



ABERGAVENNY EAST SEVERANCE STUDY AND WIDER LINKS

Notice

This document and its contents have been prepared and are intended solely as information for Monmouthshire County Council and use about the Replacement Local Development Site (Abergavenny East) Severance Study and Wider Links

AtkinsRéalis UK Limited assumes no responsibility to any other party in respect of or arising out of or in connection with this document and/or its contents.

This document has 68 pages including the cover.

Document history

Document title: WeITAG 1-3 Lite

Document reference: MCC_AESS_01

Version	Purpose description	Originated	Checked	Reviewed	Authorised	Date
1.0	Draft for Client Review	ME/EP	CLC	CZB	CZB	March 2024
2.0	Final following Review	EP	CZB	SL	CZB	May 2024

Client

Client	Monmouthshire County Council
Project	ABERGAVENNY EAST SEVERANCE STUDY AND WIDER LINKS
Job Number	5226532



Contents

Introduction	6
1. Context and Background.....	7
1.1 Context.....	7
1.2 Background	8
1.3 Welsh Transport Appraisal Guidance	9
1.3.1 Stage 0 – Case for Change	9
1.4 WelTAG ‘Lite’ Structure.....	10
Business case.....	11
2. Strategic Fit.....	12
2.1 Project Fit – Transport, Place and People	12
2.2 Integrated Well-being Appraisal – Strategic Fit	13
2.3 Optioneering.....	15
2.3.1 Severance Links.....	15
2.3.2 A465 Trunk Road	16
2.3.3 Wider Active Travel Links.....	17
2.4 Strategic Fit Summary.....	17
3. Wellbeing.....	18
3.1 Recommended Options	18
3.2 Integrated Well-being Appraisal	20
3.2.1 Severance Recommendations	20
3.2.2 Wider Links Recommendations	21
3.3 Wellbeing Summary	25
4. Affordability	25
4.1 Affordability Summary	26
5. Deliverability	27
5.1 Structural Deliverability	29
5.1.1 Option 2a – Firs Road	29
5.1.2 Option 6c – Upgrades to Existing Grade II Footbridge	32
5.1.3 Other Structural Considerations.....	33
5.2 A465 Deliverability	34
5.3 Summary of Deliverability Section	34
6. Management.....	35
6.1 Summary of Management Section.....	37
Conclusion.....	38



7.	Summary	39
7.1	Recommendations	39
7.2	Next Steps.....	40
Appendix A.	Stage ‘0’ – Case for Change	43
Appendix B.	Supporting Plans.....	45
B.1	Existing Routes (DataMapWales, 2024)	45
B.2	Future Routes (DataMapWales, 2024)	46
B.3	Flood Map (Natural Resource Wales, 2024).....	47
Appendix C.	Optioneering	48
C.1	Severance Options.....	48
C.2	Longlist and Five Design Criteria	51
C.3	Severance Options – Deliverability, Management and Affordability	61
C.4	Wider Active Travel Link Options	62
Appendix D.	Integrated Well-Being Appraisal	63
Appendix E.	StreetMaster Exercise	64

Tables

Table 2-1 - Integrated Wellbeing Appraisal Framework - Strategic Fit	13
Table 2-2 - Severance Options.....	15
Table 3-1 - Appendix H Audits - Existing Alignments	22
Table 5-1 - Procurement, private sector, and ongoing viability	28
Table 5-2 - Indicative Costs of Structure (Option 2a)	33
Table 5-3 - Indicative Costs of at-grade crossings of the A465 (DE612 and DE613)	34
Table 6-1 – Project Management Considerations	35

Figures

Figure 1-1 - Study Area	7
Figure 1-2 - Abergavenny East.....	8
Figure 1-3 – Active Travel Distance/Time Isochrones.....	8
Figure 2-1 - Severance Opportunities	16



Figure 2-2 – Wider Active Travel Links.....	17
Figure 3-1 – Shortlist of Severance Options.....	21
Figure 3-2 – Shortlist of Wider Active Travel Links	22
Figure 3-3 – StreetMaster Sections	23
Figure 3-4 – StreetMaster Tool Output – DE101, DE313 and DE401 (two footways)	24
Figure 3-5 – StreetMaster Tool Output – DE101, DE313 and DE401 (one footway).....	24
Figure 3-6 – Combined Shortlist of Severance Points and Wider AT Links.....	25
Figure 5-1 – Case Study - Recently Completed Structure (Carmarthenshire County Council)	29
Figure 5-2 - Case Study – Example of Warren Truss Structure	30
Figure 5-3 - Case Study – Cross-Section of Warren Truss Structure	30
Figure 5-4 - Case Study – A465 Gilwern Structure	31
Figure 5-5 – Case Study – Steel Girders with Concrete Slab	31
Figure 5-6 - Case Study – Tied Arch/Bowstring Arch.....	32
Figure 7-1 - Recommended Options for Development.....	40

INTRODUCTION

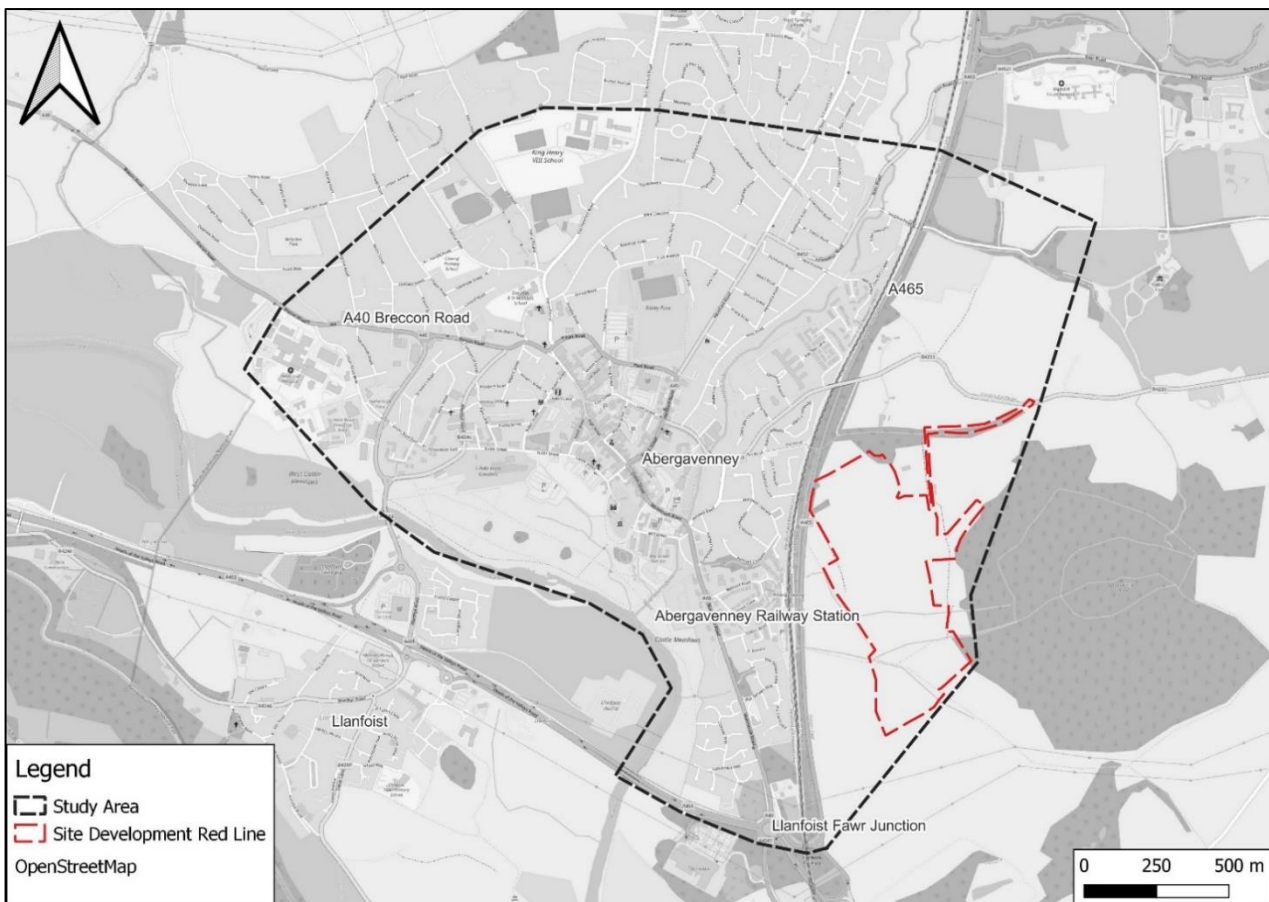
1. Context and Background

1.1 Context

AtkinsRéalis (AR) has been appointed by Monmouthshire County Council (MCC) to undertake a WeITAG 1-3 'Lite' study, exploring active travel opportunities to connect the proposed mixed-use development site in the Council's emerging Replacement Local Development Plan (rLDP), now referred to as 'Abergavenny East' and the existing extents of Abergavenny¹.

The study area as well as the location of Abergavenny East is detailed in Figure 1-1.

Figure 1-1 - Study Area²



¹ Information for development proposals taken from latest rLDP preferred strategy from 26th Oct 2023, deposited at: <https://democracy.monmouthshire.gov.uk/documents/s36407/RLDP%20Updated%20Preferred%20Strategy%20Council%20Report%2026%20October%202023%20final%20002%20REVA.pdf>

² Note that within Figure 1.1, additional parcels of land known as the 'green wedges' are being explored by the site promoter and MCC. This will increase the size of the red line boundary adjacent to the A465.

1.2 Background

The Council, at the time of this WelTAG Lite being produced, are going through their rLDP process, allocating land for sustainable development, designating land for protection, and setting out policies to provide the basis for decisions on planning applications across the County.

In October 2023 MCC endorsed updates to the Preferred Strategy of the rLDP³ following the statutory consultation/engagement in December 2022 - January 2023. The Council is now progressing on the preparation of the Deposit Plan and noted an indicative timescale for adopting the plan in mid-2025.

One of the primary settlements within the rLDP is Abergavenny, which contains a Preferred Strategic Site Allocation referred to as Abergavenny East. Abergavenny East, as illustrated in the indicative map in Figure 1-2, shows the future strategic growth for the area in proximity to the built-up area of Abergavenny as well as the wider infrastructure network. Abergavenny is also illustrated in Figure 1-3 in the context of walking and cycling isochrones that show the distance many users would be expected to travel for utility journeys, based on Table 4.1 of the Active Travel Act Guidance (2021).

Figure 1-2 - Abergavenny East

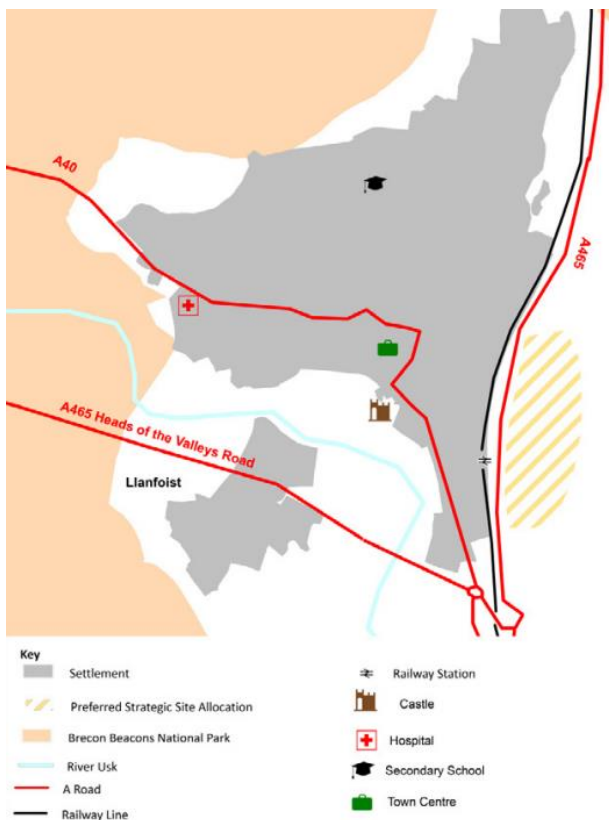


Figure 1-3 – Active Travel Distance/Time Isochrones⁴



Following regular discussions with MCC, AR engaged with the Abergavenny East site promoters, Monmouthshire Housing Association's (MHA) appointed consultants. The development of the strategic site adopts an ambitious

³ <https://www.monmouthshire.gov.uk/app/uploads/2022/12/MCC-RLDP-Preferred-Strategy.pdf>

⁴ <https://www.monlife.co.uk/outdoor/active-travel/abergavenny/>

vision of a mixed-use site, which includes a new “gateway” style interface to Abergavenny Railway Station from the A465, including a revised status of the A465.

1.3 Welsh Transport Appraisal Guidance

This study commenced whilst the Welsh Transport Appraisal Guidance (WelTAG) (2022) was drafted for consultation. Following an agreement with MCC, AR has updated the report based on the latest WelTAG (2024).

Due to the nature of this scheme, it has been determined that the report should be a WelTAG ‘Lite’ as the options have been identified in the Council’s Active Travel Network Map (ATNM) and the study area includes the emerging rLDP site, which has gone through a rigorous review process.

1.3.1 Stage 0 – Case for Change

The ‘Stage 0’ to inform the development of this WelTAG 1-3 ‘Lite’ is available in Appendix A.

1.3.1.1 The ‘Problem’

MCC understand the importance of developing active travel links at the earliest opportunity to shape how people travel to/from the site. The prioritisation, facilitation, and promotion of positive travel patterns and behaviour are essential to the viability of the site and must be in place before reliance on motor cars is engrained. The Council acknowledge the importance of addressing the problem before it arises, as fundamental to progressing the site.

1.3.1.2 Objectives

Five clear SMART⁵ objectives have been developed in collaboration with MCC for this study and are informed by the wider rLDP, engagement, stakeholders and local and national policies. The five objectives include:

- Objective 1 – Attractive – Identify an active travel link that maximises the environmental features to improve the user experience.
- Objective 2 – Coherent – Link the strategic Local Development Plan site with key destinations within Abergavenny and Abergavenny Station, so that users can travel seamlessly by active travel modes.
- Objective 3 – Comfortable – Identify a link between strategic Local Development Plan site and key destinations that avoids the need to ascend or descend steep gradients.
- Objective 4 – Direct – Identify an active travel link from the strategic Local Development Plan site, Abergavenny East, across the two identified severance points (railway line and A465).
- Objective 5 – Safe – Identify a link that provides a safe (actual and perceived) crossing across the two identified severance points (railway line and A465).

Each of these objectives is aligned with the five design principles for active travel from the Active Travel Act Guidance (2021) to ensure that principles are brought into the objective setting and the appraisal of the best option⁶.

⁵ Specific, Measurable, Achievable, Realistic and Timely

⁶ Further reference to Active Travel Act (Wales) Guidance, deposited at:

<https://www.gov.wales/sites/default/files/publications/2022-01/active-travel-act-guidance.pdf>

If no action is taken to identify active travel improvements from the outset – there is a real risk that the rLDP site will increase car/road usage, despite being strategically located for travel by sustainable modes (active travel) and rail in particular.

1.3.1.3 Interdependencies

As well as the rLDP process for Abergavenny East, there are several developments taking place at Abergavenny Railway Station itself, including:

- Network Rail Access for All bridge, which proposes to achieve an unobstructed and obstacle-free 'accessible route' within the Network Rail controlled infrastructure, from at least one station entrance (i.e., the main entrance) and all drop-off points associated with that entrance, to each platform and between platforms served by passenger trains.
- Active Travel Network across Abergavenny including the improvements across Castle Meadows and beyond⁷.
- Transport for Wales Platform 2 Extension.
- Transport for Wales Turnback Facility, which explores options to support the future introduction of an hourly local stopping service on the route that would terminate at Abergavenny.

1.4 WeTAG 'Lite' Structure

The report takes the form of a WeTAG Lite, which is a single business case that combines Stages 1-3 into one report. The report structure therefore is as follows:

- Introduction
- Business Case:
 - Strategic
 - Well-being
 - Integrated Well-being Appraisal
 - Affordability
 - Deliverability
 - Management
- Next Steps and Recommendations

⁷ <https://www.monmouthshire.gov.uk/castle-meadows-abergavenny-the-proposals/>

BUSINESS CASE



2. Strategic Fit

The latest WelTAG (2024) guidance stipulates that the 'Strategic Fit' of a Business Case appraises which option fits best with the objectives of the study and prioritises national, regional and local priorities. The section details why some options fit better than others with the strategic nature of the site.

In 2022, MCC, as part of its statutory duty, produced and published their ATNM, detailing the existing routes in the County and future route aspirations. The ATNM was reviewed and approved by the Welsh Government. As a statutory duty to *"secure new and improved active travel routes and related facilities"*, this study explores how active travel provision can be enhanced within and between the designated locality of Abergavenny.

At the time of writing this WelTAG 1-3 Lite, there are no active travel-compliant routes in proximity to the study area (Appendix B.1). At present, the lack of provision for pedestrians and cyclists to travel actively (as defined by the Active Travel (Wales) Act 2013) does not contribute to national, regional, and local priorities.

During the development of the Council's Welsh Government-approved ATNM, feedback was sought by MCC through a variety of engagement and consultation activities with the public and groups with protected characteristics. This identified a desire by those who live, work and travel within and through Abergavenny for enhanced active travel provision. The proposed future options in Abergavenny are detailed in Appendix B.2.

Several active travel and public transport improvements are also identified within MCC's Local Transport Plan (2015)⁸, Replacement Local Transport Plan (Draft) and the rLDP.

2.1 Project Fit – Transport, Place and People

The development of the project fits with the current alignment of national policy including Llwybr Newydd: The Wales Transport Strategy (2021). The document states the need to *"invest in low-carbon, accessible, efficient and sustainable transport services and infrastructure that enables more people to walk, cycle and use public transport."*

The need to actively travel in the study area is evident. It enables MCC to actively contribute toward supporting a sustainable modal shift from private motor vehicles to active travel. The improved provision of active travel in the study area also positively impacts the sustainable transport hierarchy, placing walking and cycling above all other forms of transportation. Notwithstanding the policy project fit, the project also contributes positively to duties placed upon MCC through the Active Travel (Wales) Act 2013 by delivering new active travel infrastructure.

Strategically, the study area is within south-east Wales, recognised as a priority area for the Welsh Government⁹. It is documented that national, regional, and local strategies must be coordinated and focus on interventions that address the structural economic/social issues that impact communities' prosperity and well-being.

Locally, there are several important trip attractors and destinations, including, but not limited to Abergavenny Railway Station, multiple education facilities such as King Henry VIII School, Our Lady and St Michael's R.C School, Cantref and Deri View Primary School, Abergavenny Town Centre, healthcare facilities such as Nevill Hall Hospital as well as multiple employment and leisure facilities.

⁸ <https://www.monmouthshire.gov.uk/app/uploads/2015/07/MLTP-MASTER-v1-1.pdf>

⁹ [Update to Future Wales - The National Plan 2040 \(https://www.gov.wales/sites/default/files/publications/2024-02/planning-policy-wales-edition-12_1.pdfgov.wales\)](https://www.gov.wales/sites/default/files/publications/2024-02/planning-policy-wales-edition-12_1.pdf)



The pertinence of this study is the emerging rLDP, which has identified Abergavenny East as a strategic mixed-use development.

Across Abergavenny, there are several sites allocated within the existing Local Plan as well as the rLDP for development including housing, mixed-use, education and commercial. Other strategic development sites near the study area include King Henry VIII School Development, Deri Farm Strategic Housing Site, and Westgate development site in the southwest and Ross Road in the north.

Abergavenny East is currently not a 'live' site and is going through the rLDP process. It is important to ensure transport is not considered in isolation, but instead forms part of the early stage of land use development where it can be linked with a whole placemaking opportunity. There are several future trends and issues relevant to this study area detailed in Planning Policy Wales Edition 12¹⁰, in particular:

- Assisting in the delivery of cohesive communities which will meet the needs and are accessible to all members of society, including older people.
- Tackling inequalities between communities, delivering services and jobs closer to where people live and acknowledging the importance of inclusive communities and the wider environment for good health and well-being.
- Improve sustainable access to services, cultural opportunities and recreation facilities to support people to adopt healthy, culturally fulfilled lifestyles which will assist in improving health and well-being.
- Reducing reliance on travel by private car, and the adverse impacts of motorised transport on the environment and people's health, by prioritising and increasing active travel and public transport.

The rLDP has an opportunity to realise the potential of sustainable transport and encourage a sustainable modal shift. Through the virtue of the site's location and future design, it can connect people with jobs, housing and leisure, reduce reliance on private cars for daily travel, support sustainable modes of travel and assist in improving the environment, public health and community life.

2.2 Integrated Well-being Appraisal – Strategic Fit

The use of an Integrated Well-being Appraisal (IWBA) has been utilised to understand the impacts of the study on society, the environment, culture, and the economy at a local, regional, and national level. The impact on the local, regional and national objectives/priorities is summarised in Table 2-1.

Table 2-1 - Integrated Wellbeing Appraisal Framework - Strategic Fit

Document	Priority/Objective/Policy	Fit (✓/✗)
Llwybr Newydd: The Wales Transport Strategy 2021	Priority 1 – Bring services to people to reduce the need to travel	✗
	Priority 2 – Allow goods and people to move easily from door to door using sustainable transport infrastructure and services	✓
	Priority 3 – Encourage people to make the changes to make sustainable transport services	✓

¹⁰ [Planning Policy Wales - Edition 12 \(gov.wahttps://www.gov.wales/sites/default/files/publications/2024-02/planning-policy-wales-edition-12_1.pdf\)](https://www.gov.wales/sites/default/files/publications/2024-02/planning-policy-wales-edition-12_1.pdf)



Document	Priority/Objective/Policy	Fit (✓/✗)
Planning Policy Wales Edition 12, 2024	Creating and Sustaining Communities	✓
	Growing Our Economy in a Sustainable Manner	✗
	Making the Best Use of Resource	✓
	Maximising Environmental Protection and Limiting Environmental Impact	✓
	Facilitating Accessible and Healthy Environments	✓
Cardiff Capital Region Business Plan, 2021 ¹¹	Priority 1 – Build Back Better – playing our part in economic restructuring & building resilience	✓
	Priority 2 – Becoming a City Region – strengthening regional economic governance	✗
	Priority 3 – Scale-up - delivering the WIF ‘peak’ programme through building capacity, support, and credentials	✗
	Priority 4 – Make the CCR Case for Levelling-up – developing a place-based investment prospectus	✓
	Priority 5 – Developing Economic Clusters and innovation-led growth	✗
Monmouthshire Replacement Local Development Plan – Preferred Strategy, 2022 ¹²	Objective 1 – Economic Growth/Employment	✓
	Objective 2 – Town and Local Centres	✓
	Objective 3 – Green Infrastructure, Biodiversity and Landscape	✓
	Objective 4 – Flood risk	✗
	Objective 5 – Minerals and Waste	✗
	Objective 6 – Land	✓
	Objective 7 – Natural Resources	✓
	Objective 8 – Health and Well-being	✓
	Objective 9 – Demography	✓
	Objective 10 – Housing	✓
	Objective 11 – Placemaking	✓
	Objective 12 – Communities	✓
	Objective 13 – Rural Communities	✓
	Objective 14 – Infrastructure	✓
	Objective 15 – Accessibility	✓

¹¹ [DRAFT CCR STRATEGIC BUSINESS PLAN 2021-2026 \(cardiffcapitalregion.wales\)](https://www.monmouthshire.gov.uk/app/uploads/2022/12/MCC-RLDP-Preferred-Strategy.pdf)

¹² <https://www.monmouthshire.gov.uk/app/uploads/2022/12/MCC-RLDP-Preferred-Strategy.pdf>

Document	Priority/Objective/Policy	Fit (✓/✗)
	Objective 16 – Culture, Heritage and Welsh Language	✓
	Objective 17 – Climate and Nature Emergency	✓

2.3 Optioneering

Due to the evolving and emerging nature of the rLDP site, multiple options have been identified and appraised, exploring where it is possible to address the A465 and railway severance points. In addition to the crossing of the severance points, wider active travel links have been investigated to tie the study into Abergavenny.

The appraisal of the wider links into Abergavenny requires the severance access options to be identified first.

2.3.1 Severance Links

An initial investigation for options to address the severance constraints (A465 and Railway Line).

In total, nine options were identified from the north of the B4233 to the south at the A40 (Table 2-2).

The nine options were split into a list of 19 potential combinations/groups of options, for example:

- At grade crossing of the A465 and the existing/new structure of the railway line
- New structure over the A465 and railway line
- Underpass of the A465 and railway line

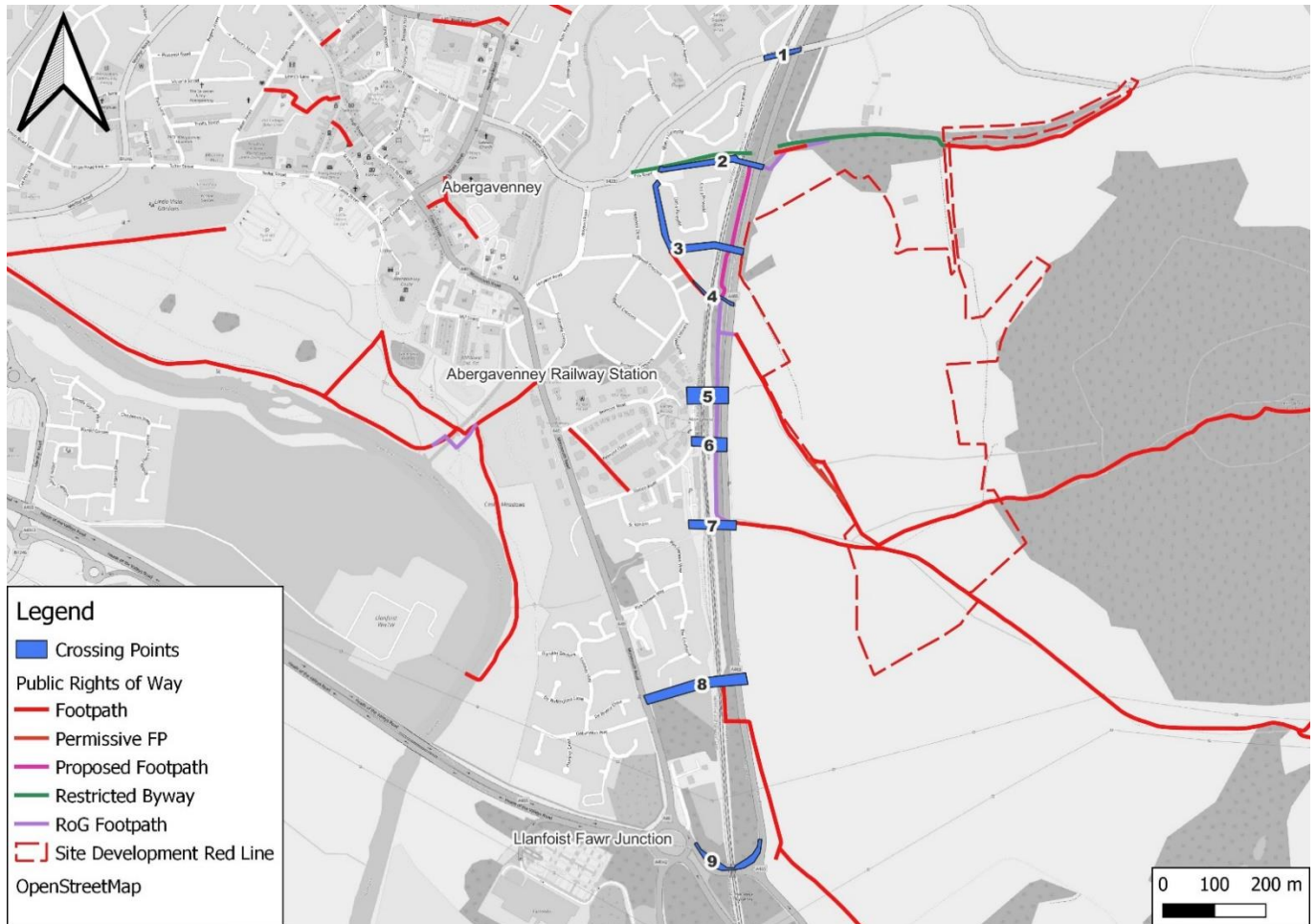
A full list of the combinations/groupings is available in Appendix C.1.

Table 2-2 - Severance Options

Reference	Description of Options
1	B4233 Existing Road Bridge crossing
2	Firs Rd, improving the current public right of way
3	Coad Glas Lane, opposite to the proposed development gateway
4	Holywell Crescent, utilising the existing at-grade crossing of the railway
5	North of the Station, utilising the Access For All bridge developed by Network Rail
6	Existing station grade II listed footbridge
7	South of Station, land south of chamber of commerce, assumed Network Rail land
8	Land south of the Courtyard estate, using existing right of way
9	Use of A465/A40 junction underpass



Figure 2-1 - Severance Opportunities



All options detailed in Table 2-2 and Figure 2-1 utilise either existing infrastructure as part of their package or seek to replace existing infrastructure. Furthermore, all the options have alignment with MCC's draft LTP active travel focus area for interventions, including:

- AT12 (Crossing improvements)
- AT15 (Active Travel links to rLDP sites)

Additionally, several options make specific provisions to links at Abergavenny Railway Station which support MCC's draft LTP mobility hub and interchange focus area for interventions, specifically:

- MH11 (Bus and Active Travel integration with Marches Line)
- MH12 (Sustainable travel improvements at Abergavenny Railway Station)

2.3.2 A465 Trunk Road

During the identification of crossing opportunities of the severance points, engagement with the site promoter for Abergavenny East identified wider ambitions to redefine the A465. The options discussed include:

- The A465 is changed to 50mph, with only crossings provided on direct desire lines to the strategic site.
- The A465 is changed to 30 to 40mph with active travel provision alongside.

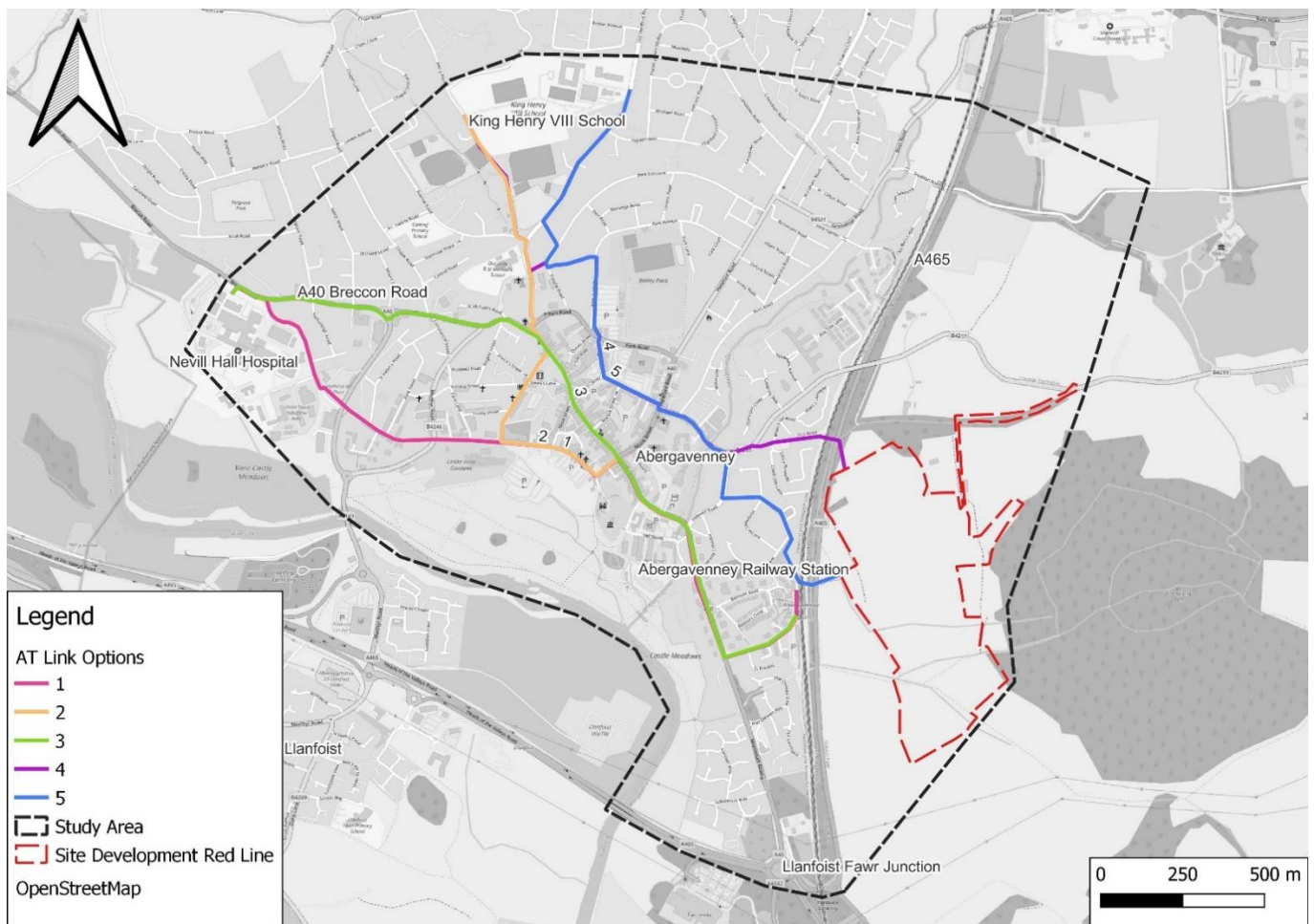
- The A465 is changed to 20 to 30mph with active travel provision alongside.

The proposals to re-imagine the A465 are promoted by the site promoters of Abergavenny East to support the wider placemaking of Abergavenny East. The opportunities presented by the site promoters are ambitious and require engagement with the relevant stakeholders to validate the options.

2.3.3 Wider Active Travel Links

Utilising the Council's approved ATNM, an initial investigation for options to link from the location of the severance point(s) into the wider Abergavenny. In total, five options were identified that provide connectivity into the trip attractors across Abergavenny. A list of all five wider active travel options, as well as figures to highlight their alignment are detailed in Figure 2-2 and Appendix C.2

Figure 2-2 – Wider Active Travel Links



2.4 Strategic Fit Summary

This section has summarised how an intervention is required to address the severance points from the rLDP strategic site, Abergavenny East, and provide connectivity to wider Abergavenny. Without an intervention, the site will not be viable, or the proposed site will be locked into promoting travel to and from the site via private car. There is therefore a clear, overarching directive at a national, regional and local level to improve access to/from the site.

The Strategic Fit section demonstrates that there is a significant opportunity to improve connectivity and accessibility from the proposed rLDP to trip attractors and wider Abergavenny, providing a strong fit with the targets, priorities and ambitions of national policy. The opportunities have also been identified within local transport policy, the emerging rLDP and the Council's approved ATNM.

MCC's Active Travel Strategy focuses on journeys of three miles or less. This means making active travel the first natural choice for local journeys by improving walking and cycling infrastructure to connect people to key destinations within communities. This includes facilitating active travel connections to public transport hubs as the 'first/last mile' of longer, multi-modal journeys. The proximity of this site to Abergavenny's railway and bus stations makes it ideal for low-car living if a suitable active travel connection can be unlocked.

Transport planning and land-use planning are closely related within the context of this study. Through the commission of this WelTAG Lite, the Council aspires to ensure development proposals, through their design and supporting infrastructure, prioritise provision for access and movement by active travel.

In the first instance, the study explored the shortest, most attractive walking and cycling connections over the severance points. Following stakeholder engagement, it was understood that the needs of other transport modes would need to be considered and that there were different levels of aspirations between the land use planning, A465 and the railway line. For this reason, this study has explored several options within the Strategic Fit.

3. Wellbeing

The latest WelTAG (2024) guidance stipulates that the 'Well-being' section of a Business Case appraisal must show how the project contributes/will have the most beneficial impact on social, environmental, economic and cultural well-being in Wales using the IWBA'.

This section first details how the longlist of options detailed in Section 2.3 has been shortlisted based on their impact on the five design criteria from the Active Travel Act Guidance (2021) and Wales Transport Strategy (2021) priorities as well as a desktop review into whether the longlist of options is technically feasible.

This section progresses to summarise the more detailed IWBA in Appendix D and makes particular reference to how the well-being dimension has informed the study.

3.1 Recommended Options

Due to the emerging nature of the rLDP for Abergavenny East, a long list of options was considered as outlined in Section 2.3. As this document is a WelTAG Lite, the guidance states a brief explanation of how and why the final option(s) have been chosen.

A465

The option proposed as part of this study is to reduce the A465 to 20-30mph from its existing speed of 60mph. This has been suggested due to the nature of the proposed changes to Abergavenny East and its interface with the A465. The options which require active travel improvements along the A465 and at-grade crossings are dependent on the speed limit reduction along the carriageway to provide a viable solution to improve active travel connectivity with the Abergavenny East site.

Due to the existing nature of the A465 and its motor traffic flow (Annual Average Daily Traffic), continuous physical separation for walking, wheeling and cycling from motor vehicles is the only recommended option alongside a reduction in the speed along the A465.



It is recognised that this will be subject to further extensive engagement with the South Wales Trunk Road Agency (SWTRA) and the Welsh Government to understand the opportunities along this section. For this reason, all appraisal in this report assume a speed limit of 20-30mph and alternatives have not been explored further.

The do-nothing scenario for the A465 may not impact the targets for a sustainable modal shift to/from Abergavenny East depending on which option is progressed to address the severance point issues.

Severance Points

Due to the nature of the site and the number of interdependencies surrounding the severance options, a high-level assessment was undertaken on the deliverability, management and affordability of the severance options before the IWBA. This was undertaken, as well as an appraisal of the options against the five design criteria, to inform a shortlist of options to be appraised using the IWBA. The assessment of the options is detailed in Appendix C.2 and Appendix C.3

The option(s) proposed to be reviewed as part of the IWBA are as follows:

- Option 2a: Firs Road – A new, continuous structure over both severance features
- Option 5b: Access for All – An ‘at-grade’ crossing of the A465 and utilisation of the Access for All bridge at Abergavenny Railway Station
- Option 6c: Existing Footbridge – An ‘at-grade’ crossing of the A465 and adaption and/or removal of the existing Grade II listed footbridges at Abergavenny Railway Station
 - n.b. All options depend on discussions with SWTRA, the Welsh Government and Network Rail.

A number of the options are detailed in Section 2.3 have been discounted based on the five design criteria for active travel provision. For instance, options away from the desire line or options that would result in greater distances for active travel users compared to motor vehicles were discounted. Similarly, options that involved underpasses and/or at-grade crossings (such as the Barrow Crossing) of the railway line due to safety (actual and perceived).

Wider Active Travel

Several wider active travel links were identified to link the connection from the three severance points into wider Abergavenny. All of the wider links are identified on the Council's ATNM and also complement the wider active travel ambitions of MCC in Abergavenny. Of all five options, detailed in the Appendix C.4, two were agreed with MCC to trial the StreetMaster Tool¹³ to understand the active travel opportunities. The agreed options include:

- Option one, which connects from Abergavenny Railway Station to Nevill Hall Hospital via the A40 and west of Abergavenny town centre.
- Option five, which connects from Abergavenny Railway Station to King Henry VIII Comprehensive School via Abergavenny town centre.

All options were agreed upon with MCC before undertaking the StreetMaster tool analysis. It is understood that a number of options are being developed and progressed in Castle Meadows, which will also provide connectivity east to west in Abergavenny. The two options that have been included, have been subject to an appraisal based on

¹³ *StreetMaster is an innovative multi-platform design methodology which streamlines and accelerates the design process for retrofitting urban corridors with active and sustainable transport infrastructure. The spatial model has been used to identify width properties, pinch points and different design scenarios which can be accommodated.*



the five design criteria of the Active Travel Act Guidance (2021), as well as the two agreed options being subject to an IWBA.

3.2 Integrated Well-being Appraisal

Following the selection of shortlisted opportunities, the WeITAG 2024 guidance notes that each of the four ambitions of the integrated well-being appraisal framework is addressed, those being social, environmental, economic, and cultural well-being. Therefore, following the shortlist identification, the three chosen severance crossing options and two identified wider active travel options were appraised in Appendix D. Where negative impacts were noted, sufficient remedial or mitigation measures were highlighted.

3.2.1 Severance Recommendations

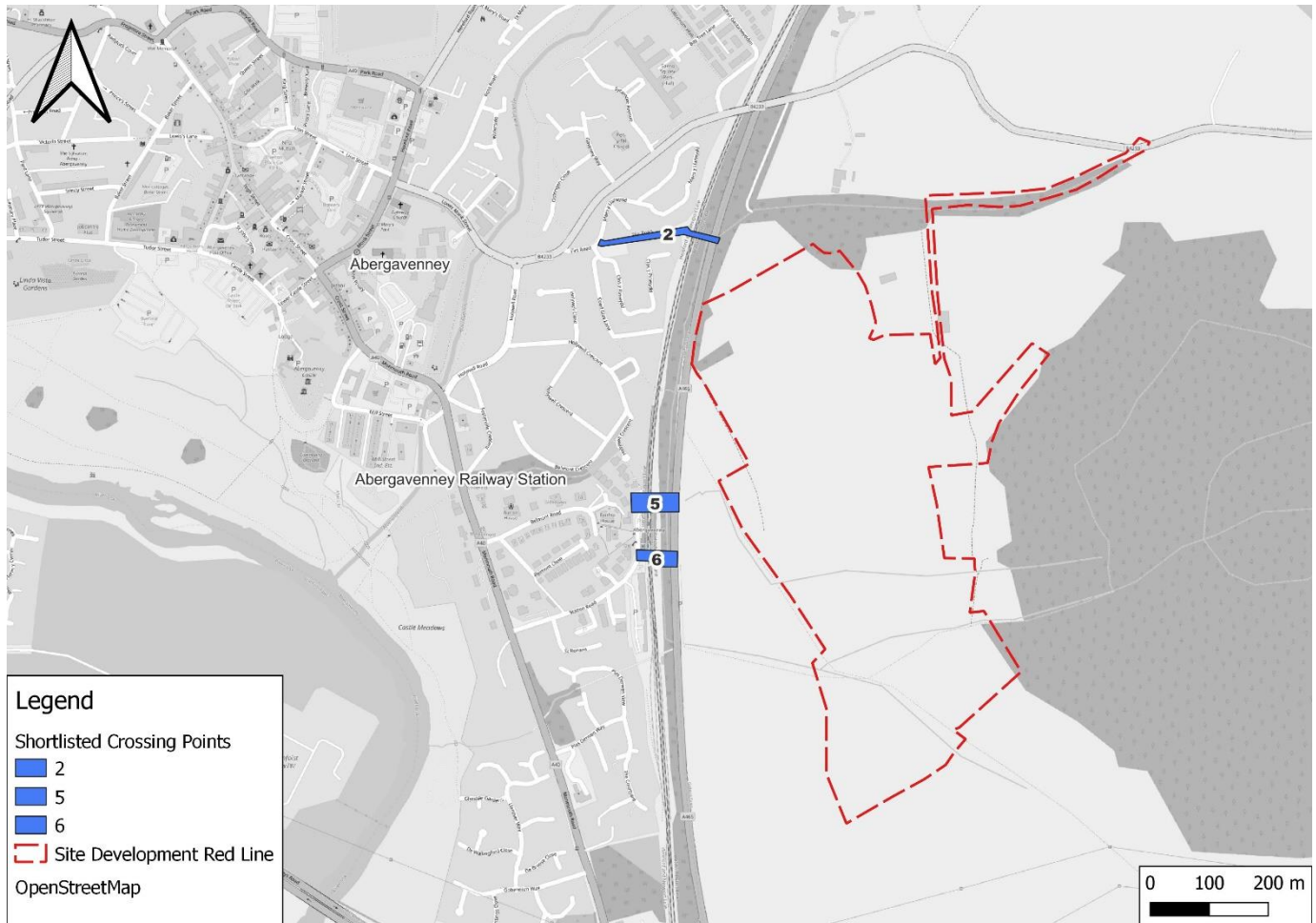
Based on the IWBA highlighted in Appendix D, each severance option was noted to score an overall positive well-being outcome, according to the specification of the framework. This was important to demonstrate, as cost-benefit analysis has not been considered at this stage of investigation.

The crossing alignment which scored most highly was Option 2a, at Firs Road, utilising a combined crossing of both severance features. The poorest score was Option 6c, utilising/adapting the existing crossing, due to the negative effect on heritage and the poor overall equity and safety of the existing structure. However, at this stage, it is recommended that all three options (Figure 3-1) be taken forward for further appraisal and detailed analysis, including:

- Option 2a: Firs Road – A new, continuous structure over both severance features
- Option 5b: Access for All – An ‘at-grade’ crossing of the A465 and utilisation of the Access for All bridge at Abergavenny Railway Station
- Option 6c: Existing Footbridge – An ‘at-grade’ crossing of the A465 and adaption and/or removal of the existing Grade II listed footbridges at Abergavenny Railway Station
 - n.b. All options depend on discussions with SWTRA, the Welsh Government and Network Rail.



Figure 3-1 – Shortlist of Severance Options



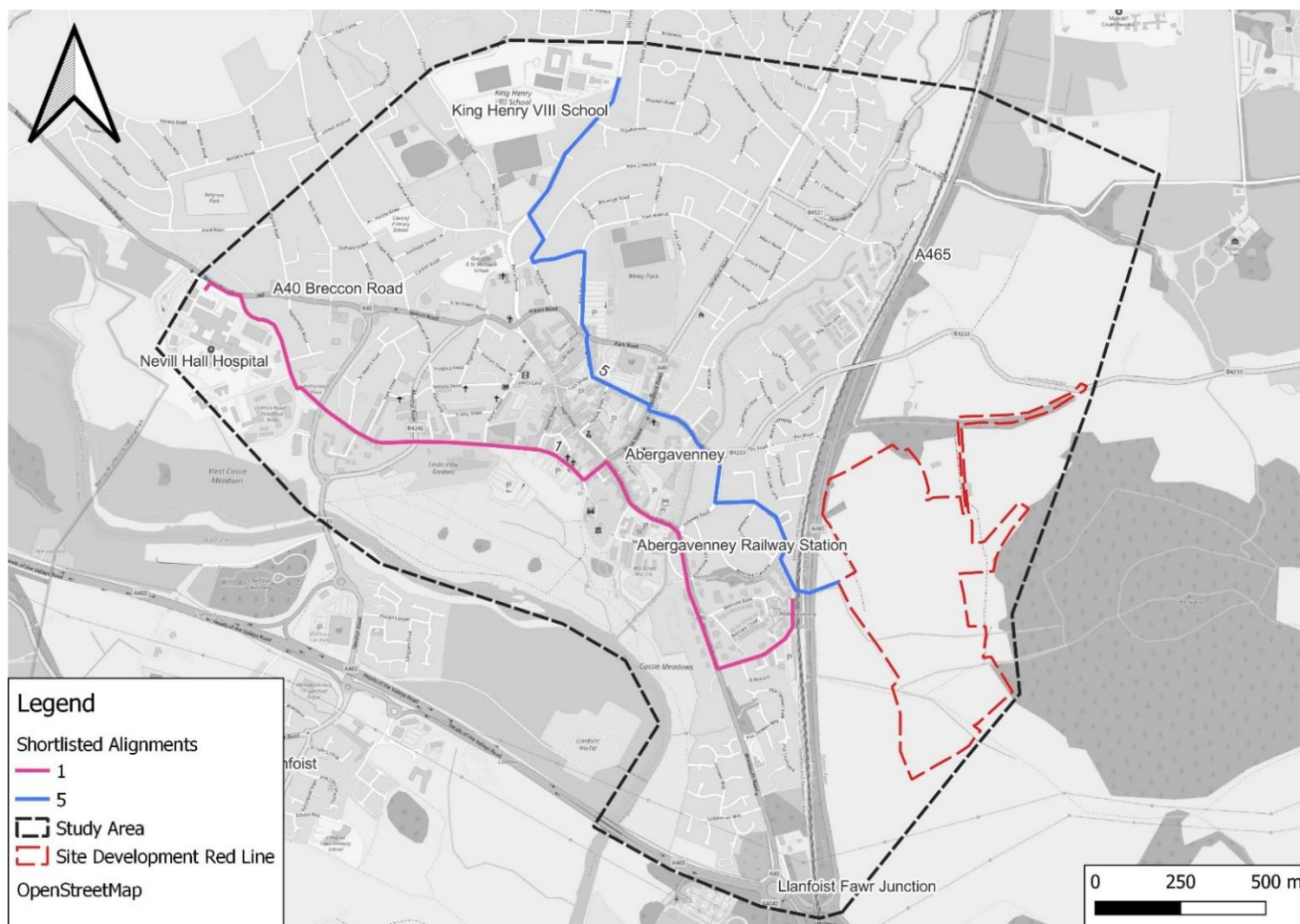
The report acknowledges a wider ambition of the A465 alteration. An intervention in the environment surrounding the A465 would contribute to an alternative set of shortlisted proposals, with better integration with at-grade crossing infrastructure and improved 'placemaking' between Abergavenney East and Abergavenney Railway Station. The wider A465 proposals, however, do not negate the need for a structure over the railway line at any stage.

3.2.2 Wider Links Recommendations

Two wider links were agreed with MCC of the five options (to inform the wider links from the severance point into Abergavenney), which include:

- Option one, which connects from Abergavenney Railway Station to Nevill Hall Hospital via the A40 and west of Abergavenney town centre.
- Option five, which connects from Abergavenney Railway Station to King Henry VIII Comprehensive School via Abergavenney town centre.

Figure 3-2 – Shortlist of Wider Active Travel Links



In advance of undertaking the StreetMaster Tool assessment of the two agreed options, Appendix H audits (based on the Active Travel Act Guidance (2021)) were undertaken to understand the current infrastructure and to identify any constraints associated with the five design criteria. The audit scores are available in Table 3-1.

Table 3-1 - Appendix H Audits - Existing Alignments

Option	Walking Audit Score	Cycling Audit Score
1	13 out of 40, including 1 Critical Fail	11 out of 50, including 3 Critical Fails
5	21 out of 40, including 1 Critical Fail	15 out of 50, including 2 Critical Fails

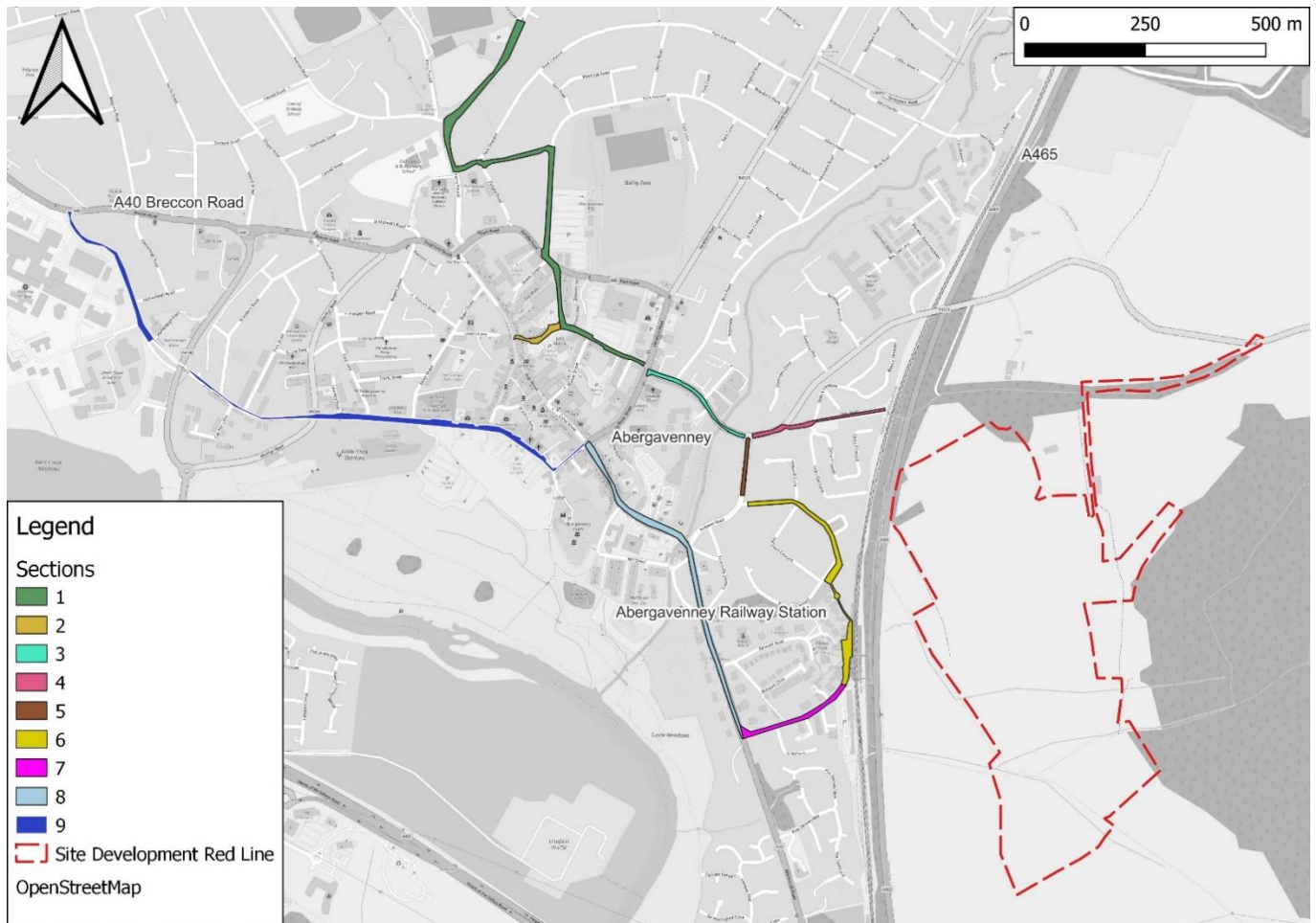
It is important to note that the options audited are not classified as 'existing' as per the definition within the Active Travel (Wales) Act 2013, but only exist in the form of alignments and infrastructure alongside the carriageway. This explains why the existing alignments score poorly in relation to the five design criteria set out within the audit forms.

The results of the active travel audits show that based on the existing conditions (for both walking and cycling), there are some critical failures. At present, this is unlikely to support the local, regional, or national policy directive and ultimately it will not be an appealing mode of transport for users. Further assessments need to be undertaken from concept design to detailed design to understand what 'hard' infrastructure measures can be implemented to complement access from Abergavenny East and Abergavenny Railway Station.

In addition to the Appendix H audits, the results of the IWBA in Appendix D demonstrate that the wider active travel options score an overall positive well-being outcome, according to the specification of the framework. The results are, however, subject to further design and associated impact assessments.

Following the understanding of the current constraints along the two proposed options and the IWBA, AR utilised the StreetMaster Tool to appraise cross-sections of the two agreed options. Further information on the StreetMaster Tool is available in Appendix E. The options were broken into sections which can be seen below in the figures.

Figure 3-3 – StreetMaster Sections



The sections have been appraised to test their viability for three design options based on the Active Travel Act Guidance (2021) level of service, including DE101, DE313 and DE401. Option appraisal included scenarios with footways on both sides of the carriageway as well as scenarios with footways on only one side of the carriageway.

Output from the StreetMaster Tool demonstrates that within the highway boundary across the options within Abergavenny, several width constraints result in the inability to provide a high-quality level of service for active travel users. Output from the StreetMaster Tool is summarised in Figures 3-4 and 3-5.

Figure 3-4 – StreetMaster Tool Output – DE101, DE313 and DE401 (two footways)

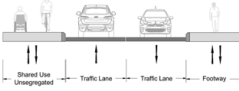
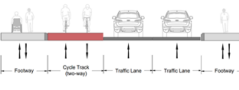
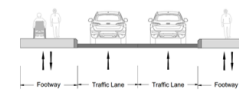
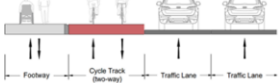
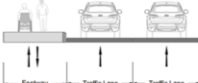
Design Test Scenario	Street Width Standard (m)		Proportion of Corridor Meeting Design Test Width									
Section 1			Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	Section 9		
SCENARIO 1 – DE401		Does not meet absolute minimum width	< 10	56%	53%	97%	95%	100%	69%	92%	70%	51%
		Meets absolute minimum width	10	6%	3%	0%	1%	0%	2%	2%	3%	6%
		Meets or exceeds desirable minimum width	10.5	38%	44%	2%	4%	0%	29%	7%	27%	43%
		Feasibility		X	X	X	X	X	X	X	X	X
SCENARIO 2 – DE313		Does not meet absolute minimum width	< 11.8	74%	73%	98%	100%	100%	77%	94%	79%	68%
		Meets absolute minimum width	11.8	4%	2%	0%	0%	0%	2%	0%	2%	10%
		Meets or exceeds desirable minimum width	12.5	22%	25%	1%	0%	0%	20%	5%	19%	22%
		Feasibility		X	X	X	X	X	X	X	X	X
SCENARIO 3 – Footway Improvements		Does not meet absolute minimum width	< 9.3	40%	48%	97%	90%	100%	62%	78%	62%	47%
		Meets absolute minimum width	9.3	4%	1%	0%	1%	0%	3%	4%	5%	1%
		Meets or exceeds desirable minimum width	9.5	56%	51%	3%	9%	0%	35%	18%	33%	52%
		Feasibility		X	X	X	X	X	X	X	X	X

Figure 3-5 – StreetMaster Tool Output – DE101, DE313 and DE401 (one footway)

Design Test Scenario	Street Width Standard (m)	Proportion of Corridor Meeting Design Test Width										
		Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	Section 9		
SCENARIO 4 – DE401 1 Footway		Does not meet absolute minimum width	< 8.5	28%	36%	97%	86%	100%	41%	54%	37%	45%
	Meets absolute minimum width	8.5	7%	7%	0%	2%	0%	17%	17%	14%	1%	
	Meets or exceeds desirable minimum width	9	65%	56%	3%	12%	0%	42%	29%	50%	54%	
	Feasibility		X	X	X	X	X	X	X	X	X	
SCENARIO 5 – DE313 1 Footway		Does not meet absolute minimum width	< 10.3	59%	56%	98%	96%	100%	70%	93%	71%	55%
	Meets absolute minimum width	10.3	7%	7%	0%	3%	0%	3%	1%	4%	6%	
	Meets or exceeds desirable minimum width	11	33%	36%	2%	1%	0%	26%	6%	24%	39%	
	Feasibility		X	X	X	X	X	X	X	X	X	
SCENARIO 6 – DE101 1 Footway		Does not meet absolute minimum width	< 7.8	21%	33%	86%	66%	64%	23%	41%	26%	42%
	Meets absolute minimum width	7.8	2%	0%	4%	5%	13%	2%	4%	2%	1%	
	Meets or exceeds desirable minimum width	8	77%	67%	10%	29%	24%	75%	55%	72%	57%	
	Feasibility		X	X	X	X	X	X	X	X	X	

The StreetMaster Tool output demonstrates that the highest level of provision across the two options is where one footway is provided. The sections for the two options vary significantly in terms of their built-up area characteristics: ranging from Trunk Road to quiet streets and the town centre. It is recommended that further analysis and appraisal be undertaken to understand the level of service that can be provided for active travel provision within Abergavenny.

Additional figures are detailed in Appendix E which summarises the two options and the areas where there are constraints to delivering a high level of service for active travel provision. This can be used moving forward to understand where potential third-party land is required to achieve high-scoring active travel options in relation to Appendix H Active Travel Audits from the guidance document.

3.2.2.1 Behaviour Change

The package of 'hard' infrastructure proposals discussed within the cross-section analysis will need to be complemented with 'soft' behaviour change measures across the study area, as well as more broadly across MCC. There are several behaviour change techniques available that are evidence-based and summarised in Figure 5-2 of the Active Travel Act Guidance (2021).

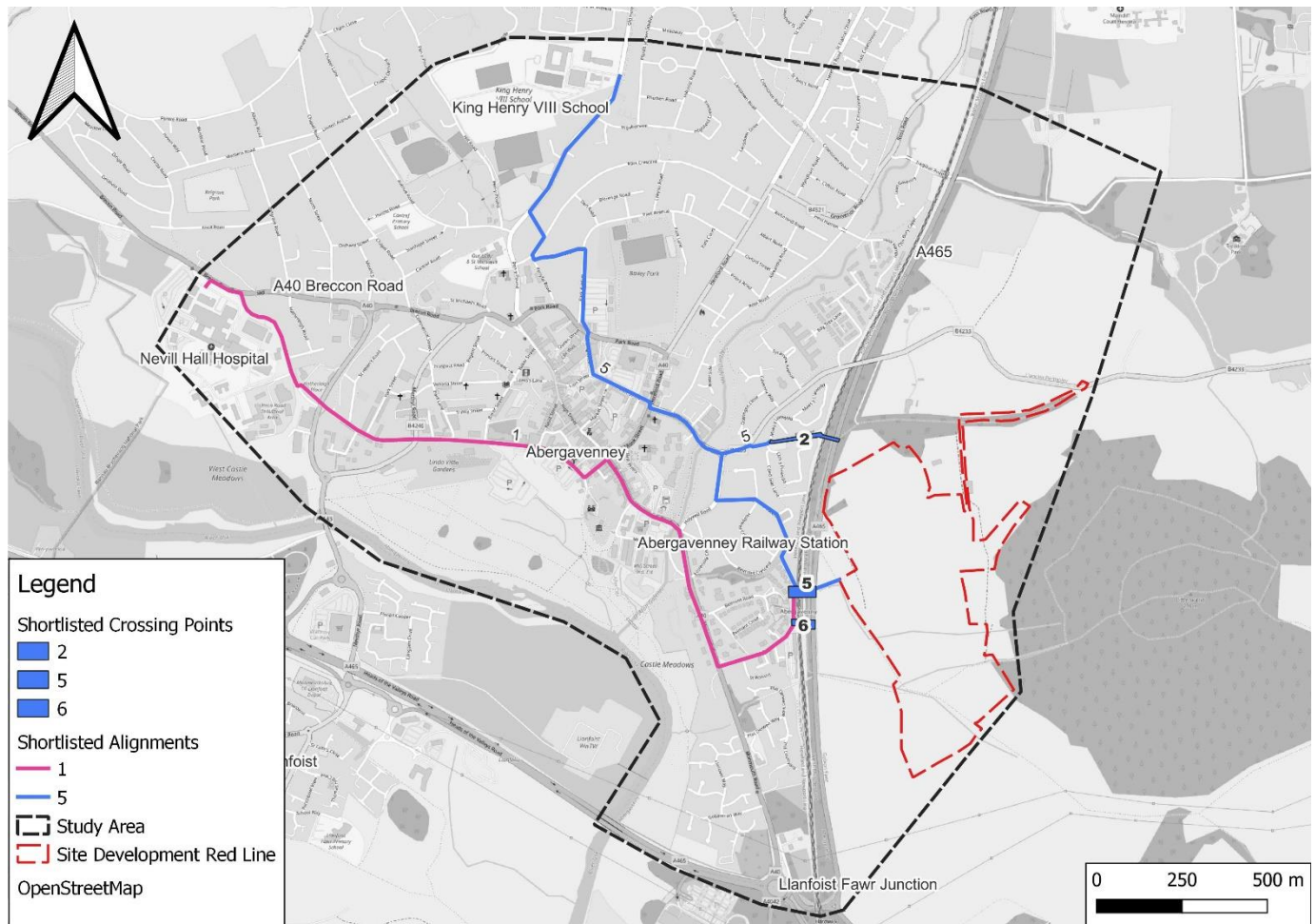
Through the design process of the project, it is recommended that further bespoke soft behaviour change measures are developed alongside the comprehensive consultation and engagement exercises. This will enable MCC to understand what measures will change the way people travel within and between the study area and successfully utilise the new 'hard' infrastructure between Abergavenny East and the wider Abergavenny.



3.3 Wellbeing Summary

In summary, the project and overall proposals have considered the impact on well-being from the conception of the study. Throughout the process, the level of detail and potential positive and negative impacts of the study have been recorded in the IWBA. Overall, there is a clear positive impact of the project on well-being in Wales. However, through the WeITAG and design process moving forward, further engagement with the public and stakeholders is imperative to ensure that any negative impacts are carefully managed and mitigated where possible.

Figure 3-6 – Combined Shortlist of Severance Points and Wider AT Links



4. Affordability

The latest WeITAG (2024) guidance stipulates that the 'Affordability' section of a Business Case must cover capital and revenue requirements over the lifetime of the project and the implications of these for the balance sheet, income and expenditure accounts for public sector organisations.

To undertake an appropriate 'affordability' assessment of the severance points and wider active travel links there must be a detailed scheme description or project design. At this stage, no detailed scheme design has been undertaken and therefore, it is not appropriate or possible to complete a detailed affordability assessment.

However, it is important to note that throughout the process, several options have been considered which will have significantly different affordability implications. For instance, at-grade crossings of the A465 will likely be a more affordable option than a new structure. Efforts have been made to understand the likely affordability implications within Appendix C.2 for the severance options only.

A summary of the potential funding sources is detailed below but will require a review once the project progresses:

- Welsh Government Funding: Active Travel Fund, Local Transport Fund and the Rural Development Fund
- Regional Funding: Cardiff Capital Region and Burns Unit Funding
- Transport for Wales: South Wales Metro, Station Network Plan enhancements and Pathfinder Programme
- Council Capital budget
- Section 106 through the development of Abergavenny East
- Stakeholder funding programmes including SWTRA and Network Rail budgets

A number of the funding sources will cover different elements of the delivery of the project. For instance, funding for addressing the severance points is likely to arise from collaboration with a number of stakeholders, thereby drawing on a number of different pots. Whereby wider active travel links are likely to emerge as a result of the Active Travel Fund process.

The delivery of the project will have some short to long-term accounting implications. This includes additional maintenance of the proposed infrastructure and internal capital budgets. Any Section 106 contributions will be subject to the legal agreements.

As the project progresses, it is recommended that the following be considered:

- Identify the initial capital costs of the project.
- Identify the lifetime revenue costs including the costs of maintaining and managing the infrastructure, including the administration, resource, and capital costs over the whole life of the project.
- Highlight when the costs are likely to occur, allowing for inflation and who will pay what costs and when, including maintenance liabilities.
- Develop and set the sum allowed for contingencies and risks.
- Where possible, utilising a whole-life costing approach should be taken including the costs for re-use or disposal at the end of life.
- If possible, the costs associated with securing and delivering well-being benefits must also be identified, including environmental, social, and cultural impacts.

4.1 Affordability Summary

The affordability section has drawn on the potential accounting implications for public sector organisations. At this stage, it is not possible to accurately account for all costs associated with the project. It has therefore been recommended that a series of affordability actions will be considered during the further development of the options. However, it is recognised that future development and delivery of the proposal will require a significant level of capital investment and is therefore likely to require a funding package from a range of sources.



5. Deliverability

The latest WelTAG (2024) guidance notes that the 'Deliverability' section should outline how the programme or project will be delivered and by whom. It explains whether a scheme will be viable, for example, whether it is going to be possible to procure the scheme and whether its future benefits will be realised.

It is important to note that this section is in draft until the design progresses. This section, therefore, provides a summary of high-level deliverability and then makes a series of recommendations. Efforts have been made to understand the likely deliverability implications within Appendix C.2 for the severance options only due to the complex nature of the site location.

The proposal involves the delivery of a combination of improvements to existing infrastructure as well as some new infrastructure that will require the procurement of capital works. The lead body of the project will be MCC but will require ongoing engagement with SWTRA, Network Rail and Transport for Wales. The future works will need to be procured in line with MCC's financial regulations and standing orders for contracts to ensure the best value is achieved.

Works and professional services will be procured using the appropriate contractor and consultant frameworks which are in place. The associated procurement matters such as contract length, payment mechanism and pricing framework are not known at this stage.

At this stage, no design work has been undertaken due to the emerging nature of the rLDP. Due to the nature of the project, it is recognised that there will be varied social, economic, environmental, and cultural impacts. As such, the delivery of the project will likely need to be phased in sections over several years. It is imperative, however, that the active travel provision is implemented in advance of the completion of Abergavenny East to ensure that sustainable travel and behaviour are promoted from the outset.

There are, however, opportunities to construct sections of the wider network concurrently, which will also impact the contract length. Caution will need to be taken to avoid infrastructure being developed that leads to nowhere, leaving users potentially abounded.

At this stage, several options have been recommended to be delivered relating to the severance points and wider active travel links including:

- Reduction in speed and changes to the A465 to 20-30mph.
- Option 2a: Firs Road – A new, continuous structure over both severance features.
- Option 5b: Access for All – An 'at-grade' crossing of the A465 and utilisation of the Access for All bridge at Abergavenny Railway Station.
- Option 6c: Existing Footbridge – An 'at-grade' crossing of the A465 and adaption and/or removal of the existing Grade II listed footbridges at Abergavenny Railway Station.
 - n.b. All options depend on discussions with SWTRA, the Welsh Government and Network Rail.
- Option one, which connects from Abergavenny Railway Station to Nevill Hall Hospital via the A40 and west of Abergavenny town centre.
- Option five, which connects from Abergavenny Railway Station to King Henry VIII Comprehensive School via Abergavenny town centre.

From the outset, it has been clear that the first element that needs to be addressed is the severance points between Abergavenny East and Abergavenny itself. It is recommended that throughout 2024/25, further appraisal and design work is undertaken to understand the deliverability of the suggested severance crossings.



At this stage of development, it is not possible to provide an outline of the final procurement methodology. However, it will need to be in line with any grant funding requirements, depending on how the project is financed. Further information about the method of procurement and associated matters will be completed through the design process, at which point the design of the project will be available.

Table 5-1, collates factors that will affect the procurement of the development of the proposals and highlights issues affecting the level of private sector involvement and ongoing viability.

Table 5-1 - Procurement, private sector, and ongoing viability

Procurement	Private Sector and Ongoing Viability
- Capital works will be procured by MCC. - Land access and ecology constraints will likely impact the timing of construction at this stage. - Existing consultancy and contractor frameworks are likely to be utilised for the project delivery. - Opportunity for MCC to deliver elements of the project in-house. - Certain project elements are likely to involve the procurement of specialist services. - Sections of the project are to be delivered on a phased basis. This could affect the contract value and length, whether sections can be combined and delivered as a single works contract or involve multiple contracts. - Potential to deliver sections of the project concurrently. - Procurement will need to be in line with grant funding rules if utilising external funding sources.	- Private sector involvement in the feasibility and construction of the project. - Maintenance of the infrastructure will be the responsibility of MCC (assumed). - There will be no direct charging implications for users of the project (subject to further discussion with Network Rail/Transport for Wales on the Access for All structure). - Potential for complementary businesses to be established e.g., cycle hire. - Potential for 'other' sector involvement in the usage of the route once operational e.g., links to public transport (Transport for Wales and bus providers), education, healthcare etc.

At present, there is no anticipated Transfer of Undertakings [Protection of Employment]. Further, the Human Resource (HR) implications are unknown. However, there may be HR implications if extra staff are needed during or following the delivery of the project.

The development of the project will require consideration of whether the delivery will require more staff, or whether existing staff will need to undertake additional duties. Consideration will also need to be given to the commitments to Fair Work for employees of MCC if consultants are used in the delivery of the project. Further information will be contained in the procurement strategy at the detailed design stage.

It is recommended that as each element is progressed, a procurement strategy is developed, setting out:

- How the project will be sourced and paid for.
- Details of the contractual issues including the length of the contract and how it will be managed.
- Evidence of how MCC will secure the wider impacts and benefits.
- Identifying and exploring the issues around risk, including who will take on the risks around demand, planning consent or revenue availability.
- Identify mechanisms for monitoring performance, efficiency, and innovation.
- How the overall project will be delivered.
- How the well-being benefits will be secured.



5.1 Structural Deliverability

The severance options for this project have been developed previously and the requirement for structures at two locations has been identified (Option 2a and Option 6c). The structure options being considered at the two locations are considered within this section of the report with particular emphasis on constraints, structural form and cost.

Carbon and compliance with the requirement of PAS2080 have not been considered in detail at this stage. It is assumed that a need for the structure crossing has been identified and the “Avoid” aspect of PAS 2080 is not possible, although consideration has been given to the use of the existing Access for All structure at Abergavenny Railway Station. Opportunities to reduce the carbon impact of the project can be considered further in future stages of the scheme.

5.1.1 Option 2a – Firs Road

The proposed route crossing the A465 and the railway line connecting to Firs Road will result in a structure with a total length of approximately 55m plus approach ramps and access at each side.

Based on the span requirements it is envisaged that the most efficient and appropriate structure would comprise steel as the main structural element. In developing options for the crossing an allowance has been included for piled foundations supporting the main structure at this stage in the absence of ground investigation. We have also assumed that low-level lighting would be provided (contained within the handrail – see Figure 5-1 for a recently completed scheme in Carmarthenshire) through the structure to allow safe use year-round.

Figure 5-1 – Case Study - Recently Completed Structure (Carmarthenshire County Council)



The structural form would be dependent on any aesthetic requirements identified as part of the scheme but for a span of approximately 55m, the following options could be considered.

Warren Truss

The form of structure is appropriate for a span in the region of 55m (based on approximate measurements).



The overall depth of the structure would be in the region of 4m and provides an efficient functional method of crossing both A465 and railway line. Despite the significant depth of the structure, the absence of solid parapets and infill for the majority of the crossing would maintain a lighter appearance compared to other forms of construction. Changes to parapet height and type where the structure crosses the railway line and solid infill parapets are required can be readily accommodated. The extracts below (Figure 5-2 and Figure 5-3) provide indicative details of structures designed recently for active travel schemes which can accommodate the proposed spans.

Figure 5-2 - Case Study – Example of Warren Truss Structure

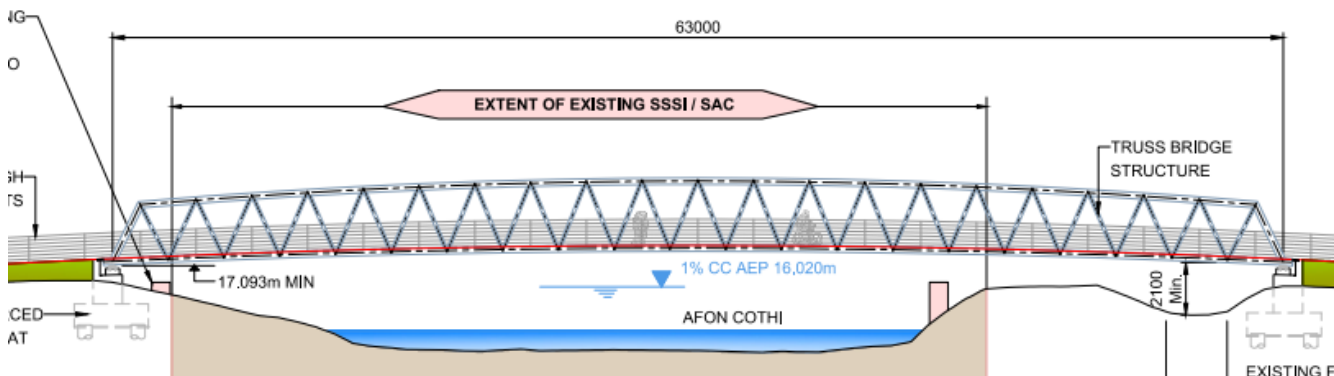
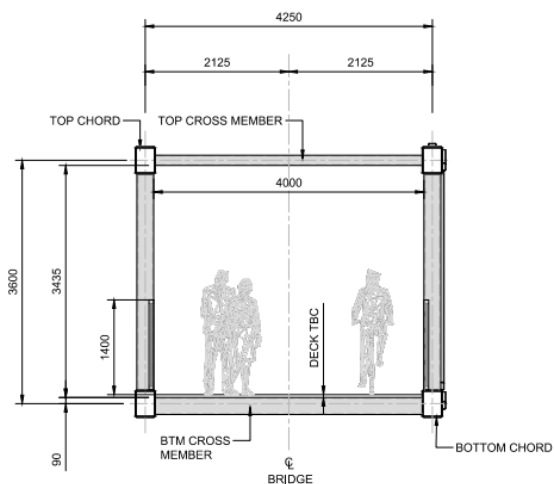


Figure 5-3 - Case Study – Cross-Section of Warren Truss Structure¹⁴



Half-Through Girder

A footbridge structure recently constructed crossing the A465 between Gilwern and Brynmawr are weathering steel structure with a composite concrete deck (Figure 5-4). The use of weathering steel reduces future maintenance requirements for the steelwork although this would be partly offset by the concrete deck maintenance.

A structure of this type could be considered and could potentially offer visual continuity along sections of the A465 in the vicinity of Abergavenny. It should be noted that the increased width required at this location would likely result in

¹⁴ The width would need to increase to accommodate the Abergavenny East structure but provides indicative arrangement of what can be achieved.

an increased depth of structure (2.2m shown below) to accommodate transverse steel members supporting the concrete deck spanning a much greater distance.

Figure 5-4 - Case Study – A465 Gilwern Structure¹⁵



Steel Girders with Concrete Slab

To achieve the span and provide the required containment, a beam and slab structure would result in a structure with an approximate overall depth of 4.1m to 4.6m with over half of this elevation appearing solid. This would be achieved with steel girders of 2.2m deep (providing a span/depth ratio of 25), a 0.5m high concrete parapet plinth and a 1.4m high steel parapet which would increase to a 1.8m solid infill parapet over the railway portion of the crossing. Indicative below with shallower girder depth than 2.2m.

Figure 5-5 – Case Study – Steel Girders with Concrete Slab



Tied Arch/Bowstring Arch

The use of an arch structure could be considered at this location, however, the aesthetic appearance of an open aspect arch structure whilst travelling along the A465 would not be realised due to the requirements to cross both the A465 and railway line which are separated by extensive vegetation along what would be the approximate centreline of the structure. The image below has been included to demonstrate the potential scale required and shows a 6.5m wide structure of a similar span of approximately 60m.

¹⁵ The width would need to increase to accommodate the Abergavenny East structure but provides indicative arrangement of what can be achieved

Figure 5-6 - Case Study – Tied Arch/Bowstring Arch



5.1.2 Option 6c – Upgrades to Existing Grade II Footbridge

The existing structure crossing the railway line is a Grade II listed structure and does not currently provide the required capacity for the future intended use.

There are several constraints associated with carrying out any modifications to the existing structure to comply with the requirement to provide a 7.5m wide structure. The existing substructure has been designed and constructed to support the existing structure which is significantly less than the proposed use. Any modification to increase the width of the superstructure will also require extensive modifications to the existing substructure to support the increased loading from the increased dimensions of the new structure. The extent of work associated with modification and the impact on the listed nature of the structure is likely to make this option unviable – but are subject to further investigations and assessments.

Potential modifications could be considered for the parapets to increase the height if this doesn't meet the Network Rail's minimum requirements of 1.8m. These modifications would be subject to listed structure consents in addition to the Network Rail approval process.

If the existing structure is not appropriate for modification due to the reasons outlined above, consideration could be given to upgrading the approaches at either side of the structure to meet current gradient and accessibility requirements although accepting that the width would be sub-standard.

This would result in the loss of car parking facilities to the west of the railway line. The same constraints are not in place to the east of the structure where there is sufficient space along the length of the existing platform to accommodate the ramp access to the platform and modification to the gradient up to the A465 could be accommodated through earthwork modification with minimal impact on the existing structure.

Approach Ramps

Approach ramps on the East side of the structure would be reduced compared to the West due to the topography of the area and a higher elevation to tie into above the A465. The height across the A465 and subsequently the railway line will be dictated by the headroom required above the A465 of 5.8m to comply with the requirements of CD 127.

The clearance above the railway line would then be achieved by maintaining the maximum 1:20 gradient across the structure. Work carried out previously has identified ramp lengths based on these clearances ranging from 70m to

130m depending on the arrangement. For this report, we have assumed a length of 70m which would reduce the initial capital cost and also the longer-term whole-life cost associated with maintenance.

5.1.3 Other Structural Considerations

Consideration has been given to the inclusion of the technical approvals required as well as indicating cost estimates for the structures as part of 2a.

Technical Approval

It is assumed that technical approval for the structure would be required through the SWTRA and not Network Rail although there would be a requirement to liaise with Network Rail through the design process and to agree land and clearance etc.

Cost Estimate

Cost estimates for the structures have been calculated based on the SPONS 2023 rate with appropriate uplift for optimism bias in accordance with the government Supplementary Green Book Guidance (Table 5-2).

The upper bound construction costs from SPONS 2023 are used as a baseline to estimate the construction for the main structure. A reduced value, using the lower bound, has been adopted for the approach ramp structures due to the reduced span and repetitive nature. We have also compared the proposed costs against previous construction costs for bridges/walkways of a similar structural form to ensure that the figures being proposed are as accurate as possible at this early stage.

Optimism bias has been included for each option, where the optimism bias should generally reduce as a percentage, converging on the actual construction cost as the design process becomes further developed. The Supplementary Green Book Guidance recommends 44% as the upper value for capital expenditure of Standard Civil Engineering projects and 3% for lower value. For the steel warren truss option, the value adopted has been reduced to 15% as these materials form the baseline for the SPONS costs. The optimism bias is increased for the other options to reflect the additional material and complexity associated with steel/concrete composite structures and the bow-string arch.

Industry-standard percentages of the construction cost have also been applied to take account of the estimated additional cost of preliminaries, risk, design fee and site supervision.

No allowance is included within these costs for the removal of existing structures crossing the railway or for any service diversions that may be required to facilitate the scheme.

Table 5-2 - Indicative Costs of Structure (Option 2a)

Structure Type	Optimism Bias (%) ¹⁶	Construction Cost Estimate*
Warren Truss	20	£4.6M (£2.5M)
Half Through Girder and Beam and Slab	23	£4.8M (£3.2M)
Bowstring/Tied Arch	46	£5.3M (£3.5M)

*The significant cost associated with the structures is primarily related to the width. If permitted as part of the next stages of design development, discussion around the possible justification for the reduction of the width of the

¹⁶ <https://assets.publishing.service.gov.uk/media/65a6bd2096a5ec000d731aa7/tag-unit-a1-2-scheme-costs.pdf>



structure from 7.5m to 5.0m for an unsegregated shared use route in accordance with DE626 of the Active Travel Act Guidance (2021) would reduce the costs by approximately 33% (included in the brackets).

There is also an opportunity to reduce the cost should it be determined the structure over both severance points is reduced in length and only crosses the railway line. However, this is subject to further appraisal and design.

5.2 A465 Deliverability

Consideration has been given to the Welsh Government document “Setting Local Speed Limits in Wales”, in relation to how to set local speed limits on single and dual carriageways in urban and rural areas. It is acknowledged, however, that the Welsh Government are in the process of updating the guidance and therefore could impact the delivery of the proposed changes to the A465.

Based on the current layout and nature of the A465, the speed limit is deemed to be appropriate for the nature of the road and its use by all types of road users. AR acknowledge that there is currently a safety problem with informal parking and access to Abergavenny Railway Station. However, the development of Abergavenny East and its potential impact on local access, function and how it serves the local community will mean that its speed limit will likely need to change, which provides an opportunity to address the current problem along the A465.

In the deliverability of reducing the speed limit along the A465 to 20-30mph, consideration will need to be given to buffer speed limits before the 20-30mph as well as speed limit signing and other associated works such as surface maintenance, vegetation clearance etc.

Cost estimates for the introduction of a DE612 (Puffing and Pedestrian Crossing) and DE613 (Toucan Crossing). with appropriate uplift for optimism bias in accordance with the government Supplementary Green Book Guidance (Table 5-3). No costs have been identified for the additional elements associated with the speed limit reductions.

Table 5-3 - Indicative Costs of at-grade crossings of the A465 (DE612 and DE613)

Crossing Type	Optimism Bias (%)	Construction Cost Estimate
DE612/613	20	£50k

5.3 Summary of Deliverability Section

This deliverability section has identified that the project will require the procurement of capital works to deliver improvements to the existing infrastructure as well as new infrastructure. At this stage of the project, the level of detail relating to the procurement method and associated matters e.g., contract level, framework etc., have not been determined but will be set out within the procurement strategy in a detailed design.

Consideration has been given to understand the type of infrastructure required and the potential financial implications of this (including new structures and at-grade crossings). No consideration has been given to the active travel links to and/from the structures and/or at-grade crossings. It is important to note that at this stage, detailed costs are not possible due to the uncertainty associated with the infrastructure.

This study has highlighted a range of issues such as the potential impact of phasing of project delivery on contract value, length, and the number of procurement rounds. This will need to be considered through the design process and the most appropriate method will need to be determined. The resolution of any potential land matters, environmental and ecology as well as the availability of funding will be key influences on the phasing.

Issues relating to the level of private sector involvement and ongoing viability have also been identified, with access to Fair Work needing to be considered throughout the detailed design.



6. Management

The latest WelTAG (2024) guidance notes that the 'Management' section should detail how the project will be overseen, managed and delivered. It should detail whether the project is achievable and that the delivery partners can deliver it with all key risks identified and agreed upon. It is important to note that this section is in draft until the design and engagement with wider stakeholders is complete. This section, therefore, provides a summary of high-level management and then makes a series of recommendations.

Table 6-1 – Project Management Considerations

Theme	Consideration moving forward
Design Process	- No designs have been undertaken as part of this study. - Completion of the design of the options and the associated development of more robust cost estimates will be key to developing future funding bids. - Detailed design will need to address issues identified in any upcoming studies.
Land Matters	At this stage, a significant proportion of the options do not fall within the land ownership of MCC. Therefore, it is likely that in some instances, land acquisition may be required as well as agreement with stakeholders (SWTRA, Network Rail and Transport for Wales), which will impact the overall delivery programme.
Environment and Ecological	No preliminary ecology appraisal has been undertaken to support this study. Assessments will need to be undertaken to understand how the options result in biodiversity net gain and net positive.
Heritage and Culture	The existing footbridge at Abergavenny Railway Station including the town platform building is a Grade II listed structure (Cadw Source ID: 2472) and is described as a cast and wrought iron and steel. Further engagement and assessment of the structure will need to be considered to assess the viability of adapting the existing structure.
Flooding and Drainage	- Sections of the options are adjacent to areas prone to high flood risk from surface water and small watercourses as well as medium risk from rivers - A Flood Consequence Assessment may need to be undertaken to understand the impact of the proposals, where necessary - Engagement and approval with the Sustainable Drainage Approving Body (SAB)
Lighting	Where new infrastructure is being provided, lighting provision will need to be agreed with stakeholders and MCC officers.
Planning Approval	Not all options are within the MCC highway boundary. In some sections, additional planning approval and accompanying documents will be required (e.g., an Environmental Statement including a Flood Consequence Assessment, Water Framework Directive, Assessment and Habitats Regulations Assessment) and consultation with various stakeholders.
Geotechnical and Structural	Geotechnical and structural assessments may need to be undertaken where the options propose a new structure or over existing the railway/road.
Stakeholder Agreement	A number of the options are reliant on the buy-in and agreement with stakeholders, such as SWTRA, Transport for Wales and Network Rail. Other parties are likely to be affected and will require ongoing engagement with landowners and stakeholders; particularly those with protected characteristics
Access Approvals	At this stage it is not clear whether Option 5b, the use of the Access for All bridge is accessible for non-paying customers at the railway station.

It is important to note at this stage, additional consideration has been given to the management of all of the severance options only within Appendix C.2, which fed into the shortlisting process.

Overall, the project will be led by MCC which will act as the lead body. Moving forward through the WelTAG and design, a cross-departmental project steering group within MCC could be set up, as well as with external bodies such as Network Rail, SWTRA, Sustrans and Transport for Wales. This, alongside a project team, will manage the day-to-day delivery, ensuring output and expenditure are reported alongside regular milestone updates.

The team will be responsible for managing the contractual relationships with contractors and landowners along the route, monitoring performance, communicating with stakeholders and the public, marketing, and promotion.

This report recommends setting up a review panel, which will review the output of this study, alongside making major decisions such as a change in targets or re-profiling of the project. If the project is not on target, remedial action will be activated following discussion at the project board.

Some key constraints and risks that have been highlighted about the management of the project include:

- Potential land acquisition along some sections of the options. Progression of land negotiations and acquisition is a key factor in progressing the project.
 - Ongoing liaison with the site promoter for Abergavenny East and the evolving masterplan for the area.
 - Ongoing discussion with the Design Commission for Wales.
 - Ongoing discussions with SWTRA, Network Rail and Transport for Wales.
- Planning approval and supporting documentation along some sections of the route.
- The proposed project is located adjacent to an environmentally sensitive area.
- Cultural and heritage assets (including Grade II listed structures) will need to be assessed for structural improvements.
- Environmental, ecological, geotechnical, and structural considerations associated with the proposals.
- Engineering design and construction considerations.
- Access approvals - At this stage, it is assumed that Option 5, the Access for All bridge is accessible for non-paying customers as the Access for All Wales Accessibility Review states *“The objective of the Abergavenny Station Access for All project is to achieve an unobstructed and obstacle free 'accessible route' within the Network Rail controlled infrastructure, from at least one station entrance (usually the main one) and all drop-off points associated with that entrance, to each platform and between platforms served by passenger trains”*.
- Reliance on external funding sources for delivery.
- Liabilities and Legal responsibilities:
 - Should the proposed arrangements change i.e., the Access for All bridge becomes gated and for paying customers only, this will re-introduce the severance that currently exists and not address the problems identified within the study and wider rLDP.
 - If a problem occurs such as an injury to a non-paying customer at the railway station, who will be responsible should any claims arise.
- Maintenance and Management:
 - As a result of the additional use of Network Rail, SWTRA and/or Transport for Wales assets, agreements will need to be set to agree on the maintenance and management of assets.
- Timescales linked to funding programmes will impact the deliverability e.g., the need to link with timescales of potential land acquisition, ecological requirements, rLDP planning process etc.
- Ongoing revenue funding is required for the maintenance of the options.



Due to the stage of project development, all potential risks to delivery and constraints cannot be identified and quantified at this stage of the process. The risk and deliverability issues highlighted represent those that are known from the existing available information. Further work is required to identify all risks before the proposed project is implemented. As further development and design work is undertaken, a better understanding will be reached of constraints and potential risks that may impact the project delivery. As the development of the project progresses, a Risk Management Strategy and Risk Register will be developed as part of the project management processes.

6.1 Summary of Management Section

This section has provided an overview of the key development stages required, the statutory procedure that may need to be undertaken and the further work that is required as part of the management of the project.

The management case has also included an assessment of risks and deliverability issues which will need to be further developed and quantified as the option progresses to detailed design. Other aspects that have been considered are some of the governance structure and project management processes.



CONCLUSION

7. Summary

This WelTAG 1-3 Lite study has used the latest WelTAG 2024 guidance, issued during the development of the report. The report explored several opportunities to address the severance points between the rLDP site on the east of Abergavenny into Abergavenny and Abergavenny Railway Station. In addition to exploring the opportunities to address the severance points, this study has explored the wider connections between Abergavenny and the emerging active travel network.

The report has identified that the severance issues can be addressed between Abergavenny East, the trunk road and the railway line. However, there are several 'moving' parts in the rLDP process and ambitions of the wider Abergavenny East masterplan. There are also wider opportunities to connect the site to Abergavenny itself, providing an attractive link and ensuring that the site is not isolated from trip attractors that the town provides.

The study has reinforced the need to engage with the relevant stakeholders/parties to ensure that the site can progress through the rLDP process and that the severance opportunities can be overcome.

There are a number of complexities associated with potential schemes to address severance points and provide active travel connections between Abergavenny East and Abergavenny. This includes the need for extensive stakeholder engagement with SWTRA, the Welsh Government, Network Rail and the developers of the Abergavenny East site. Whilst the study has commenced as a WelTAG Lite, on review of the guidance, given the design and engagement processes required to identify a preferred scheme or scheme(s) it is recommended that the study be taken forward as WelTAG 'Standard'. It is considered that this WelTAG Lite study suitably forms a 'Standard' WelTAG Stage One and it recommends a shortlist of options to be taken forward for further consideration at Stage Two.

7.1 Recommendations

The findings of this WelTAG 1-3 'Lite' report have identified three potential crossing options to address the severance problems between Abergavenny East and wider Abergavenny active travel links, which include:

- Option 2a: Firs Road – A new, continuous structure over both severance features¹⁷
- Option 5b: Access for All – An 'at-grade' crossing of the A465 and utilisation of the Access for All bridge at Abergavenny Railway Station
- Option 6c: Existing Footbridge – An 'at-grade' crossing of the A465 and adaption and/or removal of the existing Grade II listed footbridges at Abergavenny Railway Station
 - n.b. All options depend on discussions with SWTRA, the Welsh Government and Network Rail.
 - Assuming the A465 is changed to 20-30mph, with direct desire lines to Abergavenny East

It is recommended that these three options are taken forward on the premise of further discussions with SWTRA, Transport for Wales and Network Rail about the operation of their network and integration with Abergavenny East.

It is also recognised that there are wider ambitions to 're-imagine' the A465 to provide enhanced placemaking and opportunities for integration between Abergavenny East and the Railway Station. It is recommended that this

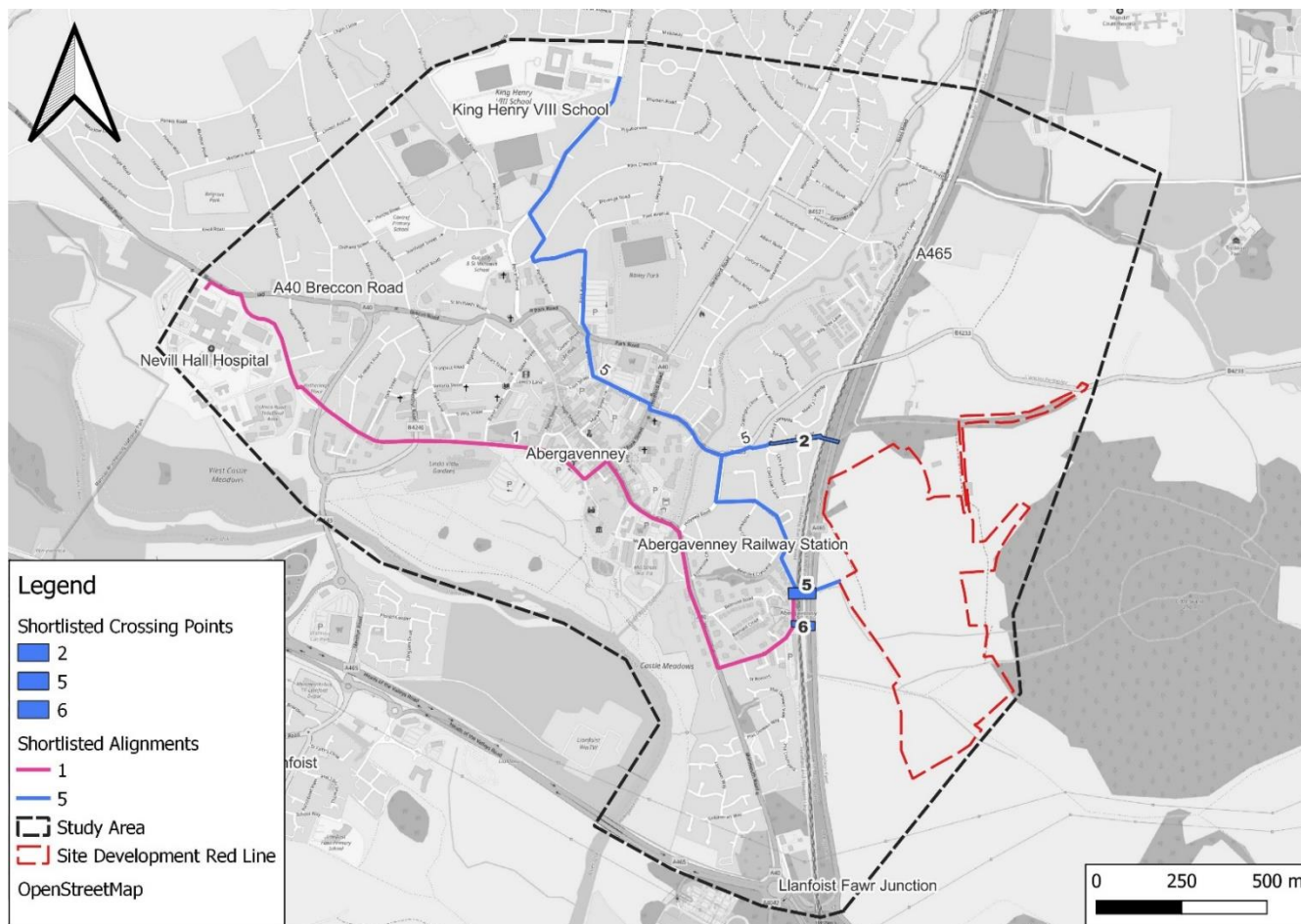
¹⁷ There is an opportunity to reduce the length of the structure over only the railway line to but is subject to detailed appraisal and further assessments.



ambition continues through discussions with SWTRA, Network Rail and Transport for Wales. This report recommends the potential to reduce the speed limit on the A465 adjacent to Abergavenny East from 60mph to 20-30mph be explored with SWTRA and the Welsh Government. This will facilitate improved crossing opportunities along the A465 and unlock Abergavenny East for active travel.

With regard to the wider active travel links from the severance options, MCC have a legislative duty to improve active travel throughout Abergavenny. However, it is anticipated that the severance points between Abergavenny East and the railway station and other parts of Abergavenny are addressed first. The wider links will be developed and progressed further once active travel connectivity with Abergavenny East is resolved.

Figure 7-1 - Recommended Options for Development



7.2 Next Steps

AR recommend in the first instance that the findings of this report be presented to the relevant Council Officers at MCC to understand whether any additional constraints and opportunities are present within the study area. This should be complemented by discussions with the site promoters and wider engagement with the relevant stakeholders (SWTRA, Network Rail and Transport for Wales).

The study has identified and recommended a shortlist of option(s) that need to be considered further. During the development of the WeITAG and its wider potential impact on the highway and rail network, it is recommended that the WeITAG assessment should be developed in-depth following the 'standard' assessment process from Stage 2

onwards. There is also an opportunity for the site promoter to undertake a Walking, Cycling and Horse-riding assessment (GG142) due to the strategic impact of the site on the Trunk Road.

As part of the Standard WelTAG Stage 2, AR additionally recommends MCC begin the design process of each option, assessing whether the options can be developed in isolation or through combined approaches to enhance the sustainable connectivity to the site. This will include, but not be limited to:

- Ongoing project management processes will need to accompany the development and delivery of the routes e.g., regular review and update of the project plan and delivery programme.
- Ongoing development of the project proposal will need to be in line with the 'Five Ways of Working' of the Well-being of Future Generations (Wales) Act 2015.
- Further stakeholder engagement and public consultation to inform the design of the proposal.
- Ongoing review of cost estimates and review of potential funding options for the scheme.
- Consideration of future post-implementation requirements e.g., in relation to maintenance of the options.
- Development of other statutory or regulatory impact assessments, including environmental, habitats, Welsh language, heritage, health, or others.
- Production of complementary documents required as part of the Active Travel Fund application, notably:
 - An Equality Impact Assessment.
 - A specific risk register, including permissions and mitigating measures.
 - A procurement strategy, detailing options for phased delivery of the route about potential funding opportunities.
 - Stakeholder and public engagement during detailed design as well as pre-, during and postconstruction
 - A behaviour change initiatives report.
 - A monitoring and evaluation plan.

It is recommended that the contents of this report and accompanying documentation be reviewed by MCC (and any key stakeholders as agreed with MCC) before the commencement of any further work relating to addressing the severance points between Abergavenny East (rLDP site) and Abergavenny as well as the wider active travel links.



APPENDICES

Appendix A. Stage ‘0’ – Case for Change

Abergavenny East has been identified in the Monmouthshire County Council's (MCC) Replacement Local Development Plan (rLDP) Preferred Strategy (2023)¹⁸ for a mix-use development including residential, employment, retail, leisure, education and community use.

The Council recognise, based on lessons learnt and the direction of Llwybr Newydd: The Wales Transport Strategy (2021) and Planning Policy Wales (Edition 12, 2024), the importance of proactive planning and exploring at the earliest possibility, how to make the rLDP site a well-connected and sustainable location through providing active travel opportunities and integrated sustainable transport above the use of the private car.

This Case for Change for MCC is clear. Without proactive planning for active travel opportunities and integration with sustainable transport, there is a risk that the site and the land-use within developed on the site become reliant on the private car for travel into the site as well as wider Abergavenny.

The purpose of a transport appraisal is to future-proof and address a potential problem, whereby users of the rLDP site become reliant on a private car. The appraisal presents opportunities to enhance the accessibility of the site before any construction and behaviours are formed.

In a ‘do-nothing’ scenario, there is a risk that the rLDP is either not a viable option for development or that the development proceeds but creates accessibility problems for those travelling to and from the site. In the first ‘do-nothing’ scenario, the Council would be unable to fulfil the need for housing growth. In the second ‘do-nothing’ scenario, problems and reliance on unsustainable modes of transport and accessibility would be created, contradicting local and national policy for improved accessibility/connectivity.

Case for Change – The Problem

In its current form, the site is not accessible for sustainable travel initiatives due to its greenfield status. Whilst the site has several public rights of way, they are not to the desired condition and level of service as per the Active Travel Act Guidance (2021). In addition to the existing status of the rLDP site, to the west of the site are two severance points in the form of the A465 Trunk Road and the Railway Line. These two severance points are critical problems to ‘unlocking’ the site for sustainable travel.

The Case for Change – The Opportunity

The draft MCC Local Transport Plan (2024-29) highlighted that the development of new housing will only be approved if the new development supports the Sustainable Transport Hierarchy and promotes active travel (as per the legislative duties of the Active Travel (Wales) Act 2013)).

The development of this rLDP site provides an opportunity for alignment of a new active travel access to the new build development and reduced severance from the new development to Abergavenny as well as promoting sustainable modal shift between active travel and rail. In accordance with local and national policy, this would enable improved connectivity to existing infrastructure which supports sustainable but efficient travel choices.

¹⁸ <https://www.monmouthshire.gov.uk/app/uploads/2023/12/Updated-Preferred-Strategy-September-2023-Easy-Read-Final.pdf>



Under the guidance from WeITAG, further behavioural change methods could be explored to upgrade and promote/incentivise the utilisation of the existing public rights of way and other behavioural change methods to integrate sustainable travel into the behaviour of those travelling to/from the rLDP site.

As the rLDP site is progressing through the planning process, there is a real opportunity for the transport intervention and land-use planning of the scheme to be progressed collaboratively to ensure the sustainable modal hierarchy is prioritised and the needs of the future site users' are accounted for early in the process.

Objectives

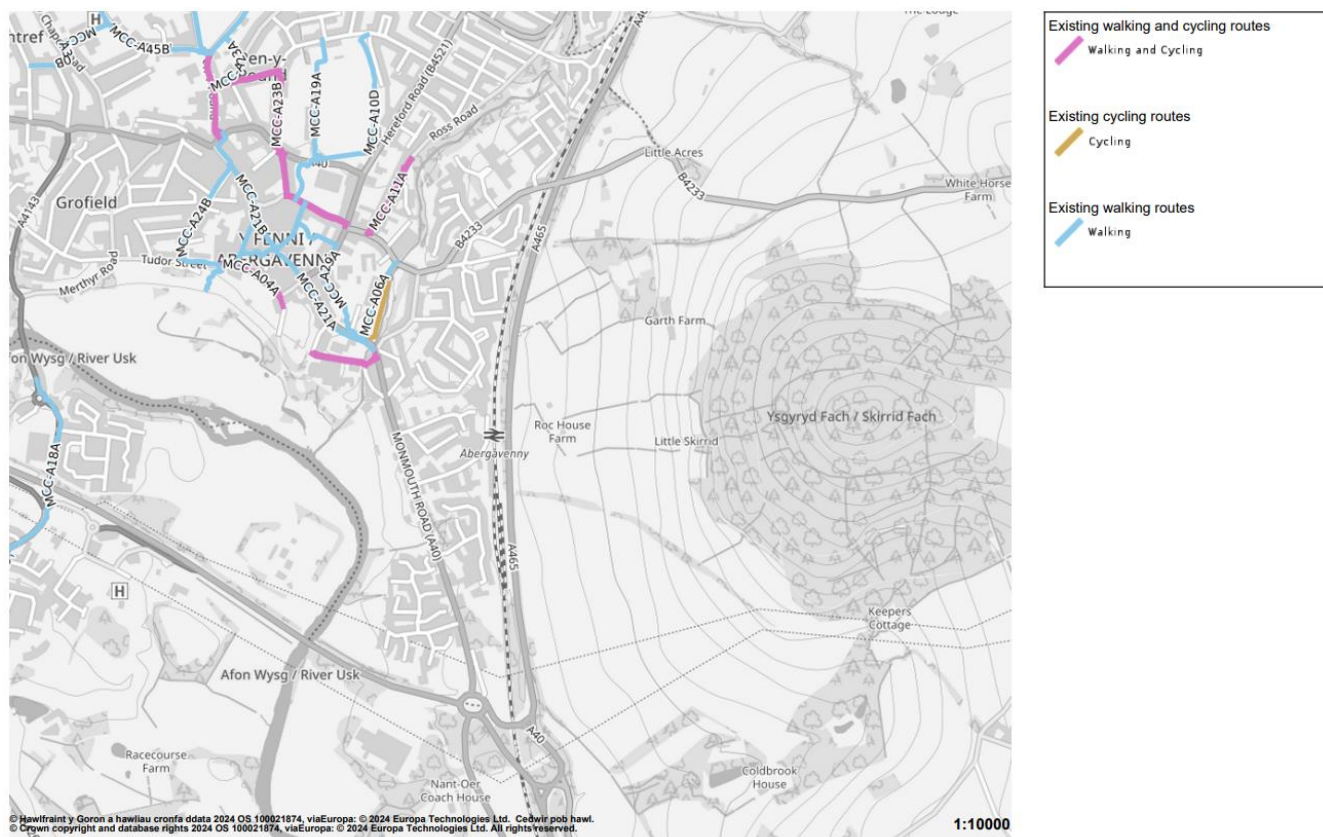
It is important that the objectives of the study firstly address the severance points of the rLDP site, but also take cognisance of improving wider accessibility from Abergavenny East into the rest of Abergavenny and Abergavenny Railway Station. An initial set of objectives has been developed as part of this Stage '0' Case for Change but will be reviewed throughout the progress of any forthcoming studies. The objectives have been developed in accordance with local policy but structured around the five design criteria of the Active Travel Act Guidance (2021). The objectives are as follows:

- Objective 1 – Attractive – Identify an active travel link that maximises the environmental features to improve the user experience.
- Objective 2 – Coherent – Link the strategic Local Development Plan site, Abergavenny East, with key destinations within Abergavenny and Abergavenny station, so that users can travel seamlessly by active travel modes.
- Objective 3 – Comfortable – Identify a link between strategic Local Development Plan site and key destinations that avoids the need to ascend or descend steep gradients.
- Objective 4 – Direct – Identify an active travel link from the strategic Local Development Plan site, Abergavenny East, across the two identified severance points (railway line and A465).
- Objective 5 – Safe – Identify a link that provides a safe (actual and perceived) crossing across the two identified severance points (railway line and A465).

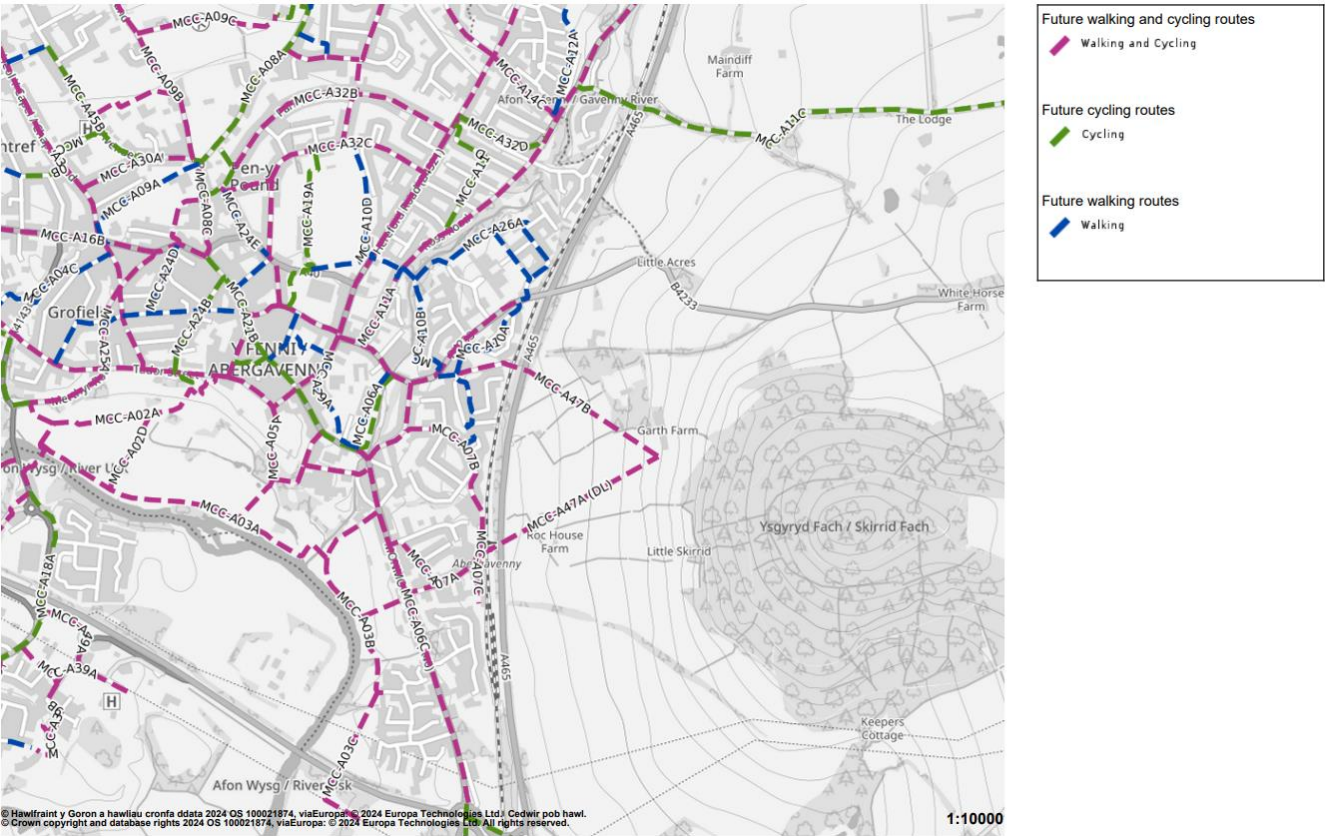


Appendix B. Supporting Plans

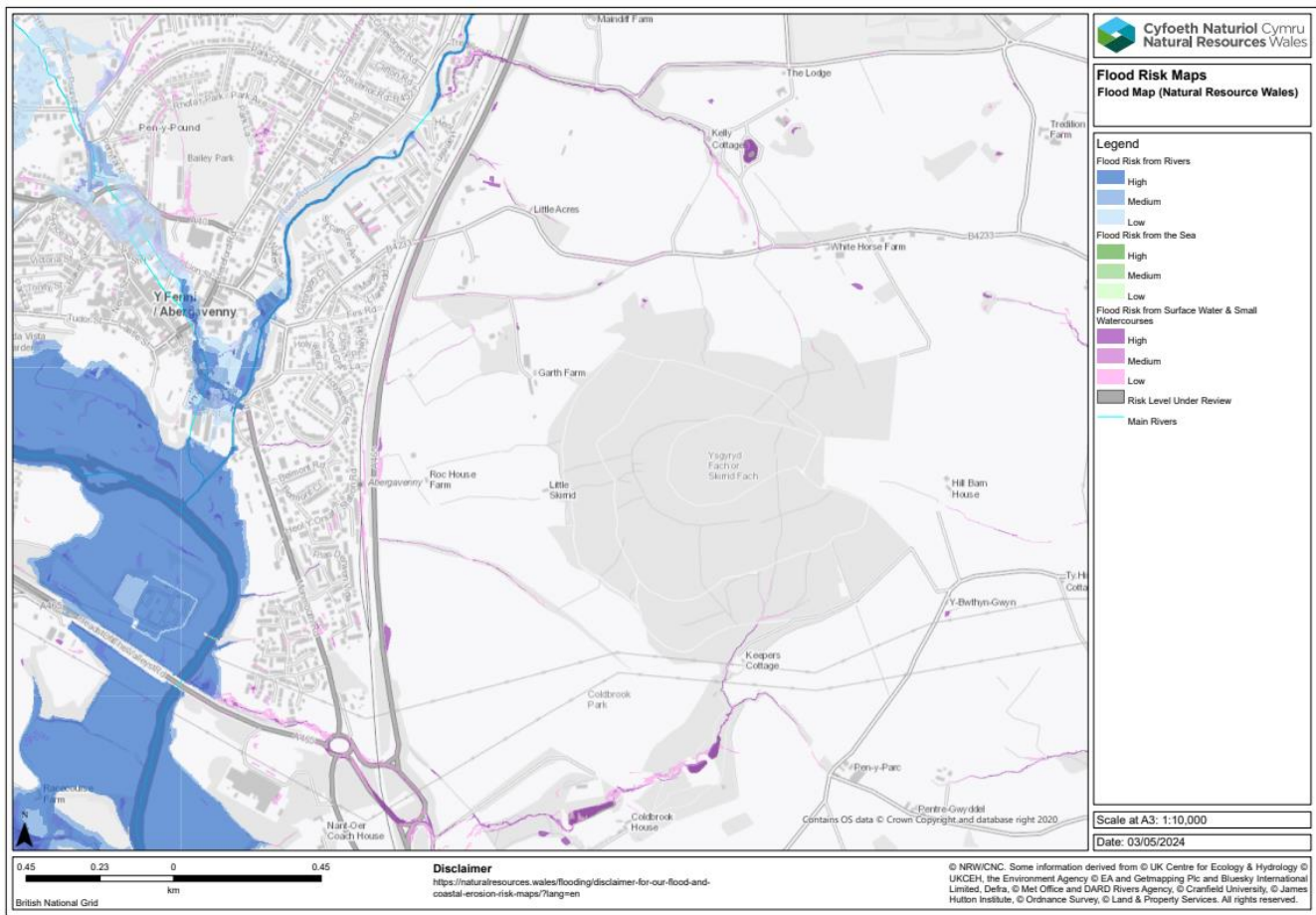
B.1 Existing Routes (DataMapWales, 2024)



B.2 Future Routes (DataMapWales, 2024)



B.3 Flood Map (Natural Resource Wales, 2024)



Appendix C. Optioneering

C.1 Severance Options

The information presented below summarises the identified opportunities to address the severance points.

Reference	Location	Rail	Road	Description
1a	B4233	Existing Bridge	Existing Bridge	1a proposes the use of the existing B4233 bridge concrete deck structure which spans across the railway and road severance. To upgrade, the bridge deck would be structurally assessed, then enhancements would be made to designate improved active travel facilities, connecting onto the private road and upgrading the public bridleway to active travel quality provision.
2a	Firs Rd	Bridge	Bridge	2a proposes an upgrade to the existing public right of way on Firs Road, with a current redundant bridge crossing the railway, however no link across the A465. A new continuous bridge connection across both severance features is proposed, joining from Firs Road onto the existing public right of way and into the development utilising a ramp.
2b	Firs Rd	Bridge	Signal Controlled Crossing	2b proposes a new connection across the railway, with a downward ramp in the central verge between A465 to the railway, then an at-grade signal crossing with a footpath connection to the development and upgrading the public right of way to active travel quality.
2c	Firs Rd	Underpass	Underpass	2c proposes the development of an underpass structure crossing both severances, with connections to development.
3a	Coad Glas Ln	Bridge	Bridge	3a proposes using the parcel of land along Coad Glas Ln, opposite the proposed gateway entrance to the new development, to utilise this land to deploy a ramp-up to a bridge across both severance features, and landing onto the development site land.
3b	Coad Glas Ln	Bridge	Signal Controlled Crossing	3b proposes a new connection across the railway, with a downward ramp in the central verge between A465 and to railway, potentially utilising the existing layby opposite the site. An at-grade signal crossing with a footpath connection to the development would be made using any new junction development.
4a	Holywell Cres	Existing at-grade crossing	Bridge	4a proposes adopting the public right of way connecting to Holywell Crescent has a significant lack of space and therefore would retain the existing at-grade crossing. A bridge ramp would be developed on the central verge across the A465, and then a new footpath would require development back to the development site.



4b	Holywell Cres	Existing at-grade crossing	Signal Controlled Crossing	4b proposes adopting the public right of way connecting to Holywell Crescent has a significant lack of space and therefore would retain the existing at-grade crossing. An at-grade signal-controlled crossing of the A465 would connect to the development via a new active travel route.
5a	North of Station	Access for All Bridge Scheme	Bridge	5a proposes the use of access for all bridge development. The proposal envisages a new structure to include an additional deck crossing the A465, with a ramp and active travel provision to the A465 and into the development. Access to the development would use either the land adjacent to the development and linking directly into the planned centre for businesses/shops/transportation hub.
5b	North of Station	Access for All Bridge Scheme	Signal Controlled Crossing	5b proposes would expand upon the use of the access for all bridge development with an additional at-grade signal crossing of A465, requiring a new active travel provision to be developed through the central verge and then joining into the active travel provision onto the development via options in 5a. Consideration should be given to: - Amending the Access for All bridge to tie over the proposed turnback facility onto the A465 and/or; - Improve the informal access from the A465 to the proposed Access for All bridge
5c	North of Station	Underpass	Underpass	5c proposes a new underpass under the station and the severance features then join into a proposed active travel onto the development via options in 5a.
6a	Existing Station footbridge (Grade II listed)	Existing Bridge	Bridge	6a proposes the use of an existing and adapting station footbridge onto the southbound platform linked by a new formal active travel route from the station onto a new bridge. The bridge would cross the A465 adjacent to the station and onto the opposite side. A new active travel link would access the development and would use either the land adjacent to the development and link directly into the planned centre for businesses/shops/transportation hub.
6b	Existing Station footbridge (Grade II listed)	Underpass	Underpass	6b proposes the development of a new underpass under the station and the severance features, then joining into the proposed active travel route onto the development via options in 6a.
6c	Existing Station footbridge (Grade II listed)	Existing Bridge	Signal Controlled Crossing	6c proposes the use of the existing and adapting station footbridge onto the southbound platform linked by a new formal path from the station to the A465, utilising an at-grade signal crossing of the road, then joining into a footway onto the development via options in 6a. There may be an opportunity to replace the Grade II listed

				structure to provide a new dedicated active travel route, but this is subject to wider discussion and should be considered within this option.
7a	South of Station (public access)	Bridge	Bridge	7a proposes the use of land south of the South Wales Chamber of Commerce business park, which was assumed to be Network Rail land for an at-grade crossing. A new bridge structure would be developed across both severance features, with a ramp structure down to the existing right of way (to be upgraded to active travel standards) which would connect to the new development.
7b	South of Station (public access)	Bridge	Signal Controlled Crossing	7b proposes the use of land south of the South Wales Chamber of Commerce business park, which was assumed to be Network Rail land to an at-grade crossing. A new bridge structure would be developed across the railway, landing on the central verge between the A465 and the railway, and then an at-grade crossing can be made directly opposite the public right of way.
8a	South of the Courtyard	Bridge	Bridge	8a proposes the use of land adjacent to the existing bridleway and opposite The Courtyard estate to develop a bridge structure. A new bridge structure would be developed across both severance features, onto the opposite side of A465, with a pedestrian footpath developed to link back to the public right of way back to the site.
8b	South of the Courtyard	Bridge	Signal Controlled Crossing	8a proposes the use of land adjacent to the existing bridleway and opposite The Courtyard estate to develop a bridge structure. A new bridge structure would be developed across onto the central verge between the A465 to the railway to develop a ramp down to the road, then an at-grade crossing can be made directly opposite the public right of way.
9a	A465 - A40 Link	Existing Underpass	Signal Controlled Crossing	9a proposes the use of the A465 to develop a new active travel route around the A40 junction, with a signal-controlled crossing near to public right of way.

C.2 Longlist and Five Design Criteria

Reference	Attractive	Comfort	Coherence	Directness	Safety	Summary
1a	Minimised land take by utilising the existing B4233. The route is away from general activity with minimal natural surveillance. Some overgrown vegetation needs to be cleared.	The current width of the provision is not suitable but there is an opportunity to improve the width. The route, however, is along a gradient which impacts comfort for users.	Lack of current onward connectivity but an opportunity to improve the route as the development progresses.	The proposal is away from users' desire line from Abergavenny East and would not incentivise onward connectivity and wider use.	The current provision requires users to cycle on the carriageway and narrow footways. Opportunity to improve but still issues around natural surveillance.	Based on the desire line away from Abergavenny East and onward connectivity, Option 1a is not recommended for further assessment.
2a	The route is away from general activity with minimal natural surveillance. Some overgrown vegetation to be cleared.	New and improved structure required which would be designed to the correct widths and gradients for users.	Lack of current onward connectivity but an opportunity to improve the route as the development progresses.	Closer proximity to Abergavenny East and onward connectivity to the town centre	Users would be completely separated from motor vehicles and provide a safer connection to Abergavenny town centre. Opportunity to improve but still issues around natural surveillance.	Considering the opportunity for onward connectivity to Abergavenny, a new and improved structure over both severance points would provide an attractive route with clear direction and improved elements of safety. Option 2a is recommended for further assessment.
2b	The route is away from general activity	The route would require a signal-	Lack of current	Closer proximity to Abergavenny	Crossing the A465 via a new	Considering the directness and safety,



	with minimal natural surveillance. Some overgrown vegetation to be cleared. Some surveillance from alongside the carriageway.	controlled crossing which could cause delays to active travel users, but it provides a safe crossing environment.	onward connectivity but an opportunity to improve the route as the development progresses.	East and onward connectivity to the town centre	signalised crossing to join the structure over the railway line. The signal-controlled crossing ensures interactions between active travel users and motor traffic are separated. Some surveillance from alongside the carriageway.	the proposal for 2b offers an attractive option though delays may be incurred through the signal-controlled crossings. This option is not recommended for further assessment.
2c	The route is away from general activity with minimal natural surveillance. Some overgrown vegetation to be cleared. Concerns around the use of underpasses and their potential for anti-social behaviour.	An underpass would cause significant disruption during construction and has the ability to provide an adequate gradient despite lower visibility and a sense of enclosure.	Lack of current onward connectivity but an opportunity to improve the route as the development progresses.	Closer proximity to Abergavenny East and onward connectivity to the town centre	Underpasses are seen as unattractive due to lack of surveillance and potential for anti-social behaviour.	The underpass proposal for 2c offers a direct and comfortable route with minimal post-construction environmental impact. However, significant safety concerns and construction impacts make this option less favourable. Not recommended for further assessment due to low overall score and significant challenges in

							deliverability and affordability.
3a	▪ The route has some natural surveillance from the surrounding homes. Some overgrown vegetation to be cleared.	▪ New and improved structure required which would be designed to the correct widths and gradients for users. However, significant width constraints between the homes would not meet active travel width requirements. This option would require homes to be purchased (deliverability constraint).	▪ Existing onward connectivity through Coed Glas Lane as well as an opportunity to improve the route as the development progresses.	▪ Closer proximity to Abergavenny East and onward connectivity to the town centre as well as Abergavenny Railway Station.	▪ Users would be completely separated from motor vehicles and provide a safer connection to Abergavenny town centre. Opportunity to improve but still issues around natural surveillance.	The proposal for 3a offers a direct and safe route with minimal environmental impact post-construction. However, the high land impacts, significant vegetation removal, and construction disruptions make it less favourable. Not recommended for further assessment due to high construction impacts and moderate coherence and wellbeing scores.	
3b	▪ The route has some natural surveillance from the surrounding homes and the highway. Some overgrown vegetation to be cleared.	▪ New and improved structure required which would be designed to the correct widths and gradients for users. However, significant width constraints between the homes would not	▪ Existing onward connectivity through Coed Glas Lane as well as an opportunity to improve the route as the development progresses.	▪ Closer proximity to Abergavenny East and onward connectivity to the town centre as well as Abergavenny Railway Station.	▪ Crossing the A465 via a new signalised crossing to join the structure over the railway line. The signal-controlled crossing ensures interactions between active	The signal-controlled crossing proposal for 3b offers an attractive, comfortable, and coherent route with minimal environmental impact. This option is not recommended for further assessment due to its balance of	



			meet active travel width requirements. This option would require homes to be purchased (deliverability constraint).			travel users and motor traffic are separated. Some surveillance from alongside the carriageway.	minimal disruption and high safety.
4a	▪ The route has some natural surveillance from the surrounding homes. Some overgrown vegetation to be cleared.	▪ New and improved structure required which would be designed to the correct widths and gradients for users.	▪ Existing onward connectivity through Holywell Crescent as well as an opportunity to improve the route as the development progresses.	▪ Closer proximity to Abergavenny East and onward connectivity to the town centre as well as Abergavenny Railway Station.	▪ Poor visibility at the existing at-grade crossing impacts safety. A new bridge would improve surveillance and reduce interactions with traffic.	The bridge proposal for 4a offers a high level of safety and directness post-construction. Not recommended for further assessment due to existing safety concerns of the Barrow-crossing and constraints with a tie into Holywell Crescent.	
4b	▪ The route has some natural surveillance from the surrounding homes. Some overgrown vegetation to be cleared.	▪ The route would require a signal-controlled crossing which could cause delays to active travel users. Some concerns with the existing Barrow-crossing of the railway line, impacting the safety of users.	▪ Existing onward connectivity through Holywell Crescent as well as an opportunity to improve the route as the development progresses.	▪ Closer proximity to Abergavenny East and onward connectivity to the town centre as well as Abergavenny Railway Station.	▪ Poor visibility at the existing at-grade Barrow-crossing impacts safety. A signal-controlled crossing would manage interactions with traffic.	The signal-controlled crossing proposal for 4b offers improved provision and onward connection. Not recommended for further assessment due to its balance of minimal disruption and high safety.	

5a	The route has some natural surveillance through its integration with the Access for All structure. Some overgrown vegetation to be cleared. Concerns around how a new structure would tie into the existing structure.	New and improved structure required which would tie into the Access for All bridge to be designed to the correct widths and gradients for users.	Existing onward connectivity into Abergavenny Railway Station as well as an opportunity to improve the onward connectivity as the development progresses.	The bridge offers a direct crossing over the A465 and railway line, avoiding delays associated with at-grade crossings. However, the need for long ramps to achieve the necessary height could introduce detours and additional travel time, affecting the overall directness.	Users would be completely separated from motor vehicles and provide a safer connection to Abergavenny railway station and the town centre.	The Access for All bridge scheme proposal for 5a offers a safe and direct route with no traffic interaction. However, significant environmental and comfort impacts due to the height gain and land use make it less favourable. Not recommended for further assessment due to attractiveness impact and potential comfort issues.
5b	The route has some natural surveillance through its integration with the Access for All structure. Some overgrown vegetation to be cleared.	The route would require a signal-controlled crossing which could cause delays to active travel users. Consideration needs to be given to how the route would 'tie in' with the Access for All bridge.	Existing onward connectivity into Abergavenny Railway Station as well as an opportunity to improve the onward connectivity as the	The signal-controlled crossing provides a direct route to Abergavenny Railway Station. However, minor delays due to signal phases could impact overall directness, but	Visibility from the railway station and the A465 roadside is good. The signal-controlled crossing manages interactions between active travel users and motor traffic,	The signal-controlled crossing proposal for 5b offers an attractive, comfortable, and coherent route with a direct connection to Abergavenny Railway Station. The proposal <u>is recommended for further assessment</u> due to direct



			development progresses.	it remains an efficient option for crossing the railway.	ensuring safety for users.	connectivity and positive impact.
5c	The route is away from general activity with minimal natural surveillance. Some overgrown vegetation to be cleared. Concerns around the use of underpasses and their potential for anti-social behaviour.	An underpass would cause significant disruption during construction and can provide an adequate gradient despite lower visibility and a sense of enclosure.	Existing onward connectivity into Abergavenny Railway Station as well as an opportunity to improve the onward connectivity as the development progresses.	Closer proximity to Abergavenny Railway Station and Abergavenny East. Potential for onward connectivity to the town centre	Underpasses are seen as unattractive due to lack of surveillance and potential for anti-social behaviour.	The underpass proposal for 5c offers a direct route. However, significant safety concerns, construction disruptions, and extensive vegetation removal make this option less favourable. Not recommended for further assessment due to high construction impacts and potential comfort and safety issues.
6a	The route has some natural surveillance through its integration with the Abergavenny Railway Station. Some overgrown vegetation to be cleared. The visual impact of the Grade II listed structure and	The existing Grade II structure would need to be significantly adapted and/or removed to account for the comfort of all active travel users.	Existing onward connectivity into Abergavenny Railway Station as well as an opportunity to improve the onward connectivity	Closer proximity to Abergavenny Railway Station and Abergavenny East. Potential for onward connectivity to the town centre	Visibility from the station and A465 roadside is good. The existing Grade II structure would require amendments to make it safe for all. A new bridge would improve surveillance and	The station access ramp proposal for 6a offers a safe and direct route with minimal traffic interaction. Not recommended for further assessment due to the constraint of a new structure having to 'tie in' with

	amendments/impact will need careful consideration.		as the development progresses.		reduce interactions with traffic.	the existing Grade II listed structure.
6b	The route is away from general activity with minimal natural surveillance. Some overgrown vegetation to be cleared. Concerns around the use of underpasses and their potential for anti-social behaviour.	An underpass would cause significant disruption during construction and has the ability to provide an adequate gradient despite lower visibility and a sense of enclosure.	Existing onward connectivity into Abergavenny Railway Station as well as an opportunity to improve the onward connectivity as the development progresses.	Closer proximity to Abergavenny Railway Station and Abergavenny East. Potential for onward connectivity to the town centre	Underpasses are seen as unattractive due to lack of surveillance and potential for anti-social behaviour.	The underpass proposal for 6b offers a direct route. However, significant safety concerns, construction disruptions, and extensive vegetation removal make this option less favourable. Not recommended for further assessment due to high construction impacts and potential comfort and safety issues.
6c	The route has some natural surveillance through its integration with the Abergavenny Railway Station. Some overgrown vegetation to be cleared. The visual impact of the Grade II listed structure and amendments/impact	The route would require a signal-controlled crossing which could cause delays to active travel users. Consideration needs to be given to how the route would 'tie in' with the existing Grade II listed structure. The existing	Existing onward connectivity into Abergavenny Railway Station as well as an opportunity to improve the onward connectivity as the	Closer proximity to Abergavenny Railway Station and Abergavenny East. Potential for onward connectivity to the town centre	Visibility from the station and A465 roadside is good. The signal-controlled crossing manages interactions between active travel users and motor traffic, ensuring safety for users.	The proposal is recommended for further assessment due to its balance of directness, safety, and onward connectivity. The attractiveness of the Grade II structure and its impact on the comfort of users will require attention.



	will need careful consideration.	Grade II structure would need to be significantly adapted and/or removed to account for the comfort of all active travel users.	development progresses.			
7a	The route has some general activity with minimal natural surveillance. Some overgrown vegetation is to be cleared as well as land-take associated with the businesses to the south of the railway station.	New and improved structure required which would tie into the land south of Abergavenny Railway Station to be designed to the correct widths and gradients for users.	Existing onward connectivity into Abergavenny Railway Station as well as an opportunity to improve the onward connectivity as the development progresses.	Closer proximity to Abergavenny Railway Station and Abergavenny East. Potential for onward connectivity to the town centre	Users would be completely separated from motor vehicles and provide a safer connection to Abergavenny railway station and the town centre.	This proposal is not recommended for further appraisal due to its limited connectivity directly into Abergavenny railway station and wider Abergavenny. There is also land (businesses) required south of the railway station.
7b	The route has some general activity with minimal natural surveillance. Some overgrown vegetation is to be cleared as well as land-take associated with the businesses to the	The route would require a signal-controlled crossing which could cause delays to active travel users as well as a new structure. The new structure would be designed to the	Existing onward connectivity into Abergavenny Railway Station as well as an opportunity to improve the	Closer proximity to Abergavenny Railway Station and Abergavenny East. Potential for onward connectivity to the town centre	Visibility from the station and A465 roadside is good. The bridge ensures users are well-protected and provides a safe passage with no	The proposal for 7b offers a safe and direct route. Not recommended for further assessment due to limited connectivity directly into Abergavenny railway station and wider Abergavenny.



	south of the railway station.	correct widths and gradients for users.	onward connectivity as the development progresses.		interaction with traffic.	There is also land (businesses) required south of the railway station.
8a	The route is away from general activity with minimal natural surveillance. Some overgrown vegetation to be cleared.	New and improved structure required which would tie into the land away from Abergavenny Railway Station to be designed to the correct widths and gradients for users.	Onward connectivity into Abergavenny Railway Station as well as an opportunity to improve onward connectivity as the development progresses.	The route is away from the desire line of Abergavenny East, the railway station and Abergavenny East.	Users would be completely separated from motor vehicles and provide a safer connection to Abergavenny railway station and the town centre.	8a offers a safe and direct route with minimal traffic interaction. It is not recommended for further assessment due to its limited connectivity to existing and future trip attractors.
8b	The route is away from general activity with minimal natural surveillance. Some overgrown vegetation to be cleared.	The route would require a signal-controlled crossing which could cause delays to active travel users as well as a new structure. The new structure would be designed for users' correct widths and gradients.	Onward connectivity into Abergavenny Railway Station as well as an opportunity to improve onward connectivity as the development progresses.	The route is away from the desire line of Abergavenny East, the railway station and Abergavenny East.	Visibility from the station and A465 roadside is good. The signal-controlled crossing manages interactions between active travel users and motor traffic, ensuring safety for users.	8b offers a safe and direct route with minimal traffic interaction. It is not recommended for further assessment due to its limited connectivity to existing and future trip attractors.

9a	▪ The route is away from general activity with minimal natural surveillance. Some overgrown vegetation to be cleared.	▪ The proposal requires withs to be improved to accommodate active travel users.	▪ Onward connectivity into Abergavenny Railway Station as well as an opportunity to improve onward connectivity as the development progresses.	▪ The route is away from the desire line of Abergavenny East, the railway station and Abergavenny East.	▪ The route is away from general activity with minimal natural surveillance.	The route is not recommended for further assessment due to its proximity away from Abergavenny East, Abergavenny Railway Station and the town centre.
----	---	--	--	---	--	---



C.3 Severance Options – Deliverability, Management and Affordability



Reference List					Appraisal	
Ref	Loc	Rail	Road	Deliverability	Management	Affordability
1a	B4233	Existing Bridge	Existing Bridge	The existing bridge would need to be widened on the southern side to meet the requirements for full active travel provision. The link has been identified as a primary route based on consultation with the LA, and ATAG states that unsegregated pedestrian/cycle bridges on primary cycle routes should have a minimum width of 4m, and be increased to 5m on heavily trafficked routes. ATAG also provides guidance on segregated provisions, recommending a width of 3.5m for pedestrians and 4m for pedestrians due to it being a primary cycling route. This means for segregated facilities the width of the bridge should be 7.5m. To accommodate this, without realignment of the existing carriageway, the bridge would need to be replaced or widened by a minimum of 3m for an unsegregated option and approximately 6m for a segregated option. This could be feasible through cantilevering the bridge to allow for the extra width. However, this has not been assessed at this stage and a full structural and feasibility assessment would be required to determine if widening versus replacement of the structure is appropriate. Additionally, widening the bridge may require altering the substructure elements such as the pier and foundations to accommodate the larger width. In either situation, additional vegetation clearance would be required to facilitate the wider bridge, as well as the construction works required. Approval will be required from both NR and SWTRA to commence works due to assumed land ownership, as well as technical approvals and consents for amendments to / replacement structures over their respective assets. Residents may need to be consulted and notified of the work before commencing due to the proximity of the proposed option.	This option would require the bridge to be maintained by either the LA, SWTRA or NR depending on the ownership of the bridge as it is over the Strategic Road Network and the mainline. Future maintenance and inspection works would need to be coordinated with each asset owner.	The affordability of this option is reliant on the outcome of the structural and feasibility assessment. Should significant structural amendments be required, it may be more economical to replace the structure.

Reference List				Appraisal		
				Ground and ecological surveys alongside an assessment of construction phasing and process will need to be undertaken to ensure the site is fit to accommodate works before starting.		
2a	Firs Rd	Bridge	Bridge	The walking and cycling bridge to be constructed over both trunk road and railway is assumed to be roughly 70m long. The link has been identified as a primary route based on consultation with the LA, and ATAG states that unsegregated pedestrian/cycle bridges on primary cycle routes should have a minimum width of 4m, and be increased to 5m on heavily trafficked routes. ATAG also provides guidance on segregated provisions, recommending a width of 3.5m for pedestrians and 4m for pedestrians due to it being a primary cycling route. This means for segregated facilities the width of the bridge should be 7.5m. As per CD127, the anticipated height of the bridge will be 5.78m (5.7m + 0.08m for sagging) due to the railway and carriageway. Technical approval would be required from both Network Rail and SWTRA. The associated ramps need to be at circa 130m long to accommodate the height, and landing areas required in accordance with BS8300-1. Alternatives could include a returning ramp which would require circa 70m in length. The alignment and feasibility of the ramp structures will be investigated during the design phase. Approval will be required from both NR and SWTRA to commence works due to assumed land ownership, as well as technical approvals and consents for amendments to / replacement structures over their respective assets. Residents may need to be consulted and notified of the work before commencing due to the proximity of the proposed option. Ground and ecological surveys alongside an assessment of construction phasing and process will need to be undertaken to ensure the site is fit to accommodate works before starting. Available space on the western side of the mainline is constrained. Land purchase may be required to facilitate the ramp and associated infrastructure. Depending on the alignment of the proposed bridge, and associated construction sequencing, there may be a requirement for the existing bridge to be removed ahead of or during the works, resulting in a temporary severance of the link. Significant earthworks and vegetation clearance would be required to construct the landing ramps, as well as the central pier between the two severance points. Additional space may also be required to accommodate construction.	This option would require the bridge to be maintained by the LA post-construction. Vegetation clearance would also be required to ensure the landing ramp and pier remains in good condition. Amendments to existing fencing/boundary treatments may be required to prevent access to A465 / railway. Agreements for maintaining would need to be reached with asset owners.	This option is likely more expensive than the signal-crossing options but less expensive than the underpass options
2c	Firs Rd	Underpass	Underpass	Major works will likely be required to facilitate the construction of the underpass. This will require major civil works and excavation, as well as plans for the removal/storage of fill. Major disruption to both rail and highway networks may be required, depending on	This option would require the LA to maintain the underpass post-construction through inspections and maintenance. The underpass would need to be lit which will incur a further cost in terms of upkeep.	The underpass is likely to be the most expensive option due to the amount of work

Reference List				Appraisal		
				the design option and careful planning will be required. Approval will be required from both NR and SWTRA to commence works due to assumed land ownership, as well as technical approvals and consents for amendments to / replacement structures over their respective assets. Residents may need to be consulted and notified of the work before commencing due to the proximity of the proposed option. A review of access via ramps/stairs within the underpass will be required, however, this will be undertaken at a later design stage. Ground and ecological surveys alongside an assessment of construction phasing and process will need to be undertaken to ensure the site is fit to accommodate works before starting. Ground and ecological surveys alongside an assessment of construction phasing and process will need to be undertaken to ensure the site is fit to accommodate works before starting. Extensive vegetation clearance will be required to facilitate the landing ramp down into the underpass.	Fencing will be required around landing ramps to ensure access to the railway/trunk road is inaccessible and will need to be maintained by LA. and associated disruption the construction would require.	
3a	Coad Glas Ln	Bridge	Bridge	The walking and cycling bridge to be constructed over both trunk road and railway is assumed to be roughly 65m long. The link has been identified as a primary route based on consultation with the LA, and ATAG states that unsegregated pedestrian/cycle bridges on primary cycle routes should have a minimum width of 4m, and be increased to 5m on heavily trafficked routes. ATAG also provides guidance on segregated provisions, recommending a width of 3.5m for pedestrians and 4m for pedestrians due to it being a primary cycling route. This means for segregated facilities the width of the bridge should be 7.5m. As per CD127, the anticipated height of the bridge will be 5.78m (5.7m + 0.08m for sagging) due to the railway and carriageway. Technical approval would be required from both Network Rail and SWTRA. The associated ramps need to be at circa 130m long to accommodate the height, and landing areas required in accordance with BS8300-1. Alternatives could include a returning ramp which would require circa 70m in length. The alignment and feasibility of the ramp structures will be investigated during the design phase. Approval will be required from both NR and SWTRA to commence works due to assumed land ownership, as well as technical approvals and consents for amendments to / replacement structures over their respective assets. Residents may need to be consulted and notified of the work before commencing due to the proximity of the proposed option.	This option would require the bridge to be maintained by the LA post-construction. Vegetation clearance would also be required to ensure the landing ramp and pier remains in good condition. Fencing will be required around landing ramps to ensure access to the railway/trunk road is inaccessible and will need to be maintained by LA.	This option is likely more expensive than the signal-crossing options but less expensive than the underpass options

Reference List				Appraisal		
				Ground and ecological surveys alongside an assessment of construction phasing and process will need to be undertaken to ensure the site is fit to accommodate works before starting. Significant earthworks and vegetation clearance would be required to construct the landing ramps, as well as the central pier between the two severance points. Additional space may also be required to accommodate construction		
3b	Coad Glas Ln	Bridge	Signal Controlled Crossing	The walking and cycling bridge to be constructed over the railway is assumed to be roughly 30m long. The link has been identified as a primary route based on consultation with the LA, and ATAG states that unsegregated pedestrian/cycle bridges on primary cycle routes should have a minimum width of 4m, and be increased to 5m on heavily trafficked routes. ATAG also provides guidance on segregated provisions, recommending a width of 3.5m for pedestrians and 4m for pedestrians due to it being a primary cycling route. This means for segregated facilities the width of the bridge should be 7.5m. This structure will be placed at 5.35m height in accordance with 'Structure Gauging Guidance Note - Wales'. The associated ramps need to be at circa 120m long to accommodate the height, and landing areas required in accordance with BS8300-1. Alternatives could include a returning ramp which would require circa 60m in length. The alignment and feasibility of the ramp structures will be investigated during the design phase. Approval will be required from both NR and SWTRA to commence works due to assumed land ownership, as well as technical approvals and consents for amendments to / replacement structures over their respective assets. Residents may need to be consulted and notified of the work before commencing due to the proximity of the proposed option. Ground and ecological surveys alongside an assessment of construction phasing and process will need to be undertaken to ensure the site is fit to accommodate works before starting. Depending on the alignment of the proposed bridge, and associated construction sequencing, there may be a requirement for the existing bridge to be removed ahead of or during the works, resulting in a temporary severance of the link. Significant earthworks and vegetation clearance will be required to construct the landing ramps. Additional space may also be required to accommodate construction. ----- Signal Controlled Crossing	This option would require the bridge to be maintained by the LA post-construction. Vegetation clearance would also be required to ensure the landing ramp remains in good condition. Additionally, the LA would have to maintain the crossing and signals through inspections and maintenance. Further vegetation clearance would also be required to ensure the SSD of the crossings is maintained. The crossing point could potentially need to be moved to the north due to the existing layby, leading the final crossing to be offset from the desired line.	This option still requires a bridge to be constructed however would likely be less expensive than the bridge over both severance points due to the shorter span.

Reference List				Appraisal		
				ATAG states that signalised crossings should not be used where 85th percentile speed exceeds 50mph, this means the crossing would not be feasible unless the overall speed of the road is reduced. The current flows are roughly between 5000-7000 AADT varied by year. Table 12.1 of ATAG states that signal-controlled crossings are appropriate at 40/50mph based on the flows so this option would only be feasible with a reduction of the speed limit, and associated infrastructure amendments. Given the required speed limit reduction to 50mph, to facilitate a signalised crossing, the associated stopping sight distance required would be 160m. Accommodating a signalised crossing at this location will require significant vegetation clearance, and potentially ground reprofiling to accommodate the visibility splays. Therefore significant vegetation clearance will be required to achieve the stopping sight distance in both directions. Impacts on the existing layby approximately 10m south of this location would also need to be investigated, however, this would be considered at a later design stage. As stated in CD123, the street furniture will need to be placed with a minimum of 450mm clearance to the edge of the carriageway on both sides. A VRS assessment will also be required to assess the impact of the new crossing infrastructure. A lighting assessment would also be required to review the existing lighting levels and potentially identify lighting improvements required for the safe operation of the crossing.		
4a	Holywell Cres	Existing at-grade crossing (Level Crossing)	Bridge	This option proposes retaining the existing at-grade crossing (level crossing) of the mainline. The crossing could potentially require inspections/ surveys to ensure that it remains suitable given the assumed higher usage. Acceptance of the existing Level Crossing and associated risks compared to other crossing options would be at Network Rail's discretion. Engagement with NR would be required to ascertain the condition and standard of the existing crossing and its suitability given the proposed increase in usage. ----- Proposed Bridge The walking and cycling bridge to be constructed over the trunk road is assumed to be roughly 10m long. The link has been identified as a primary route based on consultation with the LA, and ATAG states that unsegregated pedestrian/cycle bridges on primary cycle routes should have a minimum width of 4m, and be increased to 5m on heavily trafficked routes. ATAG also provides guidance on segregated provisions, recommending a width of 3.5m for pedestrians and 4m for pedestrians due to it being a primary cycling route. This means for segregated facilities the width of the bridge should be 7.5m.		
				This option would require the bridge to be maintained by the LA post-construction. Vegetation clearance would also be required to ensure the landing ramp remains in good condition. Fencing will be required around landing ramps to ensure access to the railway/trunk road is inaccessible and will need to be maintained by LA.		
				This option still requires a bridge to be constructed however would likely be less expensive than the bridge over both severance points due to the shorter span.		

Reference List				Appraisal		
				As per CD127, the anticipated height of the bridge will be 5.78m (5.7m + 0.08m for sagging) due to the railway and carriageway. Technical approval would be required from both Network Rail and SWTRA. The associated ramps need to be at circa 130m long to accommodate the height, and landing areas required by BS8300-1. Alternatives could include a returning ramp which would require circa 70m in length. The alignment and feasibility of the ramp structures will be investigated during the design phase. Approval will be required from both NR and SWTRA to commence works due to assumed land ownership, as well as technical approvals and consents for amendments to / replacement structures over their respective assets. Residents may need to be consulted and notified of the work before commencing due to the proximity of the proposed option. Ground and ecological surveys alongside an assessment of construction phasing and process will need to be undertaken to ensure the site is fit to accommodate works before starting. Significant earthworks and vegetation clearance will be required to construct the landing ramps. Additional space may also be required to accommodate construction.		
4b	Holywell Cres	Existing at-grade crossing (Level Crossing	Signal Controlled Crossing	This option proposes retaining the existing at-grade crossing (level crossing) of the mainline. The crossing could potentially require inspections/ surveys to ensure that it remains suitable given the assumed higher usage. Acceptance of the existing Level Crossing and associated risks compared to other crossing options would be at Network Rail's discretion. Engagement with NR would be required to ascertain the condition and standard of the existing crossing and its suitability given the proposed increase in usage. ----- Signal Controlled Crossing ATAG states that signalised crossings should not be used where 85th percentile speed exceeds 50mph, this means the crossing would not be feasible unless the overall speed of the road is reduced. The current flows are roughly between 5000-7000 AADT varied by year. Table 12.1 of ATAG states that signal-controlled crossings are appropriate at 40/50mph based on the flows so this option would only be feasible with a reduction of the speed limit, and associated infrastructure amendments. Given the required speed limit reduction to 50mph, to facilitate a signalised crossing, the associated stopping sight distance required would be 160m. Accommodating a signalised crossing at this location will require significant vegetation clearance, and	The existing level crossing would have to be maintained by NR, including signals, inspections and maintenance Additionally, the LA would have to maintain the crossing and signals through inspections and maintenance. Further vegetation clearance would also be required to ensure the SSD of the crossings is maintained.	This option is likely to be less expensive than options including a bridge/ underpass due to the estimated cost of those structures.

Reference List				Appraisal			
				potentially ground reprofiling to accommodate the visibility splays. Therefore significant vegetation clearance will be required to achieve the stopping sight distance in both directions. Impacts on the existing layby approximately 100m north of this location would also need to be investigated, however this would be considered at the detailed design stage. As stated in CD123, the street furniture will need to be placed with a minimum of 450mm clearance to the edge of the carriageway on both sides. A VRS assessment will also be required to assess the impact of the new crossing infrastructure. A lighting assessment would also be required to review the existing lighting levels and potentially identify lighting improvements required for the safe operation of the crossing.			
5a	North of Station (public access)	Access for All Bridge	Bridge	The access for all bridges is a proposal currently being developed by NR connecting the station to the central verge between the mainline and the A465. ----- Proposed Bridge The walking and cycling bridge to be constructed over the trunk road is assumed to be roughly 10m long. The link has been identified as a primary route based on consultation with the LA, and ATAG states that unsegregated pedestrian/cycle bridges on primary cycle routes should have a minimum width of 4m, and be increased to 5m on heavily trafficked routes. ATAG also guides segregated provisions, recommending a width of 3.5m for pedestrians and 4m for pedestrians due to it being a primary cycling route. This means for segregated facilities the width of the bridge should be 7.5m. As per CD127, the anticipated height of the bridge will be 5.78m (5.7m + 0.08m for sagging) due to the railway and carriageway. Technical approval would be required from both Network Rail and SWTRA. The associated ramps need to be at circa 130m long to accommodate the height, and landing areas required in accordance with BS8300-1. Alternatives could include a returning ramp which would require circa 70m in length. The alignment and feasibility of the ramp structures will be investigated during the design phase. Approval will be required from both NR and SWTRA to commence works due to assumed land ownership, as well as technical approvals and consents for amendments to / replacement structures over their respective assets. Residents may need to be consulted and notified of the work before commencing due to the proximity of the proposed option.	This option would require the bridge to be maintained by the LA and potentially NR due to the intersection with the station post-construction. Vegetation clearance would also be required to ensure the landing ramp and pier remains in good condition. Fencing will be required around landing ramps to ensure access to the railway/trunk road is inaccessible and will need to be maintained by LA.	This option is likely more expensive than the signal-crossing options but less expensive than the underpass options	

Reference List				Appraisal		
				Ground and ecological surveys alongside an assessment of construction phasing and process will need to be undertaken to ensure the site is fit to accommodate works before starting. Significant earthworks and vegetation clearance will be required to construct the landing ramps. Additional space may also be required to accommodate construction. The proposed bridge could potentially tie into the planned access for all bridges to provide a continuous route over both severance points.		
5b	North of Station (public access)	Access for All Bridge	Signal Controlled Crossing	The access for all bridges is a proposal currently being developed by NR connecting the station to the central verge between the mainline and the A465. ----- Signal Controlled Crossing ATAG states that signalised crossings should not be used where 85th percentile speed exceeds 50mph, this means the crossing would not be feasible unless the overall speed of the road is reduced. The current flows are roughly between 5000-7000 AADT varied by year. Table 12.1 of ATAG states that signal-controlled crossings are appropriate at 40/50mph based on the flows so this option would only be feasible with a reduction of the speed limit, and associated infrastructure amendments. Given the required speed limit reduction to 50mph, to facilitate a signalised crossing, the associated stopping sight distance required would be 160m. Accommodating a signalised crossing at this location will require significant vegetation clearance, and potentially ground reprofiling to accommodate the visibility splays. Therefore significant vegetation clearance will be required to achieve the stopping sight distance in both directions. Impacts on the existing layby approximately 90m south of this location would also need to be investigated, however this would be considered at the detailed design stage. As stated in CD123, the street furniture will need to be placed with a minimum of 450mm clearance to the edge of the carriageway on both sides. A VRS assessment will also be required to assess the impact of the new crossing infrastructure. A lighting assessment would also be required to review the existing lighting levels and potentially identify lighting improvements required for the safe operation of the crossing.	This option would require the bridge to be maintained by the LA/NR post-construction, depending on access for all scheme agreements. Vegetation clearance would also be required to ensure the landing ramp and pier remains in good condition. Additionally, the LA would have to maintain the crossing and signals through inspections and maintenance. Further vegetation clearance would also be required to ensure the SSD of the crossings is maintained. The crossing point could potentially need to be moved to the north due to the existing layby, leading the final crossing to be offset from the desire line.	This option still requires a bridge to be constructed however would likely be less expensive than the bridge over both severance points due to the shorter span.
5c	North of Station (public access)	Underpass	Underpass	Major works will likely be required to facilitate the construction of the underpass. This will require major civil works and excavation, as well as plans for the removal/storage of fill. Major disruption to both rail and highway networks may be required, depending on the design option and careful planning will be required.	This option would require the LA to maintain the underpass post-construction through inspections and maintenance. The underpass would need to be lit which will incur a further cost in terms of upkeep. Fencing will be required around landing ramps to	The underpass is likely to be the most expensive option due to the amount of work and associated disruption the construction would require.

Reference List				Appraisal		
				Approval will be required from both NR and SWTRA to commence works due to assumed land ownership, as well as technical approvals and consents for amendments to / replacement structures over their respective assets. Residents may need to be consulted and notified of the work before commencing due to the proximity of the proposed option. A review of access via ramps/stairs within the underpass will be required, however, this will be undertaken at a later design stage. Ground and ecological surveys alongside an assessment of construction phasing and process will need to be undertaken to ensure the site is fit to accommodate works before starting. Extensive vegetation clearance will be required to facilitate the landing ramp down into the underpass.	ensure access to the railway/trunk road is inaccessible and will need to be maintained by LA.	
6a	Existing Station footbridge (station users only)	Existing Bridge	Bridge	The existing bridge is assumed to be non-compliant due to width and accessibility without remedial measures, and as such may need to be upgraded to tie into the new structure over the A465. The existing bridge could be widened to accommodate walking and cycling user traffic. The link has been identified as a primary route based on consultation with the LA, and ATAG states that unsegregated pedestrian/cycle bridges on primary cycle routes should have a minimum width of 4m, and be increased to 5m on heavily trafficked routes. ATAG also guides segregated provisions, recommending a width of 3.5m for pedestrians and 4m for pedestrians due to it being a primary cycling route. This means for segregated facilities the width of the bridge should be 7.5m. Approval will be required from NR to commence works due to assumed land ownership, as well as technical approvals and consents for amendments to / replacement structures over their asset. Residents may need to be consulted and notified of the work before commencing due to the proximity of the proposed option. It is also noted that the existing bridge is a listed structure, which may impair proposals for widening and influence the design process. ----- Bridge The walking and cycling bridge to be constructed over the trunk road is assumed to be roughly 10m long. The link has been identified as a primary route based on consultation with the LA, and ATAG states that unsegregated pedestrian/cycle bridges on primary cycle routes should have a minimum width of 4m, and be increased to 5m on heavily trafficked routes. ATAG also provides	This option would require the bridge to be maintained by the LA and potentially NR due to the intersection with the station post-construction. Vegetation clearance would also be required to ensure the landing ramp and pier remains in good condition. Fencing will be required around landing ramps to ensure access to the railway/trunk road is inaccessible and will need to be maintained by LA.	This option still requires a bridge to be constructed however would likely be less expensive than the bridge over both severance points due to the shorter span.

Reference List				Appraisal		
				guidance on segregated provisions, recommending a width of 3.5m for pedestrians and 4m for pedestrians due to it being a primary cycling route. This means for segregated facilities the width of the bridge should be 7.5m. As per CD127, the anticipated height of the bridge will be 5.78m (5.7m + 0.08m for sagging) due to the railway and carriageway. Technical approval would be required from both Network Rail and SWTRA. The associated ramps need to be at circa 130m long to accommodate the height, and landing areas required in accordance with BS8300-1. Alternatives could include a returning ramp which would require circa 70m in length. The alignment and feasibility of the ramp structures will be investigated during the design phase. Approval will be required from both NR and SWTRA to commence works due to assumed land ownership, as well as technical approvals and consents for amendments to / replacement structures over their respective assets. Residents may need to be consulted and notified of the work before commencing due to the proximity of the proposed option. Ground and ecological surveys alongside an assessment of construction phasing and process will need to be undertaken to ensure the site is fit to accommodate works before starting. Significant earthworks and vegetation clearance will be required to construct the landing ramps. Additional space may also be required to accommodate construction. The proposed bridge could potentially tie into the existing bridge to provide a continuous route over both severance points.		
6b	Existing Station footbridge (station users only)	Underpass	Underpass	Major works will likely be required to facilitate the construction of the underpass. This will require major civil works and excavation, as well as plans for the removal/storage of fill. Major disruption to both rail and highway networks may be required, depending on the design option and careful planning will be required. Approval will be required from both NR and SWTRA to commence works due to assumed land ownership, as well as technical approvals and consents for amendments to / replacement structures over their respective assets. Residents may need to be consulted and notified of the work before commencing due to the proximity of the proposed option. Ground and ecological surveys alongside an assessment of construction phasing and process will need to be undertaken to ensure the site is fit to accommodate works before starting. A review of access via ramps/stairs within the underpass will be required, however, this will be undertaken at a later design stage.	This option would require the LA to maintain the underpass post-construction through inspections and maintenance. The underpass would need to be lit which will incur a further cost in terms of upkeep. Fencing will be required around landing ramps to ensure access to the railway/trunk road is inaccessible and will need to be maintained by LA.	The underpass is likely to be the most expensive option due to the amount of work and associated disruption the construction would require.

Reference List				Appraisal		
				Extensive vegetation clearance will be required to facilitate the landing ramp down into the underpass.		
6c	Existing Station footbridge (station users only)	Existing Bridge	Signal Controlled Crossing	The existing bridge is assumed to be non-compliant due to width and accessibility without remedial measures, and as such may need to be upgraded to tie into the new structure over the A465. The existing bridge could be widened to accommodate walking and cycling user traffic. The link has been identified as a primary route based on consultation with the LA, and ATAG states that unsegregated pedestrian/cycle bridges on primary cycle routes should have a minimum width of 4m, and be increased to 5m on heavily trafficked routes. ATAG also provides guidance on segregated provisions, recommending a width of 3.5m for pedestrians and 4m for pedestrians due to it being a primary cycling route. This means for segregated facilities the width of the bridge should be 7.5m. Approval will be required from NR to commence works due to assumed land ownership, as well as technical approvals and consents for amendments to / replacement structures over their asset. Residents may need to be consulted and notified of the work before commencing due to the proximity of the proposed option. The existing bridge could need to be raised/feature a ramp to the proposed structure to connect them as they may be at different heights. It is also noted that the existing bridge is a listed structure, which may impair proposals for widening and influence the design process. ----- Signal Controlled Crossing ATAG states that signalised crossings should not be used where 85th percentile speed exceeds 50mph, this means the crossing would not be feasible unless the overall speed of the road is reduced. The current flows are roughly between 5000-7000 AADT varied by year. Table 12.1 of ATAG states that signal-controlled crossings are appropriate at 40/50mph based on the flows so this option would only be feasible with a reduction of the speed limit, and associated infrastructure amendments. Given the required speed limit reduction to 50mph, to facilitate a signalised crossing, the associated stopping sight distance required would be 160m. Accommodating a signalised crossing at this location will require significant vegetation clearance, and potentially ground reprofiling to accommodate the visibility splays. Therefore significant vegetation clearance will be required to achieve the stopping sight distance in both directions. Impacts on the existing layby approximately 10m south of this location would also need to be investigated, however this would be considered at the detailed design stage. The location of the	This option would require the bridge to be maintained by the LA and potentially NR due to the intersection with the station post-construction. Vegetation clearance would also be required to ensure the landing ramp remains in good condition. Fencing will be required around landing ramps to ensure access to the railway/trunk road is inaccessible and will need to be maintained by LA. The crossing point could potentially need to be moved to the north due to the existing layby, leading the final crossing to be offset from the desire line.	This option is likely to be less expensive than the options featuring a new structure due to the assumed lower costs of upgrading compared to replacement.

Reference List				Appraisal		
				crossing could be offset to the north/south subject to review to ensure there are no safety concerns about its proximity.		
				As stated in CD123, the street furniture will need to be placed with a minimum of 450mm clearance to the edge of the carriageway on both sides. A VRS assessment will also be required to assess the impact of the new crossing infrastructure. A lighting assessment would also be required to review the existing lighting levels and potentially identify lighting improvements required for the safe operation of the crossing.		
7a	South of the Station (public access)	Bridge	Bridge	The walking and cycling bridge to be constructed over both trunk road and railway is assumed to be roughly 60m long. The link has been identified as a primary route based on consultation with the LA, and ATAG states that unsegregated pedestrian/cycle bridges on primary cycle routes should have a minimum width of 4m, and be increased to 5m on heavily trafficked routes. ATAG also provides guidance on segregated provisions, recommending a width of 3.5m for pedestrians and 4m for pedestrians due to it being a primary cycling route. This means for segregated facilities the width of the bridge should be 7.5m. As per CD127, the anticipated height of the bridge will be 5.78m (5.7m + 0.08m for sagging) due to the railway and carriageway. Technical approval would be required from both Network Rail and SWTRA. The associated ramps need to be at circa 130m long to accommodate the height, and landing areas required in accordance with BS8300-1. Alternatives could include a returning ramp which would require circa 70m in length. The alignment and feasibility of the ramp structures will be investigated during the design phase. Approval will be required from both NR and SWTRA to commence works due to assumed land ownership, as well as technical approvals and consents for amendments to / replacement structures over their respective assets. Residents may need to be consulted and notified of the work before commencing due to the proximity of the proposed option. Ground and ecological surveys alongside an assessment of construction phasing and process will need to be undertaken to ensure the site is fit to accommodate works before starting. Significant earthworks and vegetation clearance would be required to construct the landing ramps, as well as the central pier between the two severance points. Additional space may also be required to accommodate construction	This option would require the bridge to be maintained by the LA and potentially NR due to the intersection with the station post-construction. Vegetation clearance would also be required to ensure the landing ramp and pier remains in good condition. Fencing will be required around landing ramps to ensure access to the railway/trunk road is inaccessible and will need to be maintained by LA.	This option is likely more expensive than the signal crossing options but less expensive than the underpass options.
7b	South of the Station (public access)	Bridge	Signal Controlled Crossing	The walking and cycling bridge to be constructed over the railway is assumed to be roughly 30m long. The link has been identified as a primary route based on consultation with the LA, and ATAG states that unsegregated pedestrian/cycle bridges on primary cycle routes should have a minimum width of 4m, and be increased to 5m on heavily trafficked routes. ATAG also provides	This option would require the bridge to be maintained by the LA and potentially NR due to the intersection with the station post-construction. Vegetation clearance would also be required to ensure the landing ramp remains in good condition.	This option still requires a bridge to be constructed however would likely be less expensive than the bridge over both severance points due to the shorter span.

Reference List	Appraisal
	guidance on segregated provisions, recommending a width of 3.5m for pedestrians and 4m for pedestrians due to it being a primary cycling route. This means for segregated facilities the width of the bridge should be 7.5m. As per CD127, the anticipated height of the bridge will be 5.78m (5.7m + 0.08m for sagging) due to the railway and carriageway. Technical approval would be required from both Network Rail and SWTRA. The associated ramps need to be at circa 130m long to accommodate the height, and landing areas required in accordance with BS8300-1. Alternatives could include a returning ramp which would require circa 70m in length. The alignment and feasibility of the ramp structures will be investigated during the design phase. Approval will be required from both NR and SWTRA to commence works due to assumed land ownership, as well as technical approvals and consents for amendments to / replacement structures over their respective assets. Residents may need to be consulted and notified of the work before commencing due to the proximity of the proposed option. Ground and ecological surveys alongside an assessment of construction phasing and process will need to be undertaken to ensure the site is fit to accommodate works before starting. Significant earthworks and vegetation clearance would be required to construct the landing ramps, as well as the central pier between the two severance points. Additional space may also be required to accommodate construction ----- Signal Controlled Crossing ATAG states that signalised crossings should not be used where 85th percentile speed exceeds 50mph, this means the crossing would not be feasible unless the overall speed of the road is reduced. The current flows are roughly between 5000-7000 AADT varied by year. Table 12.1 of ATAG states that signal-controlled crossings are appropriate at 40/50mph based on the flows so this option would only be feasible with a reduction of the speed limit, and associated infrastructure amendments. Given the required speed limit reduction to 50mph, to facilitate a signalised crossing, the associated stopping sight distance required would be 160m. Accommodating a signalised crossing at this location will require significant vegetation clearance, and potentially ground reprofiling to accommodate the visibility splays. Therefore significant vegetation clearance will be required to achieve the stopping sight distance in both directions. Impacts on the existing layby approximately 10m north of this location would also need to be investigated, however this would be considered at the detailed design stage. The location of the Additionally, the LA would have to maintain the crossing and signals through inspections and maintenance. Further vegetation clearance would also be required to ensure the SSD of the crossings is maintained. The crossing point could potentially need to be moved to the south due to the existing layby, leading the final crossing to be offset from the desire line.

Reference List				Appraisal		
				crossing could be offset to the north/south subject to review to ensure there are no safety concerns about its proximity.		
				As stated in CD123, the street furniture will need to be placed with a minimum of 450mm clearance to the edge of the carriageway on both sides. A VRS assessment will also be required to assess the impact of the new crossing infrastructure. A lighting assessment would also be required to review the existing lighting levels and potentially identify lighting improvements required for the safe operation of the crossing		
8a	South of the Courtyard	Bridge	Bridge	The walking and cycling bridge to be constructed over both trunk road and railway is assumed to be roughly 65m long. The link has been identified as a primary route based on consultation with the LA, and ATAG states that unsegregated pedestrian/cycle bridges on primary cycle routes should have a minimum width of 4m, and be increased to 5m on heavily trafficked routes. ATAG also provides guidance on segregated provisions, recommending a width of 3.5m for pedestrians and 4m for pedestrians due to it being a primary cycling route. This means for segregated facilities the width of the bridge should be 7.5m. As per CD127, the anticipated height of the bridge will be 5.78m (5.7m + 0.08m for sagging) due to the railway and carriageway. Technical approval would be required from both Network Rail and SWTRA. The associated ramps need to be at circa 130m long to accommodate the height, and landing areas required in accordance with BS8300-1. Alternatives could include a returning ramp which would require circa 70m in length. The alignment and feasibility of the ramp structures will be investigated during the design phase. Approval will be required from both NR and SWTRA to commence works due to assumed land ownership, as well as technical approvals and consents for amendments to / replacement structures over their respective assets. Residents may need to be consulted and notified of the work before commencing due to the proximity of the proposed option. Ground and ecological surveys alongside an assessment of construction phasing and process will need to be undertaken to ensure the site is fit to accommodate works before starting. Significant earthworks and vegetation clearance would be required to construct the landing ramps, as well as the central pier between the two severance points. Additional space may also be required to accommodate construction	This option would require the bridge to be maintained by the LA post-construction. Vegetation clearance would also be required to ensure the landing ramp and pier remain in good condition. Fencing will be required around landing ramps to ensure access to the railway/trunk road is inaccessible and will need to be maintained by LA.	This option is likely more expensive than the signal-crossing options but less expensive than the underpass options

C.4 Wider Active Travel Link Options

The information presented below summarises the identified opportunities to address the wider active travel links.

Reference	Description	ATNM	ATNM Priority	TfW Priority
1	From Abergavenny station, the route follows station road then joins A40 to Cross Street in Abergavenny. Route follows Lower Castle Street and Tudor Street, passing Castle Meadows. Route crosses B4246 and continues over Union Road. The route finishes at A40, at North West, to Nevill Hall Hospital.	MCC-A07A (part), MCC-A03D (part), MCC-A06C (part), MCC-A21A (part), MCC-A20E, MCC-A04A, MCC-A04B	Medium to High	Low to Very High
2	From Abergavenny station, the route follows station road then joins A40 to Cross Street in Abergavenny. The route follows Lower Castle Street and Tudor Street. Deviating from Route 1, the route follows North to Baker Street, then passes the war memorial, crosses the A40 and follows north to Pen-y-Pound Road. The road follows North West to Hill Road towards King Henry School.	MCC-A07A (part), MCC-A03D (part), MCC-A06C (part), MCC-A21A (part), MCC-A20E, MCC-A04A, MCC-A24B, MCC-A08C, MCC-A09B (part)	Medium to High	Low to Very High
3	From Abergavenny station, the route follows station road then joins A40 to Cross Street in Abergavenny. The route follows the length of the high street, passing the war memorial, and joins the A40. The route follows A40 to Nevill Hill Hospital.	MCC-A07A (part), MCC-A03D (part), MCC-A06C (part), MCC-A21A, MCC-A21B, MCC-A16A, MCC-A16B	Medium to High	Low to Very High
4	From the proposed Firs Rd crossing, the route follows Firs Road onto the B4233, following Lower Monk Street. At A40, the road crosses onto Lion Street, passing Morrisons. At Kings Street, the route follows North, utilising the existing cross at the A40, and follows up to Park Avenue. The route follows via Skirrid Road to Park Crescent, up to Pen-y-Pound Road. The road follows North West to Hill Road towards King Henry School.	MCC-A47B, MCC-A10B (part), MCC-A23E (part), MCC-A23D, MCC-A23C, MCC-A23B, MCC-A08C (part), MCC-A09B (part)	Medium to High	Very Low to Very High
5	From Abergavenny station, the route follows North via the NCN route to Holywell Crescent, Holywell Road to join Lower Monk Street. At A40, the road crosses onto Lion Street, passing Morrisons. At Kings Street, the route follows North, utilising the existing cross at the A40, and follows up to Park Avenue. The route follows via Skirrid Road to Park Crescent, up to Pen-y-Pound Road. The road follows North West to Hill Road towards King Henry School.	MCC-A07B (part), MCC-A23F, MCC-A23E (part), MCC-A23D, MCC-A23C, MCC-A23B, MCC-A08C (part), MCC-A09B (part)	Medium to High	Low to Very High



Appendix D. Integrated Well-Being Appraisal



Integrated Well-Being Appraisal			
Severance Crossing: 2 - Firs Road			
Adopted Structure: 2a - New continuous bridge connection across both severance features			
Wales Transport Strategy Well-being Ambitions	Integrated Wellbeing Appraisal Framework Score	Objective Impact	Mitigation through design and Impact reduction
Good for people and communities	2	Equity: The active travel link to the development would provide an accessible route, to allow all users to access Abergavenny East.	Careful consideration through the design process to ensure surfaces, lighting, gradient and access are inclusive. Designs to be reviewed be inclusive design team and identified problems to be addressed and/or mitigated
		An accessible proposal for an affordable means of transport (walking and cycling) removes the barriers and improves equity of access. Modal shift to more sustainable modes of transportation mitigates the unevenly distributed impacts of pollution, costs, and risks associated with car-centric living.	
		Health: A new active travel link between the development and wider Abergavenny to trip attractors would assist the choice of healthy and active lifestyles.	The route and its use to be promoted to ensure it is used and positively contributes to the health of those in Abergavenny.
		Safety and Confidence: Visibility from the entry and exit of Abergavenny Railway Station and its link to the A465 at-grade signal-controlled crossing need to be considered.	Ensure enhancements to access to/from the station promote visibility and safety.
		A significant increase in the number of journeys using the proposal would enhance and contribute to a sense of safety, and the surrounding residential area provides natural surveillance in hours of darkness. A significant increase in the number of journeys using the proposal would also enhance and contribute to a sense of safety, and the surrounding residential area provides natural surveillance in hours of darkness. Further, the provision of high-quality infrastructure encourages popular usage that improves natural surveillance and community cohesion.	Careful consideration through the design process to ensure the perceptions and actual problems of safety are addressed. Designs to be reviewed be inclusive design team and identified problems to be addressed and/or mitigated
Good for the environment	1	Carbon emissions and modal shift: The introduction of an active travel route would assist an alternative sustainable modal choice of walking, cycling and wheeling to key destinations, which would assist a modal shift from private vehicles to active travel options. This modal shift in turn would return lower carbon emissions. This will also help promote and increase the number of multi-modal journeys (particularly longer journeys by rail). However, increased construction work will have increased carbon emissions.	Careful consideration into the construction and use of materials to provide the infrastructure to capture any carbon impacts. The route and its use to be promoted to ensure it is used and positively contribute to addressing modal shift and carbon emissions.
		Biodiversity and ecosystem resilience: Utilising a continuous bridge allows connection to higher embankments, with lower earthwork requirements, but requires some vegetation removal.	Careful consideration into the construction and use of materials to provide the infrastructure to capture any biodiversity net gain and/or result in net positive biodiversity.
		Consideration will need to be given to the impact of a new structure on the biodiversity and local ecosystem, particularly due to its location to several important environmental areas.	
		Waste reduction: The proposals seek to maximise the use of existing public land ownership, maximise the land available by the A465 roadside, and maximise the use of existing crossing points.	Careful consideration to maximise existing infrastructure where possible and to minimise waste reduction during construction
Good for places and the economy	2	Place, rural areas, and jobs: The development of a new active travel link would provide an important access route into Abergavenny and to the new development. This is particularly important and feeds into the wider objectives/masterplan of the Replacement Local Development Plan and its positive impact on the demography of Abergavenny.	Engagement to shape how the public will use the route and make it an attractive and viable option
		Sustainable transport innovation and goods distribution: The improved active travel connections provide infrastructure for future mobility innovations, such as cycle share and cargo bike access.	N/A
		Affordability and socio-economics: By providing public active travel links between the development and key destinations will allow those without access to private vehicles to access opportunities in economic centre of Abergavenny, as well as outwards to surrounding settlements.	N/A
Good for Culture and Welsh Language	1	Welsh Language: An update to signs and wayfinding through the scheme have the opportunity to improve routes with bi-lingual signs in Welsh and English.	Engagement to shape how the public will use the route and make it an attractive and viable option
		The introduction of an active travel route can allow people to connect to their locality, and forge and/or strengthen connections to the Welsh language embedded in the landscape.	
		Arts, culture and sports: Access by a new active travel link will allow better access to culturally significant venues and well-being facilities, including rural locations across Abergavenny.	N/A
		Heritage and the historic environment: The route enhances existing historic public rights of way and improves the people's connection to place, landscape and shared/verbal heritage.	N/A

Integrated Well-Being Appraisal			
Severance Crossing: 5 - Access for All Station Bridge			
Adopted Structure: 5b - Utilise Access for All Bridge with At-grade Crossing of A465			
Wales Transport Strategy Well-being Ambitions	Integrated Wellbeing Appraisal Framework Score	Objective Impact	Mitigation through design and Impact reduction
Good for people and communities	0	Equity: The active travel link to the development would provide a highly accessible design, to allow all users to access the development. Consideration needs to be given to the accessibility of the signal-controlled crossing and its interconnectivity with the Access for All structure. However, an accessible proposal for an affordable means of transport (walking and cycling) removes the barriers and improves equity of access. Modal shift to more sustainable modes of transportation mitigates the unevenly distributed impacts of pollution, costs, and risks associated with car-centric living.	The Access for All structure does not provide cycle facilities and requires users to dismount. Careful consideration will need to be given to those using adapted cycles and how they navigate the route. Designs to be reviewed be inclusive design team and identified problems to be addressed and/or mitigated
		Health: A new active travel link between the development and wider Abergavenny to future destinations would assist the choice of healthy and active lifestyles.	The route and its use to be promoted to ensure it is used and positively contributes to the health of those in Abergavenny.
		Safety and Confidence: Visibility from Abergavenny Railway Station and access to the traffic signal controls on the A465. In addition, Abergavenny Railway Station during hours of darkness may be isolated without full oversight. A risk is that users of the Access for All bridge at not confident in using it or onward connectivity.	Ensure enhancements to access around the station promote good visibility and safety levels. Provide infrastructure that enables users to confidently use the route for access to Abergavenny Railway Station and onward connectivity.
Good for the environment	2	Carbon emissions and modal shift: The introduction of an active travel route would assist an alternative sustainable modal choice of walking and wheeling to key destinations, which would assist a modal shift from private vehicles to active travel options. This will help promote and increase the number of multi-modal journeys (particularly longer journeys by rail). However, there is a risk that increased construction work will have increased carbon emissions - particularly in relation to the access (entrance and exit) of the railway station to the A465.	Careful consideration into the construction and use of materials to provide the infrastructure to capture any carbon impacts. The route and its use to be promoted to ensure it is used and positively contribute to addressing modal shift and carbon emissions.
		Biodiversity and ecosystem resilience: Using the existing bridge minimises the impact on biodiversity and the ecosystem. The proposals will need to minimise vegetation and land use. The introduction of traffic signal controls (and its associated lighting) could have an impact on the local biodiversity and ecosystem. This will need to be reviewed and considered.	New land use uptake is to be mitigated through preserving or enhancing local biodiversity and ecosystems.
		Waste reduction: The proposals seek to maximise the use of the Access for All structure. However, improved access via the entrance and exit points will be required, which will require infrastructure improvements.	Careful consideration to maximise existing infrastructure where possible and to minimise waste reduction during construction
Good for places and the economy	2	Place, rural areas, and jobs: The development of a new active travel link would provide an important access route into Abergavenny and to the new development. This is particularly important and feeds into the wider objectives/masterplan of the Replacement Local Development Plan and its positive impact on the demography of Abergavenny.	Engagement to shape how the public will use the route and make it an attractive and viable option
		Sustainable transport innovation and goods distribution: The improved active travel connections provide infrastructure for future mobility innovations, such as cycle share and cargo bike access.	N/A
		Affordability and socio-economics: By providing public active travel links between the development and key destinations will allow those without access to private vehicles to access opportunities in economic centre of Abergavenny, as well as outwards to surrounding settlements.	N/A
Good for Culture and Welsh Language	1	Welsh Language: An update to signs and wayfinding through the scheme have the opportunity to improve routes with bi-lingual signs in Welsh and English. The introduction of an active travel route can allow people to connect to their locality, and forge and/or strengthen connections to the Welsh language embedded in the landscape.	Engagement to shape how the public will use the route and make it an attractive and viable option
		Arts, culture and sports: Access by a new active travel link will allow better access to culturally significant venues and well-being facilities, including rural locations across Abergavenny.	N/A
		Heritage and the historic environment: The route enhances existing historic public rights of way and improves the people's connection to place, landscape and shared/verbal heritage.	N/A

Integrated Well-Being Appraisal			
Severance Crossing: 6 - Existing Pedestrian Footbridge			
Adopted Structure: 6c - Existing Pedestrian Footbridge with at-grade Crossing of A465			
Wales Transport Strategy Well-being Ambitions	Integrated Wellbeing Appraisal Framework Score	Objective Impact	Mitigation through design and Impact reduction
Good for people and communities	0	Equity: Utilising the Grade II listed structure incurs a lower standard for accessibility. The bridge has a narrow width and steps which does not have full accessibility. Design will need to account for improvements to the width and access of the structure. There are, however, opportunities to provide an accessible proposal for an affordable means of transport (walking and cycling) which removes barriers to and improves equity of access. Modal shift to more sustainable modes of transportation mitigates the unevenly distributed impacts of pollution, costs, and risks associated with car-centric living.	The existing structure does not provide facilities appropriate for those with mobility impairments and cyclists. Careful consideration will need to be given to those using adapted cycles and how they navigate the route. Designs to be reviewed be inclusive design team and identified problems to be addressed and/or mitigated
		Health: A new active travel link between the development and wider Abergavenny to future destinations would assist the choice of healthy and active lifestyles.	The route and its use to be promoted to ensure it is used and positively contributes to the health of those in Abergavenny.
		Safety and Confidence: Visibility from Abergavenny Railway Station and access to the traffic signal controls on the A465. In addition, Abergavenny Railway Station during hours of darkness may be isolated without full oversight. A risk is that users of the existing Grade II listed structure are not confident in using it for on-ward connectivity due to its current layout. The structure will need to be significantly adapted to make safe for users and allow confident use.	Ensure enhancements to access around the station promote good visibility and safety levels. Provide accessible upgrades to the existing structure to enable users to confidently navigate the route to access Abergavenny Railway Station and for onward connectivity.
Good for the environment	2	Carbon emissions and modal shift: The introduction of a safe and direct active travel route would assist an alternative sustainable modal choice of walking, cycling and wheeling to key destinations, which would assist a modal shift from private vehicles to active travel options. This will help promote and increase the number of multi-modal journeys (particularly longer journeys by rail). Increased construction work will likely have increased carbon emissions and therefore needs to be accounted for.	Careful consideration into the construction and use of materials to provide the infrastructure to capture any carbon impacts. The route and its use to be promoted to ensure it is used and positively contribute to addressing modal shift and carbon emissions.
		Biodiversity and ecosystem resilience: Utilising the existing Grade II listed bridge will require an assessment to understand its impact on the local biodiversity and ecosystem. Further, amendments to the structure will need to understand its impact on biodiversity and the local ecosystem, particularly due to its location in several important environmental areas.	Careful consideration into the construction and use of materials to provide the infrastructure to capture any biodiversity net gain and/or result in net positive biodiversity.
		Waste reduction: The proposals seek to maximise the use of the existing Grade II listed structure. However, improved access via the entrance and exit points will be required, which will require infrastructure improvements.	Careful consideration to maximise existing infrastructure where possible and to minimise waste reduction during construction
Good for places and the economy	2	Place, rural areas, and jobs: The development of a new active travel link would provide an important access route into Abergavenny and to the new development. This is particularly important and feeds into the wider objectives/masterplan of the Replacement Local Development Plan and its positive impact on the demography of Abergavenny.	Engagement to shape how the public will use the route and make it an attractive and viable option
		Sustainable transport innovation and goods distribution: The improved active travel connections provide infrastructure for future mobility innovations, such as cycle share and cargo bike access.	N/A
		Affordability and socio-economics: Providing public active travel links between the development and key destinations will allow those without access to private vehicles to access opportunities in the economic centre of Abergavenny, as well as outwards to surrounding settlements.	N/A
Good for Culture and Welsh Language	-2	Welsh Language: An update to signs and wayfinding through the scheme have the opportunity to improve routes with bi-lingual signs in Welsh and English. This proposal would also enable people to connect to their locality forges or strengthen connections to the Welsh language embedded in the landscape.	N/A
		Arts, culture and sports: Access by a new active travel link will allow better access to culturally significant venues and well-being facilities, including rural locations across Abergavenny.	N/A
		Heritage and the historic environment: The existing Grade II bridge may need to be significantly altered which would impact its heritage and historic nature. An adjustment of the setting around the bridge negatively affects the character of Abergavenny Railway Station, which is also a listed Grade II building.	Design to be in fitting with the station and does not degrade Grade II listed features.

Integrated Well-Being Appraisal			
Wider Active Travel Link 1 - Abergavenny Station, Castle Meadows, Nevill Hall Hospital			
Wales Transport Strategy Well-being Ambitions	Integrated Wellbeing Appraisal Framework Score	Objective Impact	Mitigation through design and Impact reduction
Good for people and communities	1	Equity: At present, there are currently no defined active travel routes in proximity to Abergavenny Railway Station. Routes are also poorly maintained and narrow in some locations. The improvements to infrastructure will address the barrier to access for all users. Accessible, affordable transport options remove barriers and improve equity of access. Modal shift to more sustainable modes of transportation also mitigates the unevenly distributed impacts of pollution, costs, and risks associated with car-centric living.	The active travel routes are to be designed in accordance with the Active Travel Act Guidance (2021). Designs to be reviewed be inclusive design team and identified problems to be addressed and/or mitigated
		Health: New active travel routes will promote activity by making walking and cycling more attractive for users. This will aim to facilitate increased active travel activities, promoting better activity levels for users.	The route and its use to be promoted to ensure it is used and positively contributes to the health of those in Abergavenny.
		Safety and Confidence: The improved active travel provision seeks to upgrade existing and provide new crossings as well as improved active travel infrastructure throughout. This will enable users to facilitate journeys that may previously not have been attractive to use. The provision of high-quality infrastructure encourages popular usage that improves natural surveillance and community cohesion.	Ensure enhancements to access around the station promote good visibility and safety levels. Provide accessible upgrades to the existing infrastructure to enable users to confidently navigate the route to access Abergavenny Railway Station and for onward connectivity.
Good for the environment	1	Carbon emissions and modal shift: Improvement to the wider active travel network will improve the attractiveness of active travel. This will facilitate increased levels of walking and cycling, thereby removing travel by private motorised vehicles for local journeys. Improved access to the rail station may help increase multi-modal journeys. Increased construction work will likely have increased carbon emissions and therefore needs to be accounted for.	Careful consideration into the construction and use of materials to provide the infrastructure to capture any carbon impacts. The route and its use to be promoted to ensure it is used and positively contribute to addressing modal shift and carbon emissions.
		Biodiversity and ecosystem resilience: Route has minimised vegetation clearance and disruption to existing biodiversity and ecosystem. However, consideration will need to be given as the route progresses through the design stages.	Additional study at design stage to understand impact of proposals on biodiversity and vegetation loss.
		Waste reduction: The route seeks to maximise existing infrastructure, and minimise wasteful resource use.	Additional study at design stage to understand waste impacts.
Good for places and the economy	2	Place, rural areas, and jobs: The proposal connects through the town centre of Abergavenny, allowing users to access various trip attractors. Further, the development of a new active route feeds into the wider objectives/masterplan of the Replacement Local Development Plan and its positive impact on the demography of Abergavenny. The route also contributes to the Active Travel Network Map.	Engagement to shape how the public will use the route and make it an attractive and viable option
		Sustainable transport innovation and goods distribution: The proposals for active travel infrastructure interventions will enable goods to be delivered within the settlement by cargo and other types of cycles.	N/A
		Affordability and socio-economics: The route provides new walking facilities, a free mode of transport at point of use. The route provides new cycling facilities, which has a lower cost to users than overall private motorised vehicles.	N/A
Good for Culture and Welsh Language	1	Welsh Language: The route connects through Abergavenny to local trip attractors and facilities, which alongside bi-lingual signs, will allow Welsh speakers to access local facilities. Improved active travel facilities, in addition, allow people to connect to their locality forges or strengthen connections to the Welsh language embedded in the landscape.	N/A
		Arts, culture and sports: The route connects through Abergavenny to several trip attractors from the station, to facilitate access to the area.	N/A
		Heritage and the historic environment: The route has minimum impact on historic assets. However, the route runs through the Abergavenny Town Conservation Area, which increases its attractiveness in terms of access to historic sites. Careful consideration will need to be given to its impact on the National Park.	Additional impact assessment to understand the historical environment in later design stages.

Integrated Well-Being Appraisal			
Wider Active Travel Link 5 - Abergavenny Station, Lion Street, King Henry VIII School			
Wales Transport Strategy Well-being Ambitions	Integrated Wellbeing Appraisal Framework Score	Objective Impact	Mitigation through design and Impact reduction
Good for people and communities	2	Equity: At present, there are currently no defined active travel routes in proximity to Abergavenny Railway Station. Routes are also poorly maintained and narrow in some locations. The improvements to infrastructure will address the barrier to access for all users.	The active travel routes are to be designed in accordance with the Active Travel Act Guidance (2021). Designs to be reviewed be inclusive design team and identified problems to be addressed and/or mitigated
		Accessible, affordable transport options remove barriers and improve equity of access.	
		Modal shift to more sustainable modes of transportation also mitigates the unevenly distributed impacts of pollution, costs, and risks associated with car-centric living.	
		Health: New active travel routes will promote activity by making walking and cycling more attractive for users. This will aim to facilitate increased active travel activities, promoting better activity levels for users.	The route and its use to be promoted to ensure it is used and positively contributes to the health of those in Abergavenny.
		Safety and Confidence: The improved active travel provision seeks to upgrade existing and provide new crossings as well as improved active travel infrastructure throughout. This will enable users to facilitate journeys that may previously not have been attractive to use. The provision of high-quality infrastructure encourages popular usage that improves natural surveillance and community cohesion.	Ensure enhancements to access around the station promote good visibility and safety levels. Provide accessible upgrades to the existing infrastructure to enable users to confidently navigate the route to access Abergavenny Railway Station and for onward connectivity.
Good for the environment	1	Carbon emissions and modal shift: Improvement to the wider active travel network will improve the attractiveness of active travel. This will facilitate increased levels of walking and cycling, thereby removing travel by private motorised vehicles for local journeys. Improved access to the rail station may help increase multi-modal journeys.	Careful consideration into the construction and use of materials to provide the infrastructure to capture any carbon impacts. The route and its use to be promoted to ensure it is used and positively contribute to addressing modal shift and carbon emissions.
		Increased construction work will likely have increased carbon emissions and therefore needs to be accounted for.	
		Biodiversity and ecosystem resilience: Route has minimised vegetation clearance and disruption to existing biodiversity and ecosystem. However, consideration will need to be given as the route progresses through the design stages.	Additional study at design stage to understand impact of proposals on biodiversity and vegetation loss.
		Waste reduction: The route seeks to maximise existing infrastructure, and minimise wasteful resource use.	Additional study at design stage to understand waste impacts.
Good for places and the economy	2	Place, rural areas, and jobs: The proposal connects through the town centre of Abergavenny, allowing users to access various trip attractors.	Engagement to shape how the public will use the route and make it an attractive and viable option
		Further, the development of a new active route feeds into the wider objectives/masterplan of the Replacement Local Development Plan and its positive impact on the demography of Abergavenny. The route also contributes to the Active Travel Network Map.	
		Sustainable transport innovation and goods distribution: The proposals for active travel infrastructure interventions will enable goods to be delivered within the settlement by cargo and other types of cycles.	N/A
		Affordability and socio-economics: The route provides new walking facilities, a free mode of transport at point of use. The route provides new cycling facilities, which has a lower cost to users than overall private motorised vehicles.	N/A
Good for Culture and Welsh Language	1	Welsh Language: The route connects through Abergavenny to local trip attractors and facilities, which alongside bi-lingual signs, will allow Welsh speakers to access local facilities.	N/A
		Improved active travel facilities, in addition, allow people to connect to their locality forges or strengthen connections to the Welsh language embedded in the landscape.	
		Arts, culture and sports: The route connects through Abergavenny to several trip attractors from the station, to facilitate access to the area.	N/A
		Heritage and the historic environment: The route has minimum impact on historic assets. However, the route runs through the Abergavenny Town Conservation Area, which increases its attractiveness in terms of access to historic sites. Careful consideration will need to be given to its impact on the National Park.	Additional impact assessment to understand the historical environment in later design stages.

Appendix E. StreetMaster Exercise

To aid in the appraisal of the proposed options within the study area, the StreetMaster tool was used.

StreetMaster is an innovative multi-platform design methodology which streamlines and accelerates the design process for retrofitting urban corridors with active and sustainable transport infrastructure. It operates through QGIS and Excel allowing theoretical cross-sections to be tested to appraise the feasibility of these options and identify pinch points.

An approximate highway boundary was created to evaluate the widths at different sections within the study area. Then, three theoretical cross-sections were created to be tested using the guidance in ATAG. These were:

- DE101 – Footway
- DE313 – Cycle track alongside the road, separated from pedestrians
- DE401 – Shared pedestrian and cycle track, alongside the road

Two assumptions that were made during the analysis of these options were that there would be two carriageway lanes at 3m each, and a second footway on the opposite side of the carriageway that was 1.5m wide.

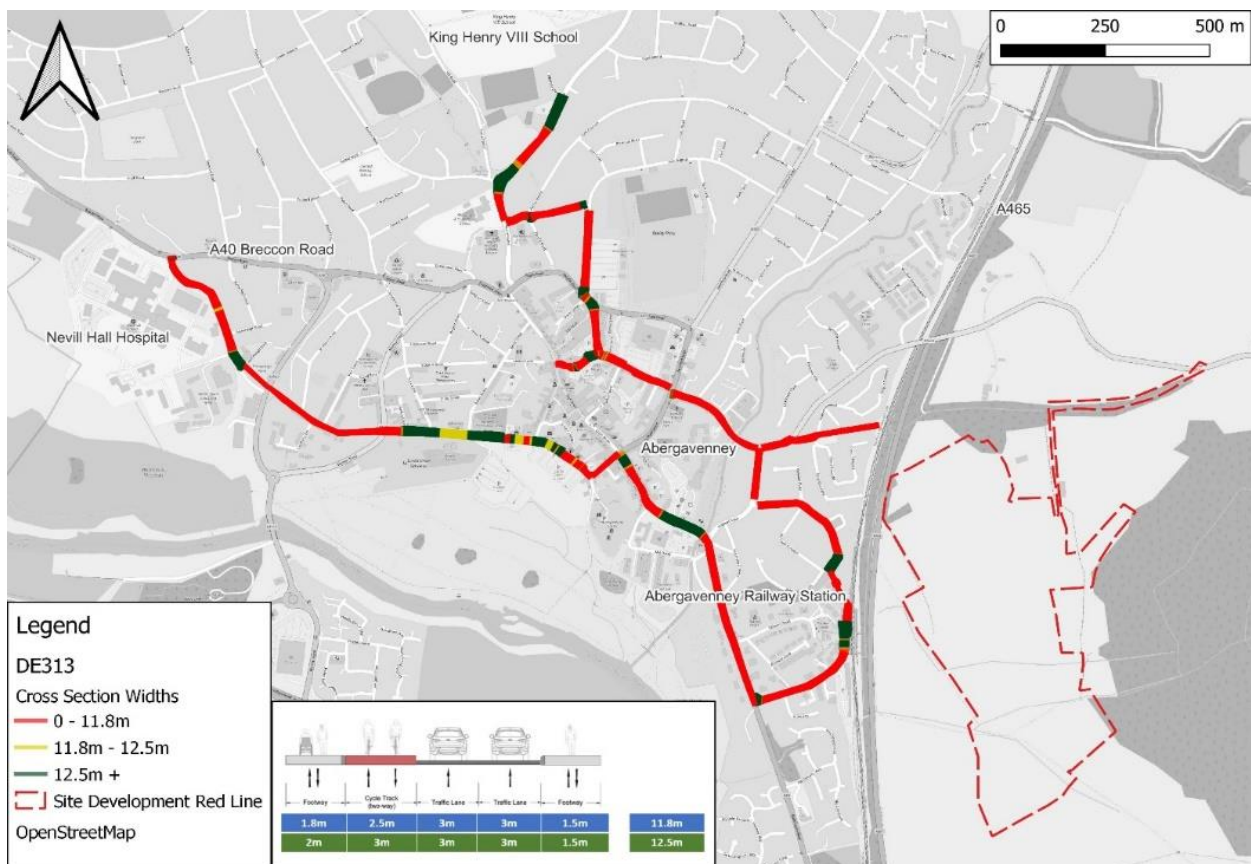
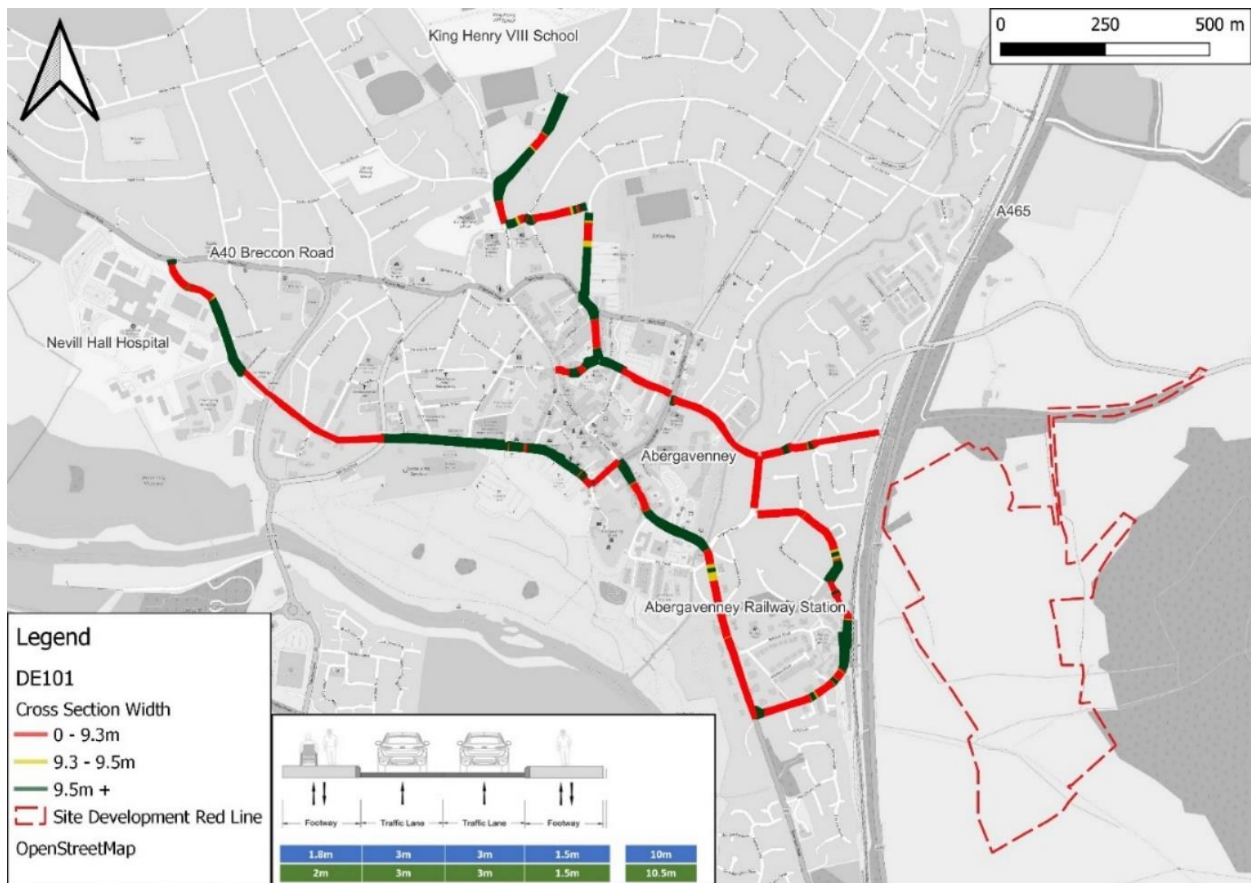
Each option was tested with two scenarios, one of these features a footway on the opposite side of the carriageway while the other removes it. This allows for a more accurate appraisal of areas that currently only feature one footway.

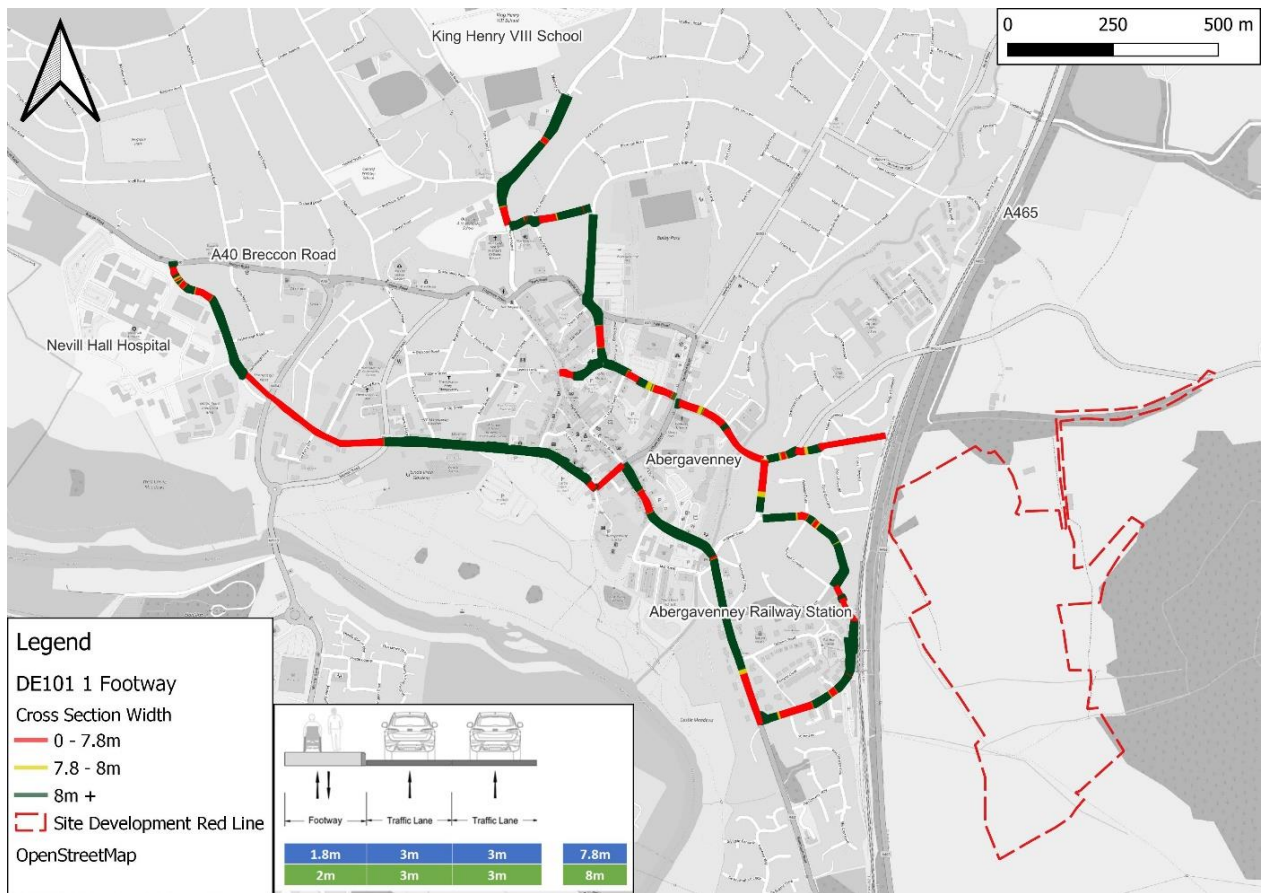
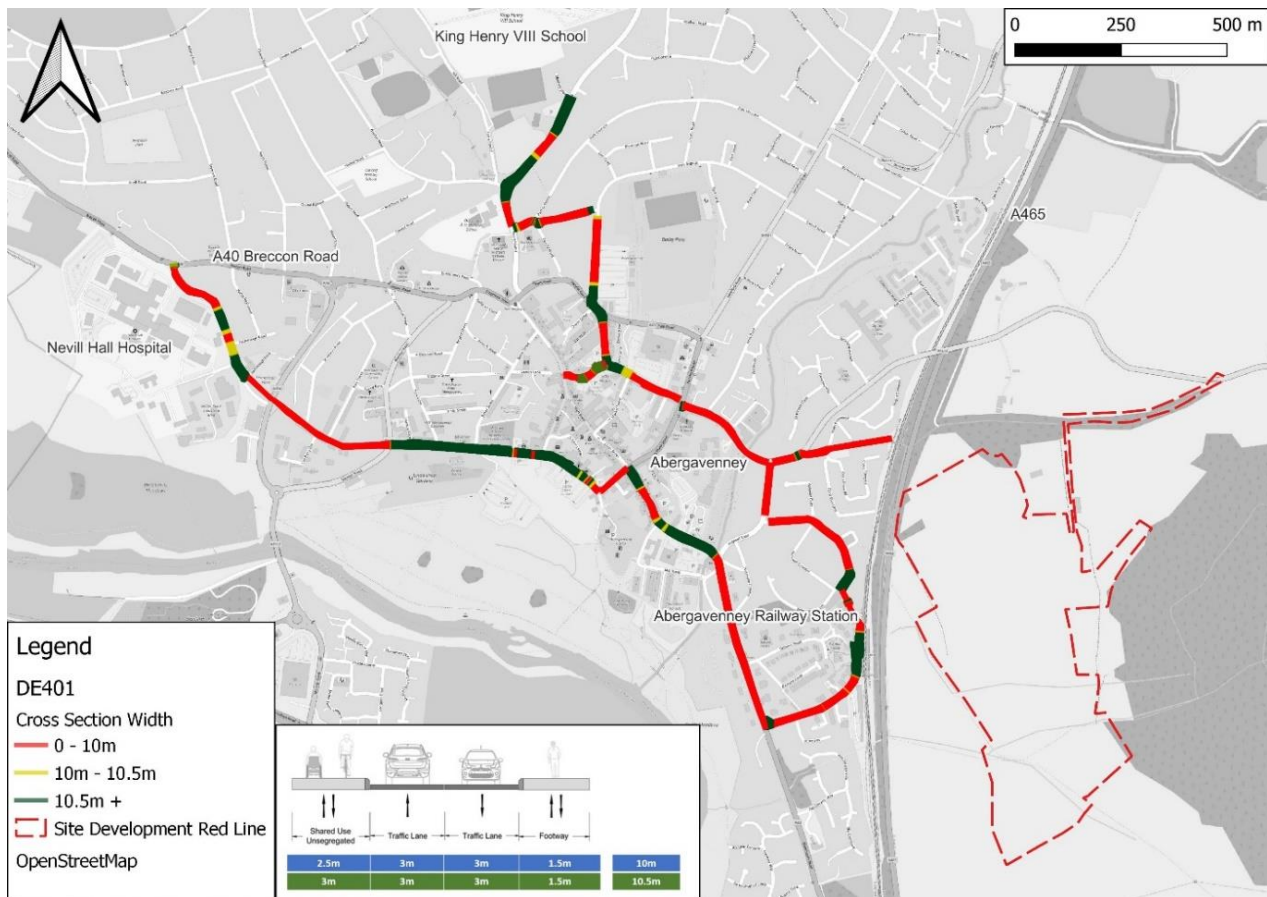
Options	Absolute Minimum	Desirable Minimum	Overall Widths
DE101 – 2 Footway	1.8m footway	2m footway	9.3-9.5m
DE313 – 2 Footway	1.8m footway and 2.5m two-way cycle track	2m footway and 3m two-way cycle track	11.8-12.5m
DE401 – 2 Footway	2.5m shared use path	3m shared use path	10-10.5m
DE101 – 1 Footway	1.8m footway	2m footway	8.5-9m
DE313 – 1 Footway	1.8m footway and 2.5m two-way cycle track	2m footway and 3m two-way cycle track	10.3-11m
DE401 – 1 Footway	2.5m shared use path	3m shared use path	7.8-8m

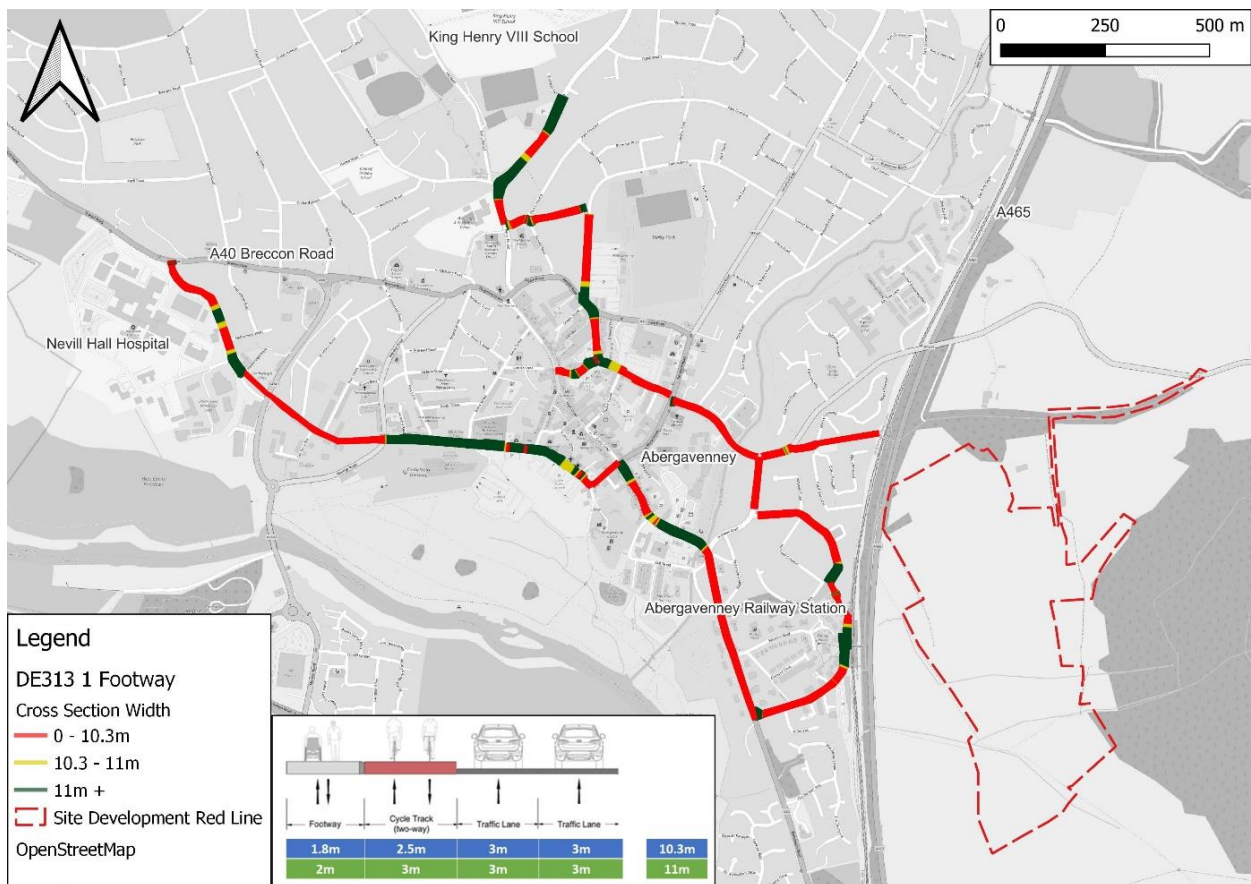
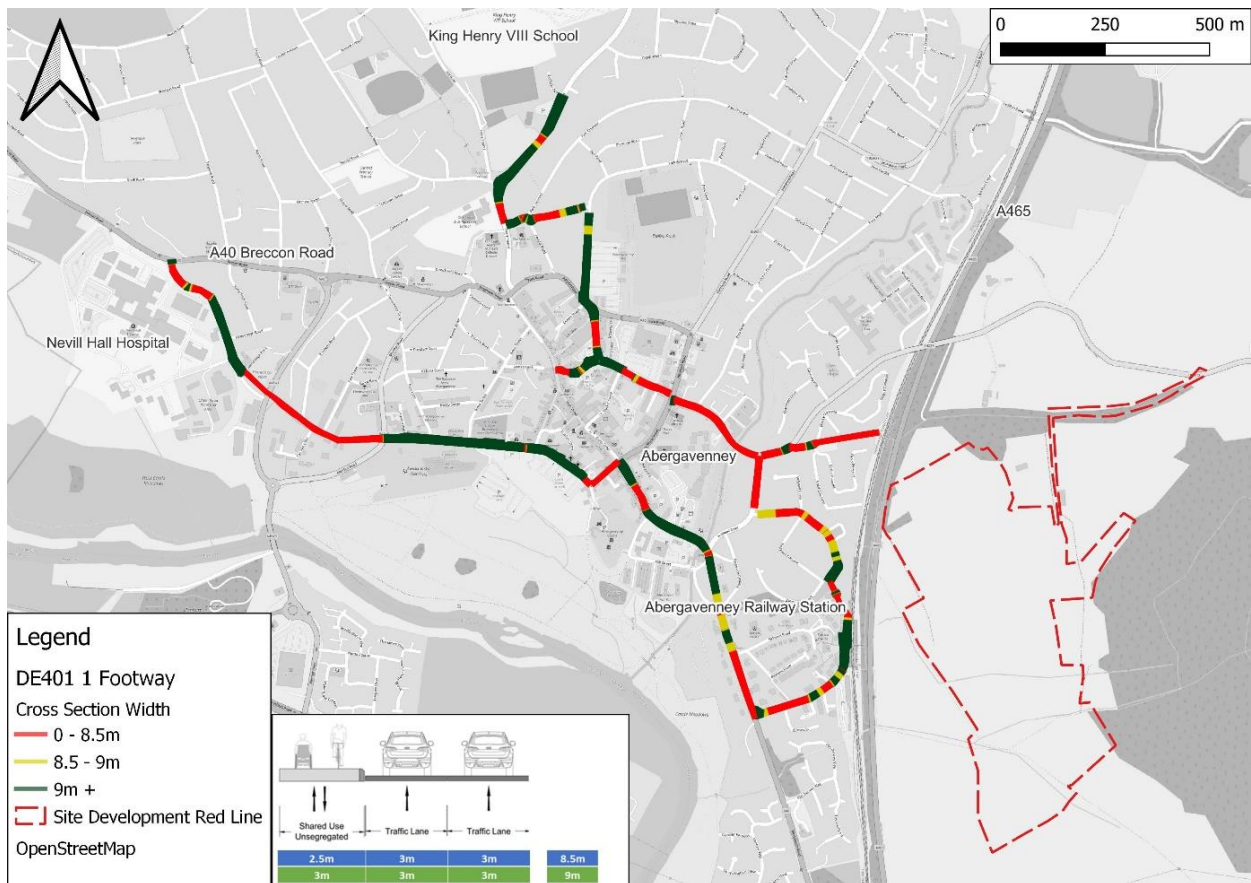
Below are six figures which indicate the feasibility of the proposed options within the study area. The following should be noted:

- Green: Meets or exceeds the desirable widths
- Yellow/Amber: Above minimum width
- Red: Unfeasible









AtkinsRéalis



AtkinsRéalis UK Limited

2 Capital Quarter
Floor 2
Tyndall Street
Cardiff
CF10 4BZ

Tel: +44 (0)29 2048 5159

© AtkinsRéalis UK Limited except where stated otherwise