an increased risk of pedestrians or road users becoming frustrated waiting to cross and then attempting to cross during the level crossing sequence, i.e. while the barriers are being lowered or have been lowered. On-going technical assessment on the safety of the level crossing indicates it is likely that the level crossing will have to be closed permanently.

In addition to the proposed closure of the Ashton Vale Road level crossing, we are also seeking powers to permanently close the foot crossing at Barons Close. The reason for this closure is primarily due to the higher speeds of the passenger trains, laying a second running line over the site of the crossing and the proposed train service frequency compared with the current freight train operation, which have consequences for the safety of the crossing.

Therefore we are looking to provide alternative highway, pedestrian, and cycle routes to and from the industrial estate in the event that these accesses are closed permanently. This will have an impact on users which we would welcome your views on.

Ashton Vale Road & Barons Close alternative access options

In February 2016 we consulted on six highway options to mitigate this issue, and from that work we have selected two options for further consideration. We also consulted on two pedestrian and cycling options. The report from the February consultation is available online at www.travelwest.info/metrowest.

During the development of the engineering design over the last few months, a third possible route has been identified which we are now also seeking views on. This third option reconfigures the A370 / B3128 junction introducing new on and off slips and utilises an existing off slip road before connecting through to the industrial estate. The three options are:

- **Option A:** new highway access via land owned by Bristol Sport, Manheim Auctions and Bristol City Timber (previously option 2)
- **Option B:** new highway access via land owned by Bristol Sport and Manheim Auctions (previously option 4)
- **Option C:** reconfiguration of the A370 / B3128 junction with additional on and off slips and a new highway access via land owned or leased by David Lloyd, Bristlewand / Kenny Group and Sandhurst Plant Hire (new option)

We are also proposing to take forward one of the two pedestrian and cycling accesses as a result of the February consultation, namely a new ramp running parallel to the railway alongside Babcock. This is proposed for all three of the alternative highway options outlined above. Due to the permanent closure of the crossing at Barons Close the public right of way is to be diverted onto a new path linking to Ashton Vale Road, currently being constructed by the MetroBus project. The proposed pedestrian and cycling ramp will connect Ashton Vale Road to Ashton Road linking with various on-street and off street pedestrian / cycling routes to Winterstoke Road and beyond, including via the subway.

The proposals can be viewed on the enclosed concept plans.

How to respond our consultation

As well as requesting comments from equality organisations such as yourselves, we are also seeking the views of those directly affected by the options and wider stakeholders at the same time. We are targeting our consultation at the businesses and property owners of the industrial estate and adjacent properties, the employees of the businesses and statutory bodies such as the Environment Agency. However the consultation is also open to wider stakeholders and the public.

We will use the consultation responses to inform the selection of the highway access options to be taken forward for further development of the project design. They will also be used by Network Rail to seek appropriate powers to close the crossings. Following this, we intend to undertake formal public consultation in spring 2017 on the whole project.

The project is a nationally significant infrastructure project and therefore requires a Development Consent Order for powers to build and operate the project. We are aiming to submit our application to the Secretary of State for a Development Consent Order in Autumn 2017.

We would like to know what you think about the options outlined above. You can let us have your feedback by either:

- visiting https://travelwest.info/ashton-vale-road and submitting an online response, or
- email us at: metrowest@westofengland.org, or
- write to us at: MetroWest, Engine Shed, Station Approach, Temple Meads, Bristol, BS1 6QH

When providing a response please indicate which equalities group you are representing. Please also be specific about issues, and provide as much detail as possible. For example; what is the exact location of the issue? Does it occur on certain days, or times during the day?

You can also discuss the proposals with us in person. We will be holding a drop-in session at the nearby Ashton Gate Stadium (Bristol City Football Club) Dolman Lounge 2 & 3 on **Tuesday 22nd November from 12:30pm to 7.00pm**. Ashton Gate Stadium, Ashton Road, Bristol, BS3 2EJ.

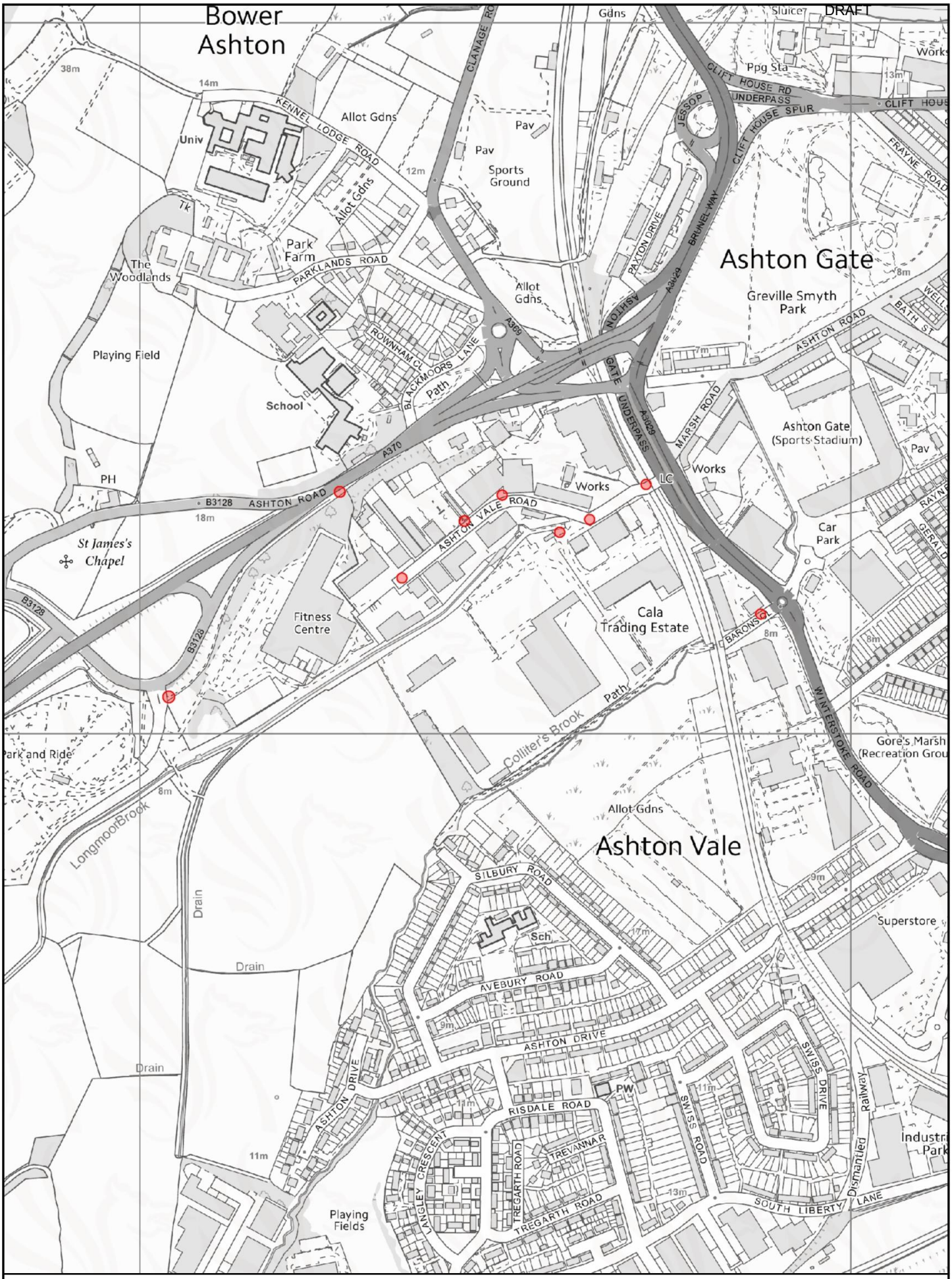
The consultation opens on the **14th November** and remains open until **midnight 12th December 2016**.

For more information about the MetroWest Phase 1 project, please visit the website: travelwest.info/metrowest. We look forward to hearing from you.

Yours faithfully

James Willcock
MetroWest Phase 1

enc Concept plans of highway access options A, B & C, and pedestrian and cyclist access



Poster locations

Scale: 1:7000
Date: 11 January 2017

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DRAFT

MetroWest

SECOND INFORMAL CONSULTATION ON PROPOSALS FOR ASHTON VALE ROAD

In February 2016 we consulted on six access options to the Ashton Vale Industrial Estate as part of the MetroWest Phase 1 project. Two of these need further consideration, along with a new option that has been identified. The level crossing is likely to be closed permanently pending further assessment.

In addition, a new ramp running parallel to the railway adjacent to Babcock is proposed to provide access for pedestrians and cyclists. The existing pedestrian only level crossing at Barons Close is to be closed permanently.

WE ARE SEEKING YOUR VIEWS ON THESE PROPOSALS

You can view the options and leave feedback by visiting our website here: https://travelwest.info/ashton-vale-road

Alternatively, you may:-

- **Email us**: metrowest@westofengland.org
- **Write to us**: MetroWest, Engine Shed, Station Approach, Temple Meads, Bristol, BS1 6QH

Feedback may be provided on the options from
14 November 2016 – 12 December 2016.

If you wish to discuss the proposals, we will be running a drop-in session in the Dolman Lounge 2 & 3, Ashton Gate Stadium, Ashton Road, Bristol, BS3 2EJ on
Tuesday 22nd November from 12:30pm to 7:00pm

For more information about the MetroWest Phase 1 project, please visit the website: travelwest.info/metrowest

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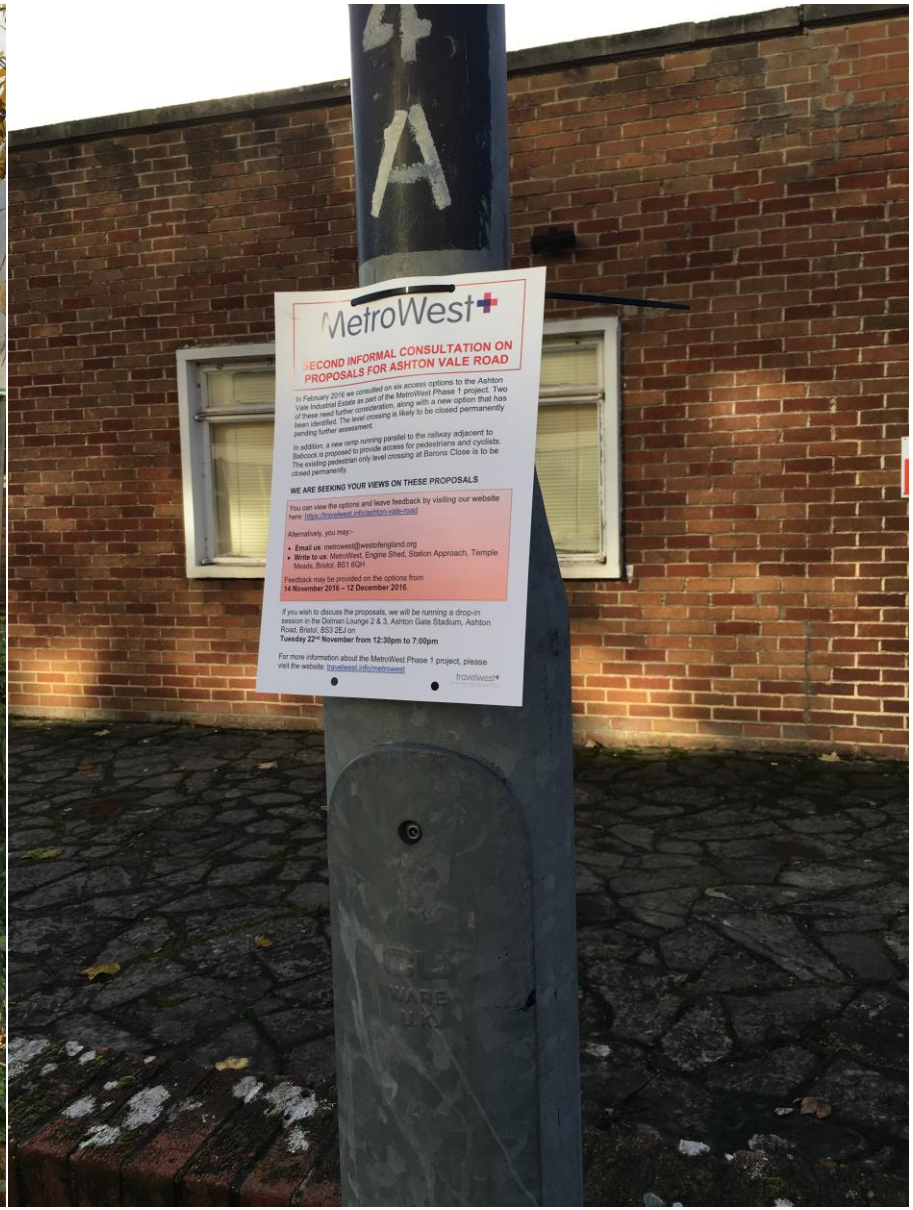

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WE ARE SEEKING YOUR VIEWS ON THESE PROPOSALS


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Goods
Inwards

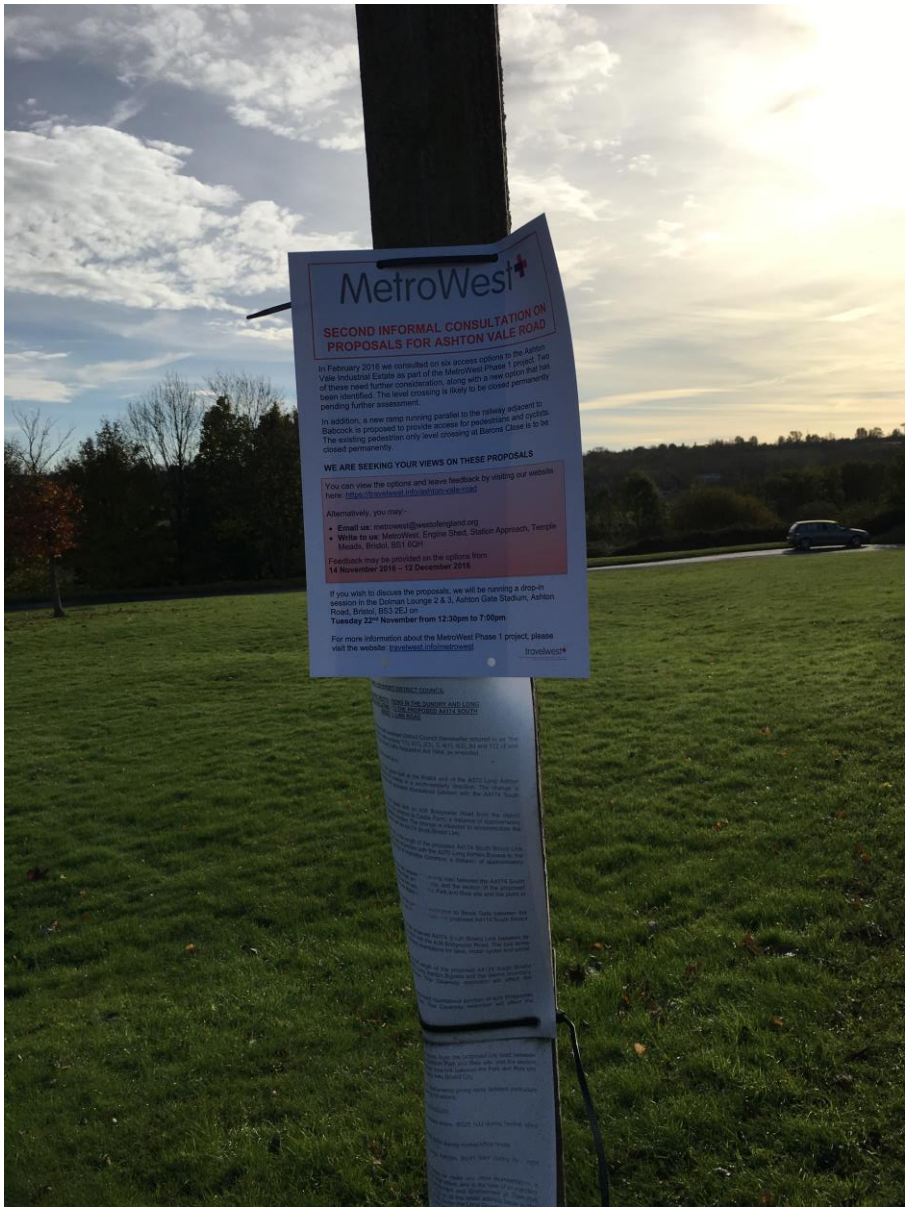

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MetroWest
SECOND INFORMAL CONSULTATION ON PROPOSALS FOR ASHTON VALE ROAD
WE ARE SEEKING YOUR VIEWS ON THESE PROPOSALS
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RECYCLING CENTRE

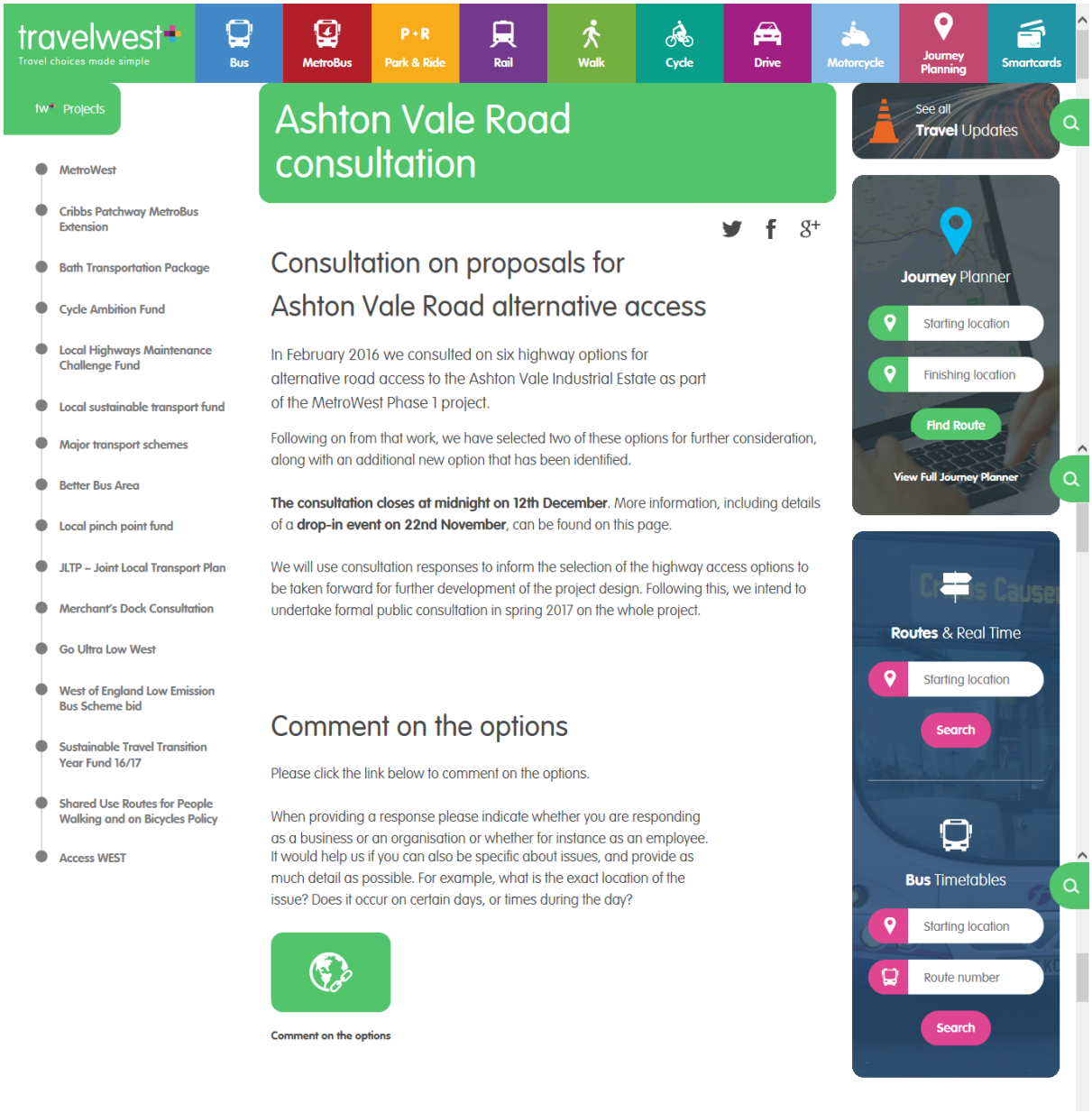

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MetroWest
SECOND INFORMAL CONSULTATION ON PROPOSALS FOR ASHTON VALE ROAD
WE ARE SEEKING YOUR VIEWS ON THESE PROPOSALS


4
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MetroWest
SECOND INFORMAL CONSULTATION ON PROPOSALS FOR ASHTON VALE ROAD
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In addition, a new ramp running parallel to the railway adjacent to Babcock is proposed to provide access for pedestrians and cyclists. The existing pedestrian only level crossing at Barons Close is to be closed permanently.
WE ARE SEEKING YOUR VIEWS ON THESE PROPOSALS
You can view the options and leave feedback by visiting our website here: https://travelwest.info/ashton-vale-road
Alternatively, you may:-
Email us: metrowest@westofengland.org
Write to us: MetroWest, Engine Shed, Station Approach, Temple Meads, Bristol, BS1 6QH
Feedback may be provided on the options from 14 November 2016 – 12 December 2016.
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Tuesday 22nd November from 12:30pm to 7:00pm
For more information about the MetroWest Phase 1 project, please visit the website: travelwest.info/metrowest
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MetroWest
SECOND INFORMAL CONSULTATION ON PROPOSALS FOR ASHTON VALE ROAD


KEEP CROSSING CLEAR


MetroWest
SECOND INFORMAL CONSULTATION ON PROPOSALS FOR ASHTON VALE ROAD
In February 2016 we consulted on six access options to the Ashton Vale Industrial Estate as part of the MetroWest Phase 1 project. Two of these need further consideration, along with a new option that has been identified. The level crossing is likely to be closed permanently pending further assessment.
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Cycle
Drive
Motorcycle
Journey Planning
Smartcards
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MetroWest
Cribbs Patchway MetroBus Extension
Bath Transportation Package
Cycle Ambition Fund
Local Highways Maintenance Challenge Fund
Local sustainable transport fund
Major transport schemes
Better Bus Area
Local pinch point fund
JLTP – Joint Local Transport Plan
Merchant's Dock Consultation
Go Ultra Low West
West of England Low Emission Bus Scheme bid
Sustainable Travel Transition Year Fund 16/17
Shared Use Routes for People Walking and on Bicycles Policy
Access WEST
Ashton Vale Road consultation
Consultation on proposals for Ashton Vale Road alternative access
In February 2016 we consulted on six highway options for alternative road access to the Ashton Vale Industrial Estate as part of the MetroWest Phase 1 project.
Following on from that work, we have selected two of these options for further consideration, along with an additional new option that has been identified.
The consultation closes at midnight on 12th December. More information, including details of a drop-in event on 22nd November, can be found on this page.
We will use consultation responses to inform the selection of the highway access options to be taken forward for further development of the project design. Following this, we intend to undertake formal public consultation in spring 2017 on the whole project.
Comment on the options
Please click the link below to comment on the options.
When providing a response please indicate whether you are responding as a business or an organisation or whether for instance as an employee. It would help us if you can also be specific about issues, and provide as much detail as possible. For example, what is the exact location of the issue? Does it occur on certain days, or times during the day?
Comment on the options
See all Travel Updates
Journey Planner
Starting location
Finishing location
Find Route
View Full Journey Planner
Routes & Real Time
Starting location
Search
Bus Timetables
Starting location
Route number
Search

View the options

The options can be viewed below, either as separate PDF files or as a single PDF showing all options. Please let us know if you have any difficulties viewing these files.



Option A



Option B



Option C



Pedestrian and Cyclist access



View all options in a single file

Background information

MetroWest Phase 1 is proposing to re-open the Portishead rail line to passenger train services and enhance the passenger train service for the Severn Beach and Bath to Bristol line (local service). The project is being led by North Somerset Council on behalf of the four councils; Bristol City, Bath & North East Somerset, North Somerset and South Gloucestershire.

The consultation held in February 2016 was as a result of emerging work for our Transport Assessment which indicated that the MetroWest Phase 1 half hourly train service of up to 30 passenger trains per day in each direction would result in traffic impacts on Ashton Vale Road (exiting the industrial estate) and on Winterstoke Road (entering the industrial estate), in respect of longer traffic queue lengths. As a result the level crossing barriers would need to operate significantly more often than they do currently. Our initial train service operational planning indicates a total barrier down time of approximately 20 minutes each hour, with each cycle of the level crossing barrier being down between 3 and 12 minutes.

The report from the February consultation can be viewed below.



Ashton and Pill micro-consultation report

Ashton Vale Road & Barons Close alternative access options

We consulted on six highway options to mitigate this issue, and from that work we have selected two options for further consideration. We also consulted on two pedestrian and cycling options as the pedestrian only level crossing at Barons Close will have to be closed permanently for safety reasons. We have selected one of these two options to take forward.

During the development of the engineering design over the last few months, a third possible route has been identified which we are now also seeking views on. This third option reconfigures the A370 / B3128 junction introducing new on and off slips and utilises an existing off slip road before connecting through to the industrial estate.

The three options are:

- **Option A**: new highway access via land owned by Bristol Sport, Manheim Auctions and Bristol City Timber (previously option 2)
- **Option B**: new highway access via land owned by Bristol Sport and Manheim Auctions (previously option 4)
- **Option C**: reconfiguration of the A370 / B3128 junction with additional on and off slips and a new highway access via land owned or leased by David Lloyd, Bristlewand / Kenny Group and Sandhurst Plant Hire (new option)

As a result of the February consultation we are proposing to take forward the pedestrian and cycling access on the eastern side of the estate for all three options, via a new ramp running parallel to the railway adjacent to Babcock. The existing pedestrian only level crossing at Barons Close is to be closed permanently. The public right of way at Barons Close is to be diverted onto a new path linking to Ashton Vale Road, currently being constructed by the MetroBus project. The proposed pedestrian and cycling ramp will connect Ashton Vale Road to Ashton Road linking with various on-street and off street pedestrian / cycling routes to Winterstoke Road and beyond, including via the subway.

Ashton Vale level crossing

The proposed intensification of the existing railway with the re-introduction of passenger train services operating 30 trains per day in each direction, raises some safety concerns for the level crossing. There is an increased risk of pedestrians or road users becoming frustrated waiting to cross and then attempting to cross during the level crossing sequence, i.e. while the barriers are being lowered or have been lowered. On-going technical assessment on the safety of the level crossing indicates it is likely that the level crossing will have to be closed permanently.

Discuss the proposals

We will be holding a drop-in session at **Ashton Gate Stadium** on **Tuesday 22nd November** to discuss the proposals:

Date: Tuesday 22nd November, 12:30pm to 7.00pm.

Venue: Ashton Gate Stadium (Bristol City Football Club), Dolman Lounge 2 & 3, Ashton Road, Bristol, BS3 2EJ.

Appendix D
Statutory Bodies letter

DRAFT

MetroWest

MetroWest
Engine Shed
Station Approach
Temple Meads
Bristol BS1 6QH

metrowest@westofengland.org

November 11, 2016

Ref: Ashton Vale Road, Bristol

Dear Stakeholder,

METROWEST PHASE 1 –
SECOND INFORMAL CONSULTATION ON PROPOSALS FOR ASHTON VALE ROAD

In February 2016 we consulted on six alternative highway, pedestrian and cycling access routes to the Ashton Vale Industrial Estate as part of the MetroWest Phase 1 project.

Following on from that work, we have selected two of these options for further consideration, and are seeking your views on these, along with an additional new option that has been identified.

This consultation closes at midnight on 12th December. More information, including details of a drop-in event on 22nd November, can be found below.

Background information

MetroWest Phase 1 is proposing to re-open the Portishead rail line to passenger train services and enhance the passenger train service for the Severn Beach and Bath to Bristol line (local service). The project is being led by North Somerset Council on behalf of the four councils; Bristol City, Bath & North East Somerset, North Somerset and South Gloucestershire.

The consultation held in February 2016 was as a result of emerging work for our Transport Assessment which indicated that the MetroWest Phase 1 half hourly train service of up to 30 passenger trains per day in each direction would result in traffic impacts on Ashton Vale Road (exiting the industrial estate) and on Winterstoke Road (entering the industrial estate), in respect of longer traffic queue lengths. As a result the level crossing barriers would need to operate significantly more often than they do currently. Our initial train service operational planning indicates a total barrier down time of approximately 20 minutes each hour, with each cycle of the level crossing barrier being down between 3 and 12 minutes.

Ashton Vale Road & Barons Close alternative access options

We consulted on six highway options to mitigate this issue, and from that work we have selected two options for further consideration. We also consulted on two pedestrian and cycling options as the pedestrian only level crossing at Barons Close will have to be closed permanently for safety reasons. We have selected one of these two options to take forward.

The report from the February consultation is available online at www.travelwest.info/metrowest.

During the development of the engineering design over the last few months, a third possible route has been identified which we are now also seeking views on. This third option reconfigures the A370 / B3128 junction introducing new on and off slips and utilises an existing off slip road before connecting through to the industrial estate.

The three options are:

- **Option A:** new highway access via land owned by Bristol Sport, Manheim Auctions and Bristol City Timber (previously option 2)
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- **Option C:** reconfiguration of the A370 / B3128 junction with additional on and off slips and a new highway access via land owned or leased by David Lloyd, Bristlewand / Kenny Group and Sandhurst Plant Hire (new option)

As a result of the February consultation we are proposing to take forward the pedestrian and cycling access on the eastern side of the estate for all three options, via a new ramp running parallel to the railway adjacent to Babcock. The existing pedestrian only level crossing at Barons Close is to be closed permanently. The public right of way at Barons Close is to be diverted onto a new path linking to Ashton Vale Road, currently being constructed by the MetroBus project. The proposed pedestrian and cycling ramp will connect Ashton Vale Road to Ashton Road linking with various on-street and off street pedestrian / cycling routes to Winterstoke Road and beyond, including via the subway.

The three options can be viewed on the enclosed concept plans and it is these which we are now seeking views on.

Ashton Vale Road Level Crossing

The proposed intensification of the existing railway with the re-introduction of passenger train services operating 30 trains per day in each direction, raises some safety concerns for the level crossing. There is an increased risk of pedestrians or road users becoming frustrated waiting to cross and then attempting to cross during the level crossing sequence, i.e. while the barriers are being lowered or have been lowered. On-going technical assessment on the safety of the level crossing indicates it is likely that the level crossing will have to be closed permanently.

How to respond our consultation

We are seeking the views of those directly affected by the options and wider stakeholders. We are targeting our consultation at the businesses and property owners of the industrial estate and adjacent properties, the employees of the businesses and statutory bodies such as the Environment Agency. However the consultation is also open to wider stakeholders and the public.

We will use consultation responses to inform the selection of the highway access options to be taken forward for further development of the project design. Following this, we intend to undertake formal public consultation in spring 2017 on the whole project.

The project is a nationally significant infrastructure project and therefore requires a Development Consent Order for powers to build and operate the project. We are aiming to submit our application to the Secretary of State for a Development Consent Order in Autumn 2017.

We would like to know what you think about the options outlined above. You can let us have your feedback by either:

- visiting https://travelwest.info/ashton-vale-road and submitting an online response, or
- email us at: metrowest@westofengland.org, or
- write to us at: MetroWest, Engine Shed, Station Approach, Temple Meads, Bristol, BS1 6QH

When providing a response please indicate whether you are responding as a business or an organisation or whether for instance as an employee. It would help us of you can also be specific about issues, and provide as much detail as possible. For example; what is the exact location of the issue? Does it occur on certain days, or times during the day?

You can also discuss the proposals with us in person. We will be holding a drop-in session at the nearby Ashton Gate Stadium (Bristol City Football Club) Dolman Lounge 2 & 3 on **Tuesday 22nd November from 12:30pm to 7.00pm**. Ashton Gate Stadium, Ashton Road, Bristol, BS3 2EJ.

The consultation opens on the **14th November** and remains open until **midnight 12th December 2016**.

For more information about the MetroWest Phase 1 project, please visit the website: travelwest.info/metrowest. We look forward to hearing from you.

Yours faithfully

James Willcock
MetroWest Phase 1

enc: Concept plans of highway access options A, B & C, and pedestrian and cyclist access

Appendix E
List of statutory bodies

List of Statutory Bodies Contacted

National bodies
British Transport Police
Coal Authority
Environment Agency
Historic England
Natural England
Office of Rail and Road
PIN's
Local Authorities
Bristol City Council Planning Department
North Somerset Council Planning Department
Bristol City Council Environmental Health
North Somerset Environmental Health
Bristol City Council Diversity officers
North Somerset Council Diversity officers
Bristol City Council Development Control
North Somerset Council Development Control
Bristol City Council ward members
North Somerset Council ward members
Utilities
Bristol Internal Drainage Board
Bristol Port Company
Bristol Water PLC
BSKYB
BT Openreach
Cable & Wireless
City Fibre Holdings
Gas Transportation Company
Government Pipelines and Storage System (GPSS) / CLH
Instalcom
KCOM (Kingston communications)
MCI WorldCom Ltd (Verizon)
Virgin Media
Vodafone
Wales and West Utilities (British Gas)
Wessex Water PLC
Western Power Distribution

Appendix F
Consultation Responses

Subject	From [NAMES REDACTED]	Comment
Option A	[redacted]	Against option A. Concerns that all traffic would be routed to a T junction along Ashton Vale Road which already has parked cars restricting two-way traffic. Believes parking restrictions would cause issues to businesses trading without their own car parking.
		Believes it impacts fewer employees in the locality than option C.
		Option A would have the same effect on a neighbouring business.as option C does to Bristlewand Ltd.
		Against option A. Concerns it will displace a long established business serving BS3 that will have difficulty relocating.
		Against option A. Concerns on the operational and financial impact on the business in terms of causing a considerable operating capacity reduction and impact employment on site. Concerns the T junction will create congestion with the volume of large vehicles having to navigate the junction. Concerns replacement land will not be forthcoming and have an impact upon business.
Option B		Believes it would allow Ashton Vale Road to remain a non-through route, but is concerned that visitors would have to drive further to reach businesses on the estate via the Cumberland Basin system
		Prefer option B. Believes it routes traffic to a similar point as the current level crossing does making it readily accessible and attractive to trade. Believes heavy traffic bound for Manheim (including car transporters and visitors) does not have to travel through the industrial estate which could cause additional congestion.
		For option B but only if one option has to go ahead.
		Believes it routes traffic to a similar point as the current level crossing does making it readily accessible and attractive to trade. Other routes make finding the estate more difficult which may affect trade and subsequent rental prices. Believes it offers the potential for a new access route to Manheim on their western boundary possibly reducing congestion and increasing safety.
		For option B. Believes it would have no impact on any of the businesses on Ashton Vale Road.

	[redacted]	Believes it has the least impact on employment in the locality.
		For option B. Believes it has the smallest relative effect on businesses. Believes it is the most logical location connection to Ashton Vale Road as it is similar to the existing arrangement.
		For option B.
		Against option B. Concerns about the loss of considerable amount of operational land and subsequent reduction in capacity / financial profitability. Would need substantial compensation either in land or financially to mitigate and avoid loss of business / redundancies. Concerns that Manheim would lose exclusive use of the length of its current access road and consequential disruption to traffic flows. Concerns over the manoeuvres large vehicles including car transporters would have to make to access the site.
		For option B. Believes a rear access to Manheim for car transporters would avoid further congestion.
		For option B. Believes a new vehicle access point for Manheim at the western side should be provided to ensure essential improved road safety. Believes a straight stretch of road with a junction at either end offers a straightforward solution. Believes it offers the best outcome for the environmental impact around the water course, and will be a new road designed and built to current standards.
		For option B. Believes it involves less travel though the industrial estate. Concerns heavy vehicles such as car transporters could cause more congestion and suggests some kind of control.
		For option B Believes it is the least disruptive.
		For option B. Believes it would cause minimal disruption to businesses and the local infrastructure as the connection would be close to the existing level crossing, suggesting any issues with traffic management in the estate would be similar, if not reduced. Believes option B is the only rational approach to solving the problem.
Option C		Against option C.

	[redacted]	Concerns that all traffic would be routed to a T junction along Ashton Vale Road which already has parked cars restricting two-way traffic. Believes parking restrictions would cause issues to businesses trading without their own car parking. Believes it would be advantageous for waste trucks not having to drive along Ashton Vale Road.
		Against option C. Believes option C on to the existing road will be extremely dangerous as the road is always full of lorries waiting to load / unload to local businesses causing a bottle-neck. Believes the working environment of any remaining businesses would be affected.
		Against option C. Concerns over a lack of research into the traffic management around the area.
		Against option C. Concerns existing congestion caused in part by queuing vehicles and deliveries to multiple businesses on Ashton Vale Road make it unsuitable as a through route. Concerns that safety will be compromised if Ashton Vale Road becomes a through route trying to pass queueing vehicles, particularly on car auction days. Concerns on the effect to the business, employees and tenant businesses if needed to relocate.
		Against option C. Concerns that the new route would not be viable or safe. Believes some of the previously discounted options consulted on are more suited to heavy traffic and be easier to deliver than option C. Believes the financial aspects should not have greater bearing than the safety and traffic implications.
		Against option C. Believes it is detrimental to a large and loyal workforce with uncertainty over location causing anxiety. Concerns raised regarding traffic implications on Ashton Vale Road and associated safety issues.
		Against option C. Believes it is detrimental to a large and loyal workforce with uncertainty over location causing anxiety. Concerns raised regarding traffic implications on Ashton Vale Road and associated safety issues.

	[redacted]	Against option C. Believes existing congestion caused in part by queuing vehicles and deliveries to multiple businesses on Ashton Vale Road make it unsuitable as a through route. Believes the proposed holding bays are not long enough to accommodate all waiting vehicles, many of which are large lorries. Concerns parking restrictions will be ignored as they believe they already are in certain parts of the estate already. Concerns on the effect to the business, employees and tenant businesses if needed to relocate, and concerns there are not suitable premises within an acceptable distance.
		Against option C. Considered detrimental to a large and loyal workforce with uncertainty over location causing anxiety. Concerns raised regarding traffic implications on Ashton Vale Road and associated safety issues. Concerns existing congestion caused in part by parked cars, queuing vehicles and deliveries to multiple businesses on Ashton Vale Road make it unsuitable as a through route.
		Against option C. Concerns the costs associated with option C exceed those of options A & B. Concerns option C will be more disruptive to the public during construction, including reconfiguration of the A370/B3128 junction. Concerns that the change in levels will make it difficult to construct. Concerns the position of 90 degree turn onto Ashton Vale Road is where vehicles currently queue, load and unload, and need access making vehicle movements very difficult and unsafe, particularly on car auction days. States relocation of the business is not a consideration. Believes it impacts more businesses than the other options.
		Against option C. Concerns to the effect on traffic on the A370 due to the remodelling of the junction.
		Concerns the company would be required to re-establish itself and potentially put at risk well over 100 jobs, particularly in light of any period of economic uncertainty. Concerns over the anxiety of job security for employees and believes it will damage a stable and secure family owned business
		Against option C.

	[redacted]	Concerns it has the greatest impact on employment by removing an employer with circa 160 employees, who in turn actively contribute to the local community.
		Against option C. Considered detrimental to a large and loyal workforce with uncertainty over location causing anxiety. Concerns raised regarding traffic implications on Ashton Vale Road and associated safety issues.
		For option C Believes it does not impact any of the businesses on Ashton Vale Road.
		For option C if a new access has to provided and does not preclude the creation of another road access to their land from the A370.
		States that clearly, option C may have the greatest impact, and this may be as a result of changes to the landscape, raised sections of highway and associated high-level lighting etc.
		Concerns the reconfiguration of the A370/B3128 junction proposed in Option C is particularly unacceptable, given the expected additional traffic flows that would be generated on Clarken Coombe and through Long Ashton.
		Strongly support option C. Believes it provides the best access route in terms of interface with the A370 and avoiding difficult turning manoeuvres within the industrial estate.
		Concerns that the new A370 slip road configuration for option C would conflict with suggested walking and cycling links between the Festival Way and MetroBus.
		Considered that 3 sets of traffic signals close together will result in congestion/long queues during peak periods. Concern that the acute angle of the approach lane onto the B3128 serving the Industrial Estate Road could result in side swipe conflicts or rear end shunt accidents as there is restricted vision of vehicles accelerating at speed from the traffic signals. Concerns that the proposed new southbound on-slip is joining the A370 at an acute angle with the possibility of side swipe conflicts or rear end shunts accidents as there is limited vision of vehicles driving south on the A370 approaching the on-slip. Consider bringing the A370 off slip into the park and ride signal junction arrangement. The right turn from the B3128 to the proposed southbound A370 on-slip would require a right turn lane. Would need to consider re-aligning the on-slip to allow for a right turn lane. Consider a lane gain heading south on the A370 (safety case). Potential costly retaining wall structures required between A370 and the Industrial Road, the new on-slip and existing buildings.

	[redacted]	Concerns over a complicated design with a greater number of new junctions and highway intersections
		Against option C unless access into the estate is provided both northbound and southbound as they believe people commuting to Bristol would have to go under the A370 and head east causing congestion in an already congested area.
		Concerns option C will create additional congestion on the A370 to works already underway in regard to the extended travel planning for the area.
Options A & B		Believes the road connection would be much more simple and cost effective.
		Believes options A & B offer a more direct route into Ashton Vale Road with minimal impact.
		Against options A & B. Against their land being considered as replacement land for Manheim should options A or B go ahead. Believes options A & B can only go ahead if it fits with any possible future development plans for the land. Concerns about the distance the route runs to the south from the brook, believing more land is proposed to be taken than necessary.
		Park and Ride access road is currently un-adopted highway and would need to become adopted with significant works needed to bring it up to standard. Consideration should be given to providing traffic signals with a MOVA link between existing and proposed junction, permanent open left turn, 2 phases only, and peds/cyclists on demand. Feasibility Audit should be undertaken to assist in defining the choice of road alignment/junction type. Review traffic flows at the peak periods into industrial estate, park and ride and possible future development of Bristol Sport land. B3128/A370 junction - the impact of the proposed new road on this junction needs to be considered. Structures maintenance perspective - small is better with crossings over the brooks at right angles. Consider options to mitigate the impact of the additional vehicle movements at B3128 / A370.
Options A & C		Concerns about making Ashton Vale Road a through route increasing traffic movements and suggests widening to accommodate larger vehicles in both directions. Concerns over the loss of on-street parking and allocated parking spaces adjacent to premises, with associated costs for alternative parking arrangements.

	[redacted]	Concerns that making Ashton Vale Road a through route bypassing older buildings on the way in and out may make the estate less attractive to visitors/investors. Concerns developable land values may decrease if access is perceived to be more difficult. Concerns about pedestrian safety if Ashton Vale Road becomes a through route. Concerns over the volumes of traffic along Ashton Vale Road generated by Manheim on car auction days.
		Against options A and C
		Concerns of congestion with the access to the estate being so close to one of the largest yards on the estate.
		Concerns existing road surfaces are not designed and built to current standards impacting more on the environment (watercourses). Concerns the environmental impacts will be greater with crossing the watercourse. Believes for a fair comparison Ashton Vale Road should be re-laid to the latest standards.
		Concerns options A and C require massive upheaval to local businesses.
		Concerns that options A & C would cause traffic gridlock on the estate, with the new connection coming out at the busiest part of the road where there is often many HGV's waiting to be loaded/unloaded, and forklifts and machinery moving around the carriageway.
All options		Concerns that all options make access and journey times much worse than at present, increasing traffic congestion on the A370 and Winterstoke Road for staff, visitors and deliveries
		Concerns that the proposals have not adequately considered traffic volume, movement and safety.
		Advise that the setting of the historic environment is assessed to include key views within the landscape and inter-visibility between heritage assets and the routes of the three proposed options.
		Believes not enough research or thought has been taken by the planning process for the development. Believes that MetroBus should not run through an established industrial estate. Believes the planning process has been slap-dash and thoughtless to the surrounding area and the people who work and live in it. Believes the links and access should be through existing roads by widening them and reducing the amount and width of cycle paths that are perceived to be underused.
Cyclists / pedestrians		Concerns over safety implications for visitors and staff by foot and cycling, particularly where the proposed ramp meets Ashton Vale Road – possible conflicts with turning lorries.

	[redacted]	Concerns over the increased volume of users at the pelican crossing north of the ramp. Concerns over increased danger to pedestrians with possible increased incidents of vehicles driving along the pavement on Ashton Vale Road as a result of congestion.
		Concerns about the ease of access to Cala Trading estate for employees that walk or cycle to the site from Bedminster and surrounding locales
		Concerns about safety that the pedestrian ramp will increase pedestrian activity and combine with school children on Ashton Road where cars are speeding up to get onto the A370. Concerns that the proposed handrail lighting on the ramp is not sufficient to ensure the safety of users.
		Suggests an additional cycle/pedestrian route built on an embankment connecting the pedestrian ramp to Festival Way east of the allotments. Suggests a subway under the MetroBus route and railway to retain a crossing at Barons Close.
		Consideration needs to be given to the cycleway/footway link with the Festival Way. Need to review linkage between Festival Way cycleway and Industrial Road/Ashton Vale. On demand crossing facilities could be included in the traffic signals design.
		Believes a new access road will help cycle and pedestrian flow on the new ramp.
Environmental		Concerns any new road will make the area even more vulnerable to flooding, particularly by options A & B, which would run alongside Longmoor Brook and subsume the flood plain. Concerns that at high tide, flooding would be a real possibility if the brook's culverts were flood-locked.
Operational / Financial impact		Concerns over possible insufficient space for large vehicles to access and egress the car park when the level crossing is closed. Concerns over the potential need to move the access gate identified in swept path analysis which will compromise onsite parking. Concerns over security of site with new pedestrian ramp. Concerns costs of reorganising the site will not be reimbursed.
		Believes the discounted routes favour other businesses that would be affected and should be reconsidered. Believes the businesses affected by the discounted routes have been favoured over them. Concerns the disruption of relocating would cause the business to close given the substantial client contracts held. Believes the refurbishment of buildings carried out recently would increase compensation costs considerably and is concerned this has not been taken into account.

	[redacted]	Strongly against relocation. Believes the issue of access should have been resolved in previous years when the area was being reconfigured.
		Believes it would impact around 260 established and loyal employees (direct and indirect) many of which choose to work there because of the location. States their operating licence and waste carriers licence is associated with the business address. States that their rental units completed in 2011 and rented and that demolition is not an acceptable proposal.
		Believes there are much more preferable options that do not require the upheaval and distress of moving an established family business to new premises. Concerns that if the owners could not find an alternative location, then the wider workforce on construction sites across Bristol and the South West of England could be adversely affected. Concerns over the effect to tenants as well as the business.
Parking issues		Concerns parking restrictions would not be adhered to, or if they are will move parking to other inappropriate areas of the estate (illegally parked cars already cause issues).
Traffic impact		Concerns over congestion on the Winterstoke Road underpass/A369/A370 roundabout caused by re-routing of entrance/exit to industrial estate.
		For any scheme that reduces the traffic in the Bristol area but believe they are not sure this proposal will really deliver significant reductions.
		Concerns with the current heavy traffic issues at the end of Ashton Vale Road, particularly large vehicles queuing and turning around. Concerns the proposed holding bays are not long enough to accommodate the number of vehicles that currently queue. Concerns with the volume of traffic generated by local businesses already includes large vehicles such as car transporters and lorries. Concerns Ashton Vale Road cannot cope with the volumes of traffic as a through route as it cannot cope with volumes currently (even as a no-through route). Concerns about where cars will park if traffic restrictions are introduced.
		Believes the traffic movements associated with local businesses have not been understood or extremely underestimated. Believes that queueing traffic makes it impassable for large vehicles such as car transporters and skip lorries. Believes that parking on Ashton Vale Road exacerbates traffic movements.

	[redacted]	Believes parking restrictions would only be effective if enforced and alternative parking arrangements proposed. Believes the proposed holding bays will do little to mitigate issues given the number of vehicle movements.
		Believes the end of Ashton Vale Road is often totally blocked with HGV's waiting, making deliveries and picking up materials from many of the neighbouring businesses.
		Believes the closure of Ashton Vale Road level crossing is not necessary given perceived lack of empirical evidence of safety incidents in the past.
		Believes the closure of Ashton Vale Road level crossing is not necessary given the expected reduction in traffic on Winterstoke Road after the opening of the South Bristol Link Road. Concerns that any of the proposed new roads, together with the expected expansion of the Park and Ride, will place a further burden on Long Ashton by increasing traffic volume and congestion
		Believes a roundabout at the junction of the new access with the B3128 would be necessary. Believes the Ashton Vale Level crossing should be closed to avoid congestion when the gates close. Believes traffic being diverted along to the new access road would decrease congestion.
Other		States they would like to be included in the formal consultation on this matter in spring 2017, and strongly recommends that an exhibition is held in Long Ashton.
		Believes a new station at Ashton Gate must be a priority to further encourage change of mode for traveling to work in this area and the football/rugby ground.
Utility company	Bristol Water	Detailed maps provided of plant in the vicinity.
	Instalcom	No apparatus in the area
	Sky Telecommunications Services Ltd	No apparatus in the area.
	Verizon	No apparatus in the area
	Vodafone	No apparatus in the area
	Wessex Water	No comments to make