Technical Note

Project:	Llanrhystud AT			
Subject:	Design Technical Note			
Author:	EM			
Date:	11/07/23	Project No.:	5219773 CE01_001	
Document No.:	CE01_001-ATK-HGN-SWMWRCES-RP-CH-000001			
Distribution:		Representing:		

Document history

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
C02	Final Issue	SW	SW	CD	CD	11/07/23
C01	First Issue	SW	SW	JM	CD	09/06/23

Client signoff

Client	Ceredigion County Council
Project	Llanrhystud AT
Job Number	5219773 CE01_001
Client signature / date	

Contents

1.	Introduction	4
1.1.	Scheme Location	4
2.	Existing Conditions	5
2.1.	Existing Highway Network	5
2.2.	Traffic Data	6
2.3. 2.3.1.	Existing Active Travel Network and Condition Active Travel Audit – January 2023	7 7
3.	Target Design	11
3.1.	Active Travel Overview	11
3.2.	Design Hierarchy	11
3.3.	Design Speed	12
3.4.2. 3.4.3. 3.4.4. 3.4.5. 3.4.6. 3.4.7. 3.4.8.	Key Dimensions Carriageway Segregated Track Shared Use Path Quiet Streets & On Carriageway Cycling Footways Stopping Sight Distance Pedestrian Crossing Visibility Cyclist Stopping Sight Distance/Visibility Requirements Visibility Splays	12 12 12 13 13 14 14 14
4.	Feasibility Design	16
4.1.	Initial Active Travel Section Recommendations	17
5 .	Possible Improvements and Constraints	19
	Section 1 – Texaco Garage to TRA487 / B4337 Junction along TRA487 Overview Summary	20 20 21
	Section 2 – TRA487 / B4337 Junction to Ysgol Gynradd Wirfoddol Myfenydd along TRA487 Overview Summary	25 25 27
5.3. 5.3.1. 5.3.2.	Section 3 – TRA487 / B4335 Junction towards Golf Club along B4337 Overview Summary	29 29 30
	Section 4 – TRA487 to B4227 via Third Party Land Overview Summary	34 3 <i>4</i> 35
5.5. 5.5.1. 5.5.2.	Section 5 – B4337 to Ysgol Gynradd Wirfoddol Myfenydd Overview Summary	37 37 38
6.	Recommendation Summary	41
7.	Conclusion and Next Steps	43
7.1.	Summary	43
7.2. 7.2.1.	Next Steps Consultation method	43 <i>44</i>

7.2.2.	Website	44
7.2.3.	Media	44
7.2.4.	Management of Issues Rising from Liaison	44
7.3.	Indicative Scheme Programme, Risks and Assumptions	44
7.3.1.	Programme	45
7.3.2.	Project Risks	46
7.3.3.	Land Ownership	46
7.3.4.	Planning	46
7.3.5.	Ecological Considerations	46
7.3.6.	Tender	46
7.3.7.	Construction	46

1. Introduction

Atkins has been commissioned by Cyngor Sir Ceredigion County Council (CSCCC) in 2023, to undertake a Feasibility stage assessment and explore options to provide a continuous Active Travel link through Llanrhystud, Ceredigion. The ultimate goal of this assessment is to 'Seek to identify opportunities to improve Active Travel provision through Llanrhystud to enhance safety for school trips and influence modal shift away from private car travel'.

The extents of the assessment are between the existing Texaco petrol station and Ysgol Wirfoddol Myfenydd as shown in Figure 1-1. Section 2 of this Technical Note provides an assessment of existing conditions with sections 3 and 4 providing a set of potential options to improve Active Travel provision. Active Travel (Wales) Act Guidance 2021 (ATAG)¹ has been used as the primary source of guidance to inform the options being considered.

1.1. Scheme Location

Llanrhystud (National Grid Reference Approx. 253904, 269614) is an old coastal village located in Ceredigion on the TRA487, on the Western coastline of Wales. The extents of the scheme are located between the approximate National Grid References of 253521, 269342 and 254174, 269834. Figure 1-1 below refers.

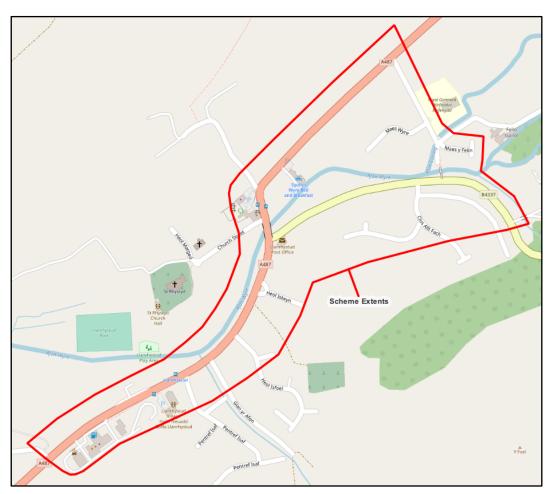


Figure 1-1 - Study Area and Scheme Extents

¹ Active Travel (Wales) Act Guidance 2021

2. Existing Conditions

2.1. Existing Highway Network

The existing highway network through Llanrhystud between the Llanrhystud Petrol Station and Ysgol Gynradd Wirfoddol Myfenydd can be broken down into three elements: the Trunk Road (TRA487), County B-Road (B4337), and a minor un-named housing estate / county road facility. Figure 2-1 below refers for context.

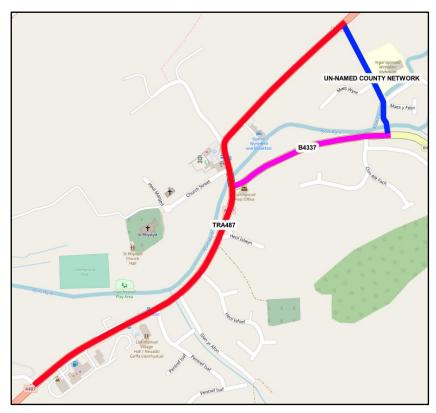


Figure 2-1 – Existing Highway Network

Further detail as to the existing widths, existing / current posted speed limits, and any additional comments / notes can be found below in Table 2-1.

Table 2-1 - Carriageway Properties

Road name	Maintaining Authority	Typical Width (m)	Narrowest Width (m)	Posted Speed Limit (mph)	Additional Comments
TRA487	NMWTRA	7.6m	6.2m	30mph	2 No. existing pedestrian crossing islands
B4337	CSCCC	6.4m	5.7m	*30mph	Significant anticipated boundary/capacity constraints between existing properties
Un-Named County Network		5.3m	4.8m	*30mph	Housing Estate network connecting the Trunk Road and B4337 to the school and properties

^{*}Based on the information available within this review, it is assumed that the B4337 and the un-named country road will have their speed limit reduced to 20mph. This is in line with the Welsh Government's 20mph rollout strategy which will start being implemented across the country from the 17th of September 2023.

2.2. Traffic Data

Traffic Data from two historic traffic surveys were provided by CSCCC for 3 No. locations. The approximate location of these surveys can be found in Figure 2-2 below.



Figure 2-2 – Traffic Survey Locations

The results of the three surveys that were undertaken can be found in Appendix A, and a summary of the results can be found below in Table 2-2.

Table 2-2 - Traffic Survey Results

Ref	Location (National Grid Reference)	Speed of Road at Time of Survey	Speed (85 th Percentile)	Calculated Average Daily Traffic Flows	Peak Hourly Flow (% Total Daily)
SS455	A487 (253491,269315)	40mph*	44mph	6390	555 (9%)
1	B4337 (254177,269776)	30mph	25mph	2786	282 (9%)
2	Outside School (254129,269927)	20mph	25mph	400	100 (16%)

^{*}Assumed 40mph at time of traffic survey, prior to works undertaken by NWMTRA and local authority to widen footways and change speed limit to 30mph.

2.3. Existing Active Travel Network and Condition

As part of this Feasibility Assessment, an audit of existing conditions for Active Travel users was undertaken using Active Travel Act Guidance (ATAG) route assessment tools². These Active Travel audits were undertaken roughly in line with the anticipated route of any feasibility proposals, and a breakdown / high level map of the route and sub-sections audited (Routes 1.1, 1.2, and 1.3) can be seen in Figure 2-3 below.

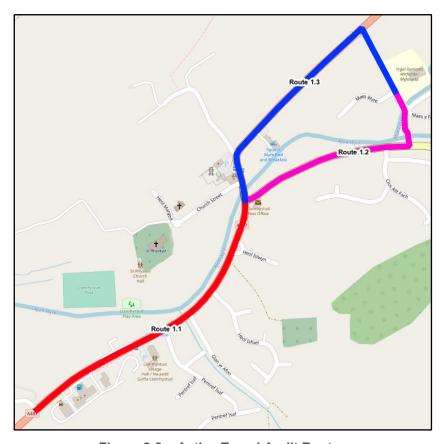


Figure 2-3 – Active Travel Audit Routes

2.3.1. Active Travel Audit – January 2023

The full Audit documents can be seen in Appendix B. A summary of the findings from the Active Travel Audit can be seen in the Table 2-3 and Table 2-4 over the next three pages.

² Active Travel Act guidance: walking and cycling route audit tools (appendix H) | GOV.WALES



Table 2-3 – Walking Audit Summary

Route Section	Attractiveness	Comfort	Directness	Safety	Cohesion	General Comments
1.1	Route is generally well overlooked with frequent lighting. No evidence of littering of overgrown vegetation. Evidence of general disrepair on A478 southern footway. Traffic noise and pollution not off putting.	Footways generally between 1.5 - 2m with occasional minor defects and parking on footway. Some crossings were below 1.5m, while 2m crossings were also observed. No slopes observed along route.	Route contains numerous uncontrolled crossings which generally reflect anticipated desire lines. Route is direct with good access to bus shelters. Sufficient gaps in traffic to cross road using uncontrolled crossings.	Traffic volume is moderate with the footway having sufficient width for pedestrians to keep their distance. Speeds are currently high which causes risks due to footway parking.	Dropped kerbs and tactile provided however not to current standard. No route signage present.	The existing provisions scored a failing 58% which included a critical failure. With the suggested amendments the route scored 97%. The critical failure was for dropped kerbs and tactile paving being absent along the route.
1.2	Footways are generally well maintained, however are absent from the Black Lion pub until the junction leading to the school. Route is generally well overlooked, and traffic noise and pollution was not observed to be off putting.	The lack of footway in some sections leads to pedestrian comfort being significantly impacted. Some crossings are present however they are below 1.5m in width.	No footways present for significant sections along the route. Lack of crossing point along route to bus stop. Crossing widths and proximity to junctions make it difficult to cross without provisions.	The lack of footway means pedestrians are unable to keep their distance from traffic.	Tactile paving missing at crossing along stretch of unnamed road from junction with A487 towards school. No route signage present.	The existing provisions scored a failing 19% which included a critical failure. With the suggested amendments the route scored 94%. The critical failure was for dropped kerbs and tactile paving being absent along the route.



1.3	Route is generally well overlooked, however the section over the river is isolated with a lack of lighting. Footway is poorly maintained at the start of the section, with a lack of maintenance also noted along the bridge from a build-up of leaves etc. Unclear whether pavement is intended to be a public footway or act as a separation from the carriageway.	Unclear whether pavement is intended to be a public footway or act as a separation from the carriageway. High likelihood of trips and falls, with particular difficultly for prams and wheelchairs etc. Footways generally less than 2m with them absent for some sections. Varying pavement surfacing with some noticeably slippery and narrow with obstacles that detract from pedestrian comfort.	Where crossings are present, they follow desire lines. Some instances of a lack of crossing provisions which could cause issues for pedestrians. One instance of incorrectly placed tactile which could cause confusion for pedestrians.	Lack of footway provisions for some sections means pedestrians are unable to keep their distance from traffic. Limited visibility at the bridge, which could lower users perceived safety.	Some provided tactile are incorrect with others missing in places such as the crossing opposite the school. No route signage present.	The existing provisions scored a failing 21% which included a critical failure. With the suggested amendments the route scored 82%. The critical failure was for dropped kerbs and tactile paving being absent along the route.
-----	--	---	--	---	--	---

Table 2-4 – Cycling Audit Summary

Route Section	Attractiveness	Comfort	Directness	Safety	Cohesion	General Comments
1.1	Route is well lit and generally well overlooked throughout. Pedestrian comfort not impacted due to cycling on carriageway. No route signage or cycle parking provided.	Machine laid surface in relatively good condition. No route signage or dedicated cycling provision along the section.	The route was not steeper than 2% and had a low deviation factor and low amount of give ways for cyclists. Some lane widths which may affect cyclists' ability to pass slow moving traffic.	Movements aren't separated at junctions, along with no dedicated cycling provisions or markings. Potential lack of evasion room as carriageway is within critical range. 85% percentile speed appears to be above 30mph on sections of shared carriageway.	The route features no dedicated cycling provisions along this section. This route is the only one on the network.	The existing provisions scored a failing 46% which included 2 critical fails. With the suggested amendments the route scored 91%. The critical fails within the existing situation are for the risk of collision and the risk from kerbside activity.



1.2	Majority of the route is unlit however is generally well overlooked throughout. Pedestrian comfort not impacted due to cycling on carriageway. No route signage or cycle parking provided.	Machine laid surface in relatively good condition. No route signage or dedicated cycling provision along the section.	No give ways for cyclists along the route. Gradient is not steeper than the recommended guidance. Some lane widths which may affect cyclists' ability to pass slow moving traffic.	Movements aren't separated at junctions, along with no dedicated cycling provisions or markings. Potential lack of evasion room as carriageway is within critical range. 85% percentile speed appears to be above 30mph on sections of shared carriageway.	The route features no dedicated cycling provisions along this section. This route is the only one on the network.	The existing provisions scored a failing 37% which included 2 critical fails. With the suggested amendments the route scored 87%. The critical fails within the existing situation are for the risk of collision and the risk from kerbside activity.
1.3	Majority of the route is unlit however is generally well overlooked throughout. Pedestrian comfort could be impacted by cyclists across the bridge due to the narrow 1.5m width. No route signage or cycle parking provided.	Machine laid surface in relatively good condition with occasional minor defects. No route signage or dedicated cycling provision along the section.	Cyclists assumed to have a similar delay to motor vehicles. Cyclists legally required to dismount along the bridge. Ramps steeper than recommended gradients.	Cyclists share carriageway in sections which appear within the critical range. Cyclist movements aren't separated at junctions. Bollards present at the bridge section towards the school.	The route features no dedicated cycling provisions along this section. Additionally, cyclists need to dismount at the bridge. This route is the only one on the network.	The existing provisions scored a failing 35% which included 2 critical fails. With the suggested amendments the route scored 83%. The critical fails within the existing situation are for the risk of collision and the risk from kerbside activity.

3. Target Design

3.1. Active Travel Overview

The Active Travel (Wales) Act 2013 was commissioned by Welsh Government and seeks to enable more people to walk, cycle and generally travel by more active methods. The Active Travel document is statutory guidance and was published by the Welsh Government under powers granted to Welsh Ministers under the Active Travel (Wales) Act 2013.

The aim is to make Active Travel the most attractive option for shorter journeys. Active travel means walking and cycling as an alternative to motorised transport for the purpose of making every day journeys. Enabling more people to undertake Active Travel will mean more people can enjoy the health benefits of Active Travel, help reduce greenhouse gas emissions, tackle poverty and help the economy to grow.

The design guidance outlines to Local Authorities the best practice for infrastructure design, including innovative techniques, and gives guidance on how best to provide vital related facilities. It also sets out how improving conditions for walking and cycling should be integrated into general duties of authorities when planning, designing and maintaining highways.

The following section of this report will outline the design standards required to satisfy Active Travel (Wales) Act 2013 (hereby referred to simply as Active Travel) referring to the latest guidance revised in 2021, helping to form a basis of design for which the existing provisions can be assessed.

The below section also includes typical details from the following design standards; Manual for Streets (MfS) and Design Manual for Roads and Bridges (DMRB – Trunk Road).

3.2. Design Hierarchy

For the purpose of designing a safe and appropriate provision for Active Travel, a hierarchy of suitable options has been established, from most to least preferable in accordance with the Active Travel design guidance.

This hierarchy is as follows:

- 1. **Segregated Cycle and Pedestrian Facilities** Separate provision for cyclists and pedestrians is the highest level of provision as this will enable pedestrians to use footways with more confidence and enable cyclists to maintain their desired speed. This design can also be more beneficial for spaces where there are a large number of vulnerable pedestrians.
- 2. **Shared Use Path (SUP)** A shared facility for pedestrians and cyclists is still preferable to cyclists sharing the carriageway with general traffic. Where space is more constrained, shared use facilities allow more flexible use for different types of users such as families, and sometimes for disabled users who require a larger footway. It also allows a more useful way of accommodating different movements, for example at crossings.
- 3. **Quiet Streets** This option provides a marked space for cyclists in the general lane of traffic and is achievable where traffic flows and speeds are low. Considered to be the preferable option when a SUP facility is unachievable due to width constraints but the relevant 'quiet streets' criteria is met.
- 4. **Footway** This is considered to be the least favourable option as it will limit connectivity for cyclists and require them to share general lanes of traffic. This will only be considered when the provision of a cycle facility is unachievable due to width or gradient constraints.

3.3. Design Speed

Table 3-1 - Design Speed

Design Element	Speed Limit	Design Speed	Derivation
Link	48kph (30mph)	60kph	DMRB CD109 (Table 2.5) MfS (Table 7.1)
	32kph (20mph)	-	MfS (Table 7.1)

3.4. Key Dimensions

3.4.1. Carriageway

The carriageway dimensions will be determined as the preliminary design progresses. Our initial proposal will be to provide the following width.

Table 3-2 - Proposed Carriageway Widths

Design Element	Road Type	Carriageway	Derivation
Link	S2 – Trunk Road (existing)	7.3m Minimum Two Way Full Carriageway Width	DMRB CD109 (Table 2.3)
	S2 – Trunk Road/County Road	6m Minimum Two Way Full Carriageway Width	DMRB CD109 (Table 2.3)
	-	5.5m Two Way Full Carriageway Width (Two HGV's to pass)	Manual for Streets (Figure 7.1)
	-	4.8m Two Way Full Carriageway Width (One HGV and car to pass)	Manual for Streets (Figure 7.1)

3.4.2. Segregated Track

The segregated track dimensions will be determined as the preliminary design progresses. Our initial proposal will be to provide the following dimensions.

Table 3-3 - Proposed Segregated Track Dimensions

Design Element	Parameter	Derivation
Width	2m width for Pedestrian Track 2.5m width for Cycle Track 0.5m additional Cycle Track width when bounded by vertical features above 600mm high 0.25m additional Cycle Track width when bounded by vertical features between 150-600mm high	Active Travel (DE313)
Separation Strip	0.5m separation strip for Speed Limit of 30mph or less	Active Travel (DE313)
Headroom	2.7m headroom minimum 2.4m for length less than 23m 2.3m for instantaneous obstructions such as signs	Active Travel (Para 9.12.1)

Crossfall	2.5% desirable crossfall3.3% desirable maximum crossfall10% absolute maximum at crossings	Active Travel (Para 9.7.4)	
Gradient	*5% desirable maximum longitudinal gradient *8% absolute maximum longitudinal gradient	Active Travel (Para 9.7.2)	

^{*}Wherever practicable desirable maximum values for longitudinal gradients of links should not be exceeded.

3.4.3. Shared Use Path

The SUP dimensions will be determined as the preliminary design progresses. Our initial proposal will be to provide the following dimensions.

Table 3-4 – Proposed Shared Use Path Dimensions

Design Element	Parameter	Derivation
Width	3.0m width for Primary Cycle Route	Active Travel (DE401)
	2.5m width for Secondary Cycle Route	
	0.25m additional width when bounded by vertical features between 150-600mm high	
	0.5m additional width when bounded by vertical features above 600mm high	
Separation Strip	0.5m separation strip for Speed Limit of 30mph or less	Active Travel (DE401)
Headroom	2.7m headroom minimum	Active Travel (Para 9.12.1)
	2.4m for length less than 23m	
	2.3m for instantaneous obstructions such as signs	
Crossfall	2.5% desirable crossfall	Active Travel (Para 9.7.4)
	3.3% desirable maximum crossfall	
	10% absolute maximum at crossings	
Gradient	*5% desirable maximum longitudinal gradient *8% absolute maximum longitudinal gradient	Active Travel (Para 9.7.2)
	o / o and o find a find	

^{*}Wherever practicable desirable maximum values for longitudinal gradients of links should not be exceeded.

3.4.4. Quiet Streets & On Carriageway Cycling

Based on the Active Travel design element DE205, Quiet Streets are urban cycling routes on low traffic speed and volume back streets. Quiet Streets are introduced preferably where AADT is no greater than 2500 on Primary cycle routes or 5000 on Secondary cycle routes. Traffic speeds should be no greater than 20mph.

3.4.5. Footways

The footway dimensions will be determined as the preliminary design progresses. Our initial proposal will be to provide the following dimensions.

Table 3-5 – Proposed Footway Dimensions

Design Element	Parameter	Derivation
Width	2m desirable width	Active Travel (Para 9.6.2)
	1.5m width where constraints are present	Active Travel (DE101)
	1.2m absolute minimum width at immovable objects	

Separation Strip	Desirable to include 0.5m separation strip if footway is adjacent to 40mph or faster road, or road features HGV AADT >1500	Active Travel (DE101)
Additional Width	Desirable to include 0.5m additional width if footway is bounded by vertical features	Active Travel (DE101)

3.4.6. Stopping Sight Distance

Table 3-6 – Stopping Sight Distance

Design Element	Parameter	Derivation
Visibility	43m for a 30mph speed limit (adjusted for bonnet length) 25m for a 20mph speed limit (adjusted for bonnet length)	Manual for Streets (Table 7.1)

3.4.7. Pedestrian Crossing Visibility

Table 3-7 – Pedestrian Crossing Visibility

Design Element	Parameter	Speed	Distance	Derivation
Visibility (Crossing)	*'X' Distance	N/A	1.5m absolute minimum 2.0m desirable minimum	CD143 E/5.2

^{*}The 'X' distance has been sought from the DMRB CD143 England NAA table E/5.2 as no guidance was provided within Wales NAA or in Active Travel for Pedestrian 'x' distances.

3.4.8. Cyclist Stopping Sight Distance/Visibility Requirements

Table 3-8 – Cyclist Stopping Sight Distance Requirements

Design Element	Parameter	Cyclist Speed	Distance	Derivation
Cyclist SSD	'Y' Distance	40kph design speed	47m	Active Travel (Table 9.5)
(Crossing)		30kph design speed	31m	
		20kph design speed	17m	

3.4.9. Visibility Splays

Table 3-9 – Visibility Splays

Design Element	Visibility Splays			Derivation
	X - Distance	Y - Distance	Design Speed	
Junctions	4.5m (2m minimum)	215m	100kph (60mph)	DMRB CD123 (Para 3.6, 3.7, 3.8) DMRB CD109 (Table 2.10)
	2.4m (2m relaxation)	43m (Adjusted for bonnet length)	30mph	Manual for Streets) (Table 7.1) Manual for Streets 2 (Para 10.5.6, 10.5.8)

Where a direct access crosses a footway, the following visibility splay should be provided to the back of the footway.

Table 3-10 – Visibility Splays where Direct Access Crosses Footway

Design		Visibility Splays		Derivation
Eler	ment	X - Distance	Y - Distance	
June	ctions	2m	2m	DMRB CD123 (Figure 3.3)

4. Feasibility Design

In order to provide an enhanced and safe Active Travel provision through Llanrhystud, the route between the Texaco Garage and Ysgol Gynradd Wirfoddol Myfenydd has been split into five different sections, Figure 4-1 refers. The five sections were reviewed individually and holistically to directly enhance the Active Travel provisions through utilisation of new / existing facilities. These sections are detailed as follows:

- Section 1; Texaco Garage to TRA487/B4337 Junction along TRA487;
- Section 2; TRA487/B4337 Junction to Ysgol Gynradd Wirfoddol Myfenydd along TRA487;
 - Section 2A; Potential formalisation of the private lane tie-ins onto Trunk / County Road network. Enhance community to the eastern bus stop, Black Lion Pub, and across the A487 bridge linking into Sections 1 and 3. Other possible interventions include improved links from Church Street, improved Trunk Road crossings, and localised footway improvements.
- Section 3; TRA487/B4337 Junction to Ystrad Teilo Farm access along the B4337;
- Section 4; TRA487 to B4337 via Third Party Land; and
- Section 5; B4337 to Ysgol Gynradd Wirfoddol Myfenydd.

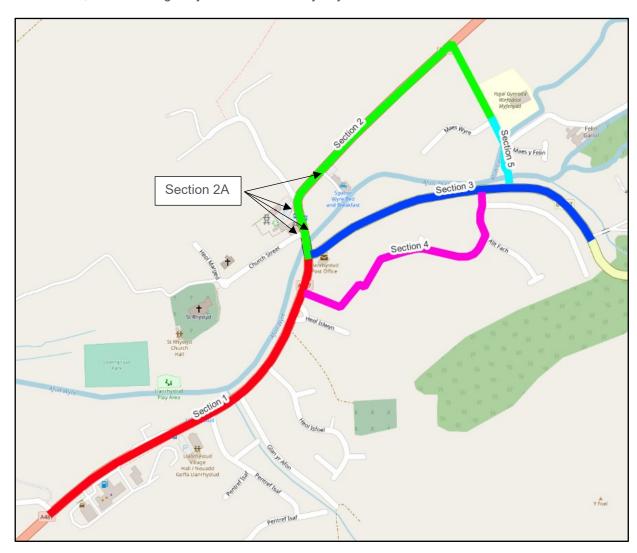


Figure 4-1 - Active Travel Route Options

4.1. Initial Active Travel Section Recommendations

As an initial exercise, the available Active Travel provisions and improvements were reviewed for each section, to provide a cohesive set of high level options which could be developed further. Table 4-1 sets out the available considered options for each Section of the study area.

Following a review of the initial Active Travel Route Options and liaison with CSCCC, the scheme extents were split into five separate sections 1 to 5, and a sub-section 2A. For each of the main sections, a number of options have been considered that align with the Active Travel Hierarchy, with the aim of improving the current Active Travel provision through Llanrhystud. These options have been developed to provide an array of potential improvements to take forward to public engagement. Due to the varying nature of the site constraints along the study area, there is some variation in the proposed provision within each of the options which are summarised in the following sections. It should be noted that this project is in its initial phases and as such different options from each of the sections could be combined to have the greatest benefit for the residents of Llanrhystud, the exact provision will be confirmed through the course of stakeholder engagement and Detailed Design.

Table 4-1 – Route Options Considered for Each Section

Section	Options Considered	
1	Option 1: Separated Pedestrian and Cycle Track to DE313. *Option 2: Mandatory Cycle Lanes to DE303, with footway to DE101. Option 3: Shared Use Path to DE401. Option 4: Footway to DE101 South. Option 5: Footway to DE101 North (as existing with minor kerb alignment and crossing improvements on the Southern side).	
2	**Option 1: Separated pedestrian and cycle track to DE313. *Option 2: Mandatory cycle lanes to DE303 with footway to DE101. **Option 3: Shared use path to DE401. Option 4: Footway to DE101. †Option 5: Partial improvement of route, utilising Section 2A.	
3	Option 1: Shared use path to DE401. Signalisation of western extent of B4337 would be required to accommodate this option. *Option 2: Signalised priority system for traffic along B4337, provision of cycle bypass to DE203 in combination with advisory cycle lane to DE314 and footway to DE101. Option 3: Segregated contra-flow cycle lane to DE301 for westbound section of route (cyclists to take priority in carriageway heading eastbound). This option would require a new bridge over Afon Carrog to accommodate vehicles. Footway to DE101. *Option 4: Cycle Street arrangement utilising advisory cycle lane to DE304. Option 5: Footway to DE101. Cycling to be on carriageway, signalisation of the western extent of the B4337 could be considered to separate cyclists in time from motor traffic, reduce vehicle speeds and risk to cyclists from overtaking vehicles. 5a) Land boundary front of gully circa 100m length narrowing (signalisation) 5b) Land boundary rear of gully circa 60m length of narrowing (signalisation) 5c) 0.1m to 0.6m land take, no signalisation, Active Travel and Manual for Streets compliant	
4	thoption 1: Separated pedestrian and cycle track to DE313. Option 2: Shared Use Path to DE401 / 403. Option 3: Footway / footpath to DE101 / 102.	
5	Option 1: New road bridge and Active Travel connection to the school to facilitate vehicle and Active Travel traffic to connect to the school. New bridge to DMRB and Active Travel standards to be suitable for Active Travel use (pedestrians and cyclists). Option 2: New bridge / widening of existing bridge and Active Travel connection, to facilitate Active Travel traffic to connect to the school. New bridge to Active Travel standards to be suitable for Active Travel use (pedestrians and cyclists).	

Option 3: Existing bridge to remain with Active Travel improvements to connect to the school. Existing bridge sub-standard for Active Travel use (pedestrians and cyclists).

The aforementioned sections and options have been set out in Figure 4-2 below, with associated diagrams providing an indication of the proposed Active Travel provision along the route. The full drawing can be found within Appendix C.

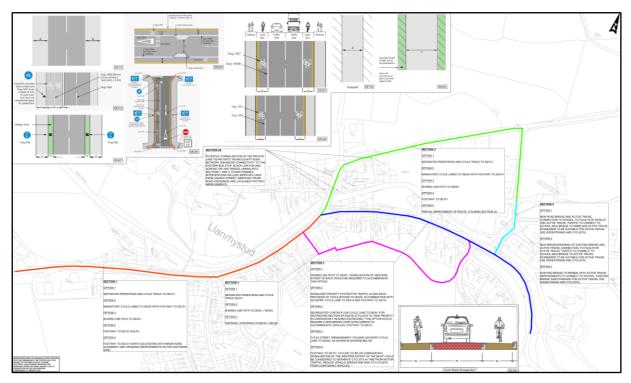


Figure 4-2 - Active Travel Design Options

^{*} Not progressed further to feasibility design due to AADT and space requirements.

^{**} Not progressed further to feasibility design due to space requirements.

[†] Not progressed further to feasibility design at this stage owing to it being entirely within third party land ownership but shown indicatively for context.

^{††} Not progressed further to feasibility design due to space requirements and anticipated traffic volumes.

5. Possible Improvements and Constraints

Following the assessment of the existing site conditions and high level options discussed within the previous sections, consideration will now be given to a more detailed analysis of the proposed Active Travel improvements for both pedestrians and cyclists. This assessment will take in to account the existing site constraints associated with each of the route sections, with possible improvement options considered in line with the previously outlined Design Hierarchy. The following details will be provided for each section:

- Map Overview;
- Constraints;
- Opportunities;
- Landowner Information (where available); and
- Indicative Costings.

Each of the potential options will be assessed on an individual basis before determining an overall risk score in the form of a RAG (Red, Amber, Green) assessment. The RAG assessment will be based on a qualitative assessment of the constraints and opportunities associated with each option, examined with consideration to the following criteria:

- Indicative Costings;
- · Site Constraints/Opportunities; and
- Land Ownership;
- Likelihood of achieving subsequent Detailed Design and Construction funding based on latest funding criteria.

The quoted costs are provided as a high-level budgetary cost estimate. An optimism bias of 44% has been applied to all options in accordance with the HM Treasury Supplementary Green Book Guidance. It is the intention of the designer that the optimism bias for the option that is taken forward is to reduce with time as the project moves through each project phase, and as such it is not anticipated that the full 44% will be realised at this time. Note, the costs identified in this report are current for works being undertaken in 2023 and do not allow for future inflation or similar.

The costs provided are also based on the following assumptions:

- Preliminaries (15%);
- Traffic Management (15%);
- Construction Risk (12.5%);
- Design Costs (10% of total construction cost for Sections 1 to 4, 16.5% of total construction cost for Section 5 due to the complexities of the bridge structure requiring additional work / investigations);
- NEC Site Supervision (7.5% of total construction cost);
- NEC Project Management (7.5% of total construction cost); and
- Optimism Bias (44% of total construction, design and supervision/project management costs).

It should be noted that these do not include third party costs such as land acquisition or any required statutory diversions, which will be determined at the Detailed Design stage of the preferred option.

The section costings have been prepared for the initial concept designs and are subject to design changes. The section costings have been prepared without site specific information. Once a preferred section has been agreed upon, these additional costs can be investigated further to provide a more detailed estimate.

The Feasibility stage design options drawings can be found for reference in Appendix D.

5.1. Section 1 – Texaco Garage to TRA487 / B4337 Junction along TRA487

5.1.1. Overview

Section 1 is approximately 560m in length, and runs from the Texaco garage at the south-western extent of Llanrhystud along the TRA487 to the B4337 junction. Throughout this section the existing carriageway widths are between 6m and 9m with an existing footway on both sides of typical width between 1.6m and 2.7m.

Utilising the AtkinsGO GIS mapping system, a digital desk study tool capable of exploring open dataset information, it was identified that that there is a Grade II listed building opposite the Village Hall, Figure 5-1 refers.

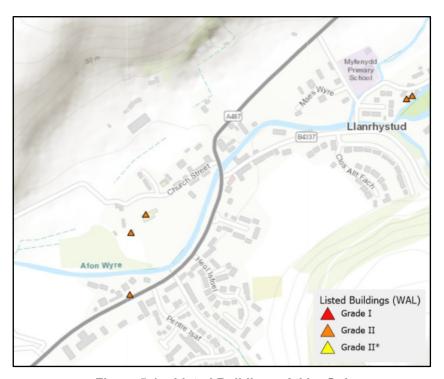


Figure 5-1 – Listed Buildings, AtkinsGo!

For all options considered through this section, there are a number of existing utility chambers / covers in numerous locations throughout the proposed facilities that would need to be brought up to level of any new / improved Active Travel link.

There is minimal vegetation either side of the carriageway through this section, suggesting that there would be no / minimal requirement for vegetation removal and subsequent impact on habitat.

To aid in the improvement of Active Travel facilities within this section, the proposed options consider providing an array of facilities including; Separated Pedestrian and Cycle Track, Shared Use Path or improved Footway. These options are further explored in the Summary Table below. Different levels of land acquisition may be necessary to aid in the provision of some of the below listed options.



5.1.2. Summary

Section 1 Texaco Garage to TRA487 / B4337 Junction along TRA487 Section is bounded by residential and commercial properties on either side of the highway boundary. Section is located along the main TRA487 carriageway through Llanrhystud, which would have an effect on traffic during the construction stage. **Landowner Information** Liaison and agreement with NMWTRA and Welsh Government essential. Section Multiple residential landowners adjacent **Constraints** Limited existing highway cross-section is some areas when considering Options 1 and 3. Texaco garage at the south-western extent which will need consistent access during construction stage. Existing uncontrolled crossing islands, potentially limiting options for Active Travel improvements without removal due to constrained existing carriageway widths.



Section Opportunities	 Potential to review and improve existing wide junction widths and unofficial parking behaviour which currently restricts Active Travel movements. Potential to increase cycling in the area with dedicated provisions. Provide Active Travel users with a dedicated Active Travel route along their anticipated desire line. Reduce conflict between different user groups. Increasing perceived safety and attractiveness of active modes of travel in the local area in areas with dedicated provisions. Improved traffic flow for motor vehicles in sections where cycling is taken off carriageway. 					
Option No.	Description Option Specific Constraints Option Specific Opportunities			Project Mai	nagement	Overall Risk (RAG)
	Proposed separated cycle and pedestrian track (3.0m cycle track with 0.5m buffer and min. 2.0m footway). To be achieved through realigning northern kerb of existing carriageway and widening footway.	Limited cross-section in some areas (specifically adjacent to the existing Texaco garage), leading to a level of land acquisition being necessary.	Provides the most opportunity in terms of Active Travel users (pedestrians and cyclists). In line with the Active Travel Design Hierarchy – most	TOTAL CONSTRUCTION COST	£997,967.12	
1	Land acquisition to be confirmed at Detailed Design stage through exact confirmation of existing ownership boundaries and liaison with relevant landowners. Proposed cyclist and pedestrian connection to Llanrhystud to be reviewed at the Detailed Design	Significant highway realignment would be necessary in certain areas.	preferred option within the Hierarchy. Easier to provide one continuous Active Travel link when later considering different Sections to implement.	DESIGN FEE (10%)	£143,707.26	RED
,	Stage. Existing parking arrangement to be reviewed and exact arrangement to be confirmed at the Detailed Design stage.			SITE SUPERVISION (7.5%)	£107,780.45	INED
	Exact arrangement outside shop / post office including level differences to be confirmed at the Detailed Design stage and will be dependent on the adjacent preferred option developed further to the Detailed Design.			NEC PROJECT MANAGEMENT (7.5%)	£107,780.45	



				TOTAL COST	£1,357,235.28	
	typically more than 3.0m wide with a 0.5m buffer. To be achieved through widening of the existing footway in to the existing carriageway or footway	Highway realignment would be necessary in certain areas. Larger costs in comparison to Options 4 and 5 due to need of	Provides an Active Travel facility for both pedestrians and cyclists without the need for land acquisition.	TOTAL CONSTRUCTION COST	£654,187.86	
	(where present) or narrowing of the existing carriageway. Proposed cyclist and pedestrian connection to Llanrhystud to be reviewed at the Detailed Design	highway realignment.	Requires less of a width to facilitate in comparison to Option 1. Easier to provide one continuous Active Travel link when later considering different sections to implement.	DESIGN FEE (10%)	£94,203.05	
3	Stage. Existing parking arrangement to be reviewed and exact arrangement to be confirmed at the Detailed Design stage.			SITE SUPERVISION (7.5%)	£70,652.29	AMBER
	Exact arrangement outside shop / post office including level differences to be confirmed at the Detailed Design stage and will be dependent on the adjacent preferred option developed further to the Detailed Design.			NEC PROJECT MANAGEMENT (7.5%)	£70,652.29	
				TOTAL COST	£889,695.49	
	provide a minimum width of 2.0m. To be achieved Active Travel facility – cyclists through widening in to existing carriageway or would utilise existing carriageway	Only provides pedestrians with an Active Travel facility – cyclists would utilise existing carriageway (not ideal considering AADT/traffic	Smaller cross-section required compared to Options 1 and 3. Easier to provide one continuous	TOTAL CONSTRUCTION COST	£595,500.66	
which requires the through this section Existing parking an exact arrangement Design stage.	Provides a continual link in the form of a footway which requires the formalisation of all junctions through this section.	flows and speeds).	Active Travel link when later considering different sections to implement.	DESIGN FEE (10%)	£85,752.10	
				SITE SUPERVISION (7.5%)	£64,314.07	AMBER
	Exact arrangement outside shop / post office including level differences to be confirmed at the Detailed Design stage and will be dependent on the			NEC PROJECT MANAGEMENT (7.5%)	£64,314.07	



	adjacent preferred option developed further to the Detailed Design.			TOTAL COST	£809,880.90	
	Proposed widening of existing footway south to provide a minimum width of 2.0m. To be achieved through widening in to existing carriageway or verge.	Active Travel facility – cyclists would utilise existing carriageway (not ideal considering AADT/traffic	Smaller cross-section required compared to options 1 and 3. Only requires a widening of the	TOTAL CONSTRUCTION COST	£179,529.48	
Existing parking arrangement to be reviewed and exact arrangement to be confirmed at the Detailed Design stage.	existing footway.	DESIGN FEE (10%)	£25,852.25			
5	Exact arrangement outside shon / nost office		SITE SUPERVISION (7.5%)	£19,389.18	GREEN	
			NEC PROJECT MANAGEMENT (7.5%)	£19,389.18		
				TOTAL COST	£244,160.09	

5.2. Section 2 – TRA487 / B4337 Junction to Ysgol Gynradd Wirfoddol Myfenydd along TRA487

5.2.1. Overview

Section 2 is approximately 500m in length and runs from the junction of TRA487/B4337 at the western extent of this section and continues north along the TRA487 to the junction with the un-named county road, where it then heads south towards Ysgol Gynradd Wirfoddol Myfenydd. Along the TRA487 through this section the existing carriageway widths typically range between 6m and 6.8m. Within the western extents of this section, there are existing footways on both sides of the TRA487 with a typical width between 1m and 2m.

For the majority (approximately 310m) of the section along the TRA487, there are no existing footway provisions on either sides of the carriageway, except for small sections across the bridge and adjacent to the Black Lion pub. The remainder of the link along the TRA487 contains no existing footway on either side of the carriageway. Along the un-named county road, the existing carriageway widths typically range between 4.8m and 5.3m, with an existing footway on the western side of a typical width ranging between 1m to 1.6m.

Utilising AtkinsGo it was found that a small area of this section is located within a conservation area, Figure 5-2 refers.

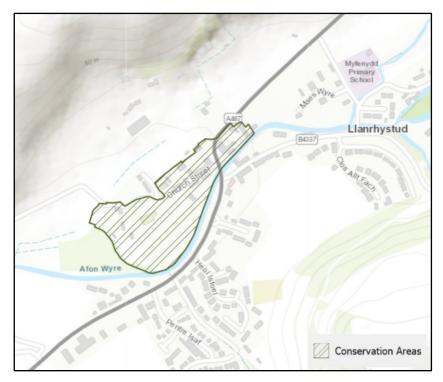


Figure 5-2 - Conservation Areas, AtkinsGo!

Through this section there are a number of existing utility chambers / covers that would need to be brought up to level of any new / improved Active Travel link.

There is a small amount of vegetation on the proposed side of the carriageway through this section, suggesting that there would be some requirement for vegetation removal and hence some impact on habitat.

To aid in the improvement of Active Travel facilities within this section, it is proposed that the existing footway is widened to provide a minimum width of 2.0m. These options are explored further in the Summary Table below. Different levels of land acquisition may be necessary to aid in the provision of some of the below listed options.

5.2.1.1. Section 2A

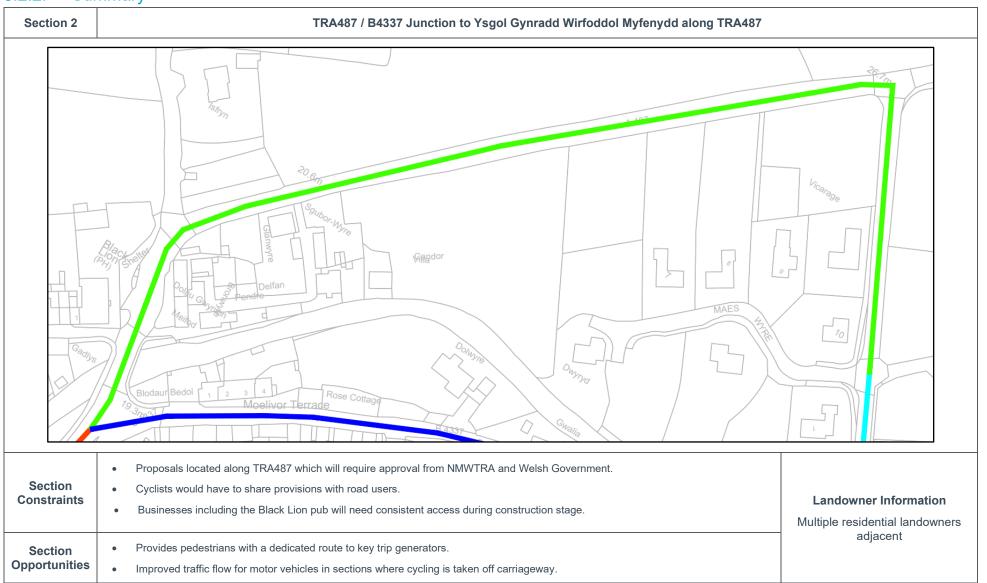
Whilst Section 2 is being considered as a whole as part of this technical note, should none of these options be taken forward to detailed design it is recommended that Section 2A as described below be considered, to improve connectivity across the river bridge and improve existing sub-standard Active Travel arrangements.

Potential improvements for Section 2A include formalisation of the private lane tie-ins onto Trunk / County Road network. Enhance community to the eastern bus stop, Black Lion Pub, and across the TRA487 bridge linking into Sections 1 and 3. Other possible interventions include improved links from Church Street, improved Trunk Road crossings, and localised footway improvements.

Whilst the above will not provide a full link to the school, it will provide an improvement on the existing non-Active Travel compliant provision as well as improved connectivity across the river. No feasibility designs have been developed at this stage, and therefore no cost estimate is available. It is anticipated, however, that this section would utilise a number of the suggested high level improvements seen within the drawings for Option 4 of Section 2 below for the Black Lion pub area.



5.2.2. Summary





	 Improved pedestrian comfort and perceived safety due to one-way traffic along the B4337. Providing more attractive and continuous route to key trip generators in the local area. 					
Option No.	Description	Option Specific Constraints	Option Specific Opportunities	Budget Co	st Estimate	Overall Risk (RAG)
	Proposed widening of existing footway to provide a minimum width of 2.0m. To be achieved through land acquisition, widening in to existing carriageway or verge, and / or through access.	requirement of land acquisition along the TRA487. Significant existing carriageway cross section constraints and unique layout outside the Black Lion pub.	requirement of land acquisition along the TRA487. Significant existing carriageway cross section constraints and unique layout outside the Black amount of land acquisition than compared to if a larger Active Travel facility is utilised, i.e., a separated pedestrian and cycle track.	TOTAL CONSTRUCTION COST	£367,205.40	
	Exact arrangement relevant to the bus stop to be confirmed at the Detailed Design stage. Proposed widening of existing footway to provide a minimum			DESIGN FEE (10%)	£52,877.58	
4	width of 2.0m. To be achieved through land acquisition, widening in to existing carriageway or verge, and / or through access.			SITE SUPERVISION (7.5%)	£39,658.18	RED
	Land acquisition to be confirmed at the Detailed Design stage through exact confirmation of the existing land ownership, boundaries, and liaison with relevant landowners.				NEC PROJECT MANAGEMENT (7.5%)	£39,658.18
				TOTAL COST	£499,399.34	

5.3. Section 3 – TRA487 / B4335 Junction towards Golf Club along B4337

5.3.1. Overview

Section 3 is approximately 450m in length and runs from the junction of TRA487 / B4337 and continues along the B4337 to the golf club. Throughout this section the existing carriageway widths range between 4m and 6m.

For the initial 115m along the B4337 there are no existing formal footways on either side of the carriageway. Immediately after, for approximately 185m to the location adjacent to the existing ford footbridge, the existing footway typically ranges between 1.6m and 1.8m. From the ford footbridge for approximately 130m to the golf club, there is no existing footway on either side of the carriageway. It should be noted along this section there is a path worn in to the verge by pedestrians accessing the golf club by foot.

For all options considered through this section, there are a number of existing utility chambers / covers in numerous locations throughout the proposed facilities that would need to be brought up to level of any new / improved Active Travel link.

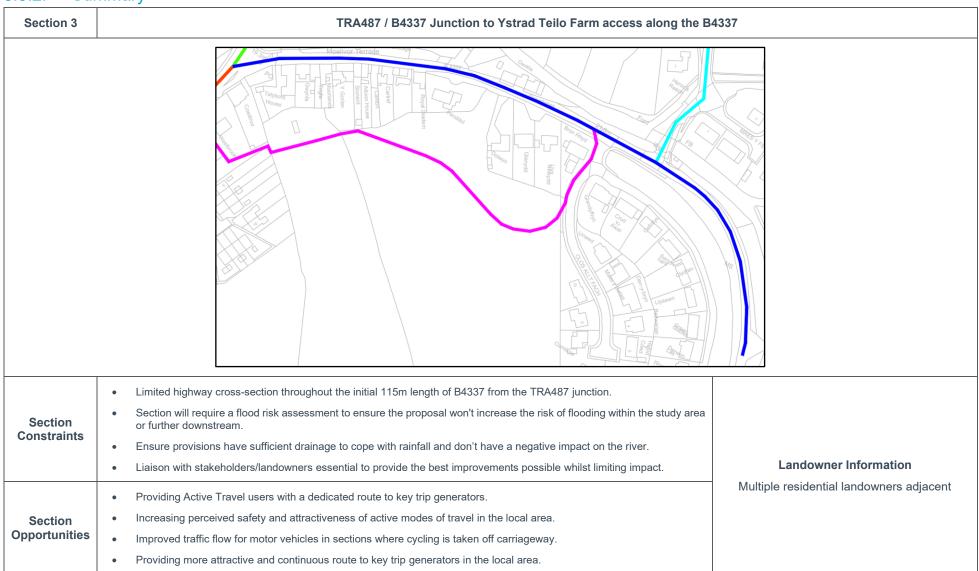
There is minimal vegetation either side of the carriageway through this section, suggesting that there would be no / minimal requirement for vegetation removal.

Three out of the five proposed options below within this section would require signalisation of the western extents and carriageway narrowing to one lane. This would reduce vehicular speeds and the risk to cyclists from overtaking vehicles.

To aid in the improvement of Active Travel facilities within this section, the proposed options consider providing an array of facilities including; Shared Use Path or improved Footway as well as on carriageway cycling. These options are explored further in the Summary Table below. Different levels of land acquisition may be necessary to aid in the provision of some of the below listed options.



5.3.2. Summary





Option No.	Description	Option Specific Constraints	Option Specific Opportunities	Budget Cos	st Estimate	Overall Risk (RAG)
	2.5m wide with 0.5m buffer. To be achieved through widening in to the existing carriageway and private access or widening of the existing footway in to the existing carriageway. Proposed footway typically 2.0m, to be achieved through construction on existing verge. On-s	Western extent of the B4337 would need to be signalised. Land acquisition required from circa 13no. properties to facilitate	Provides an Active Travel facility for both pedestrians and cyclists with the requirement of less land acquisition. Signalised crossing will reduce vehicle speeds and risk of injuries to cyclists and pedestrians.	TOTAL CONSTRUCTION COST	£328,986.90	
		the shared use path provisions. On-street parking control to be confirmed at the Detailed Design stage.		DESIGN FEE (10%)	£47,374.11	
1	stage through exact confirmation of existing ownership boundaries and liaison with relevant landowners. On-street parking control to be confirmed at the	Potential stacking of vehicles on to TRA487. Would require further analysis at detailed design stage.		SITE SUPERVISION (7.5%)	£35,530.59	RED
	Detailed Design stage. Proposed traffic signal to facilitate one-way working system through narrow section.			NEC PROJECT MANAGEMENT (7.5%)	£35,530.59	
	Proposed pedestrian connection to the golf club to be reviewed at the Detailed Design stage.			TOTAL COST	£447,422.18	
	Proposed footway / widening of the existing footway to typically 2.0m throughout, to be achieved through widening in to the existing carriageway, verge, or private access.	Land acquisition required from circa 12no. properties to facilitate the footway provisions. On-street parking control to be confirmed at the Detailed Design stage. New All Modes (Including Vehicle) bridge required within Section 5 to provide this option. Significant change required to driver behaviour, due to existing utilisation of the route by strategic traffic.	circa 12no. properties to facilitate the footway provisions. On-street parking control to be confirmed at the Detailed Design stage. New All Modes (Including Vehicle) bridge required within Section 5 to provide this option. Significant change required to driver behaviour, due to existing utilisation of the route by strategic	TOTAL CONSTRUCTION COST	£258,936.75	
3	Proposed contra-flow cycling with a one-way traffic order. Land acquisition to be confirmed at Detailed Design			DESIGN FEE (10%)	£37,286.89	
	stage through exact confirmation of existing ownership boundaries and liaison with relevant landowners. Transition to carriageway arrangement to be			SITE SUPERVISION (7.5%)	£27,965.17	- RED
	confirmed at Detailed Design stage. On-street parking control to be confirmed at the Detailed Design stage.			NEC PROJECT MANAGEMENT (7.5%)	£27,965.17	-



	Proposed pedestrian connection to the golf club to be reviewed at the Detailed Design stage.			TOTAL COST	£352,153.98	
	Proposed footway / widening of the existing footway to typically 2.0m throughout, to be achieved through widening in to the existing carriageway, verge, or private access.	Cyclists to share carriageway space with motorised vehicles. On-street parking control to be confirmed at the Detailed Design stage. Potential stacking of vehicles on to TRA487. Would require further analysis at detailed design stage.	No land acquisition required with this option. Signalised crossing will reduce vehicle speeds and risk of injuries to cyclists and pedestrians.	TOTAL CONSTRUCTION COST	£299,851.07	
	Land boundary front of gully – approximately 100m length of narrowing. Proposed traffic signal to facilitate one-way working system through narrow section. On-street parking control and traffic calming measures to be confirmed at the Detailed Design stage. 5a Existing data provided by Ceredigion County Council suggests traffic flows and volumes are suitable for on-carriageway cycling. Suitability of on-carriageway			DESIGN FEE (10%)	£43,178.55	
5a				SITE SUPERVISION (7.5%)	£32,383.92	AMBER
	cycling to be reconfirmed through new traffic flow and volume data at Detailed Design stage. Proposed pedestrian crossing to facilitate the movement of cyclists and pedestrians to the school.			NEC PROJECT MANAGEMENT (7.5%)	£32,383.92	
	Proposed pedestrian connection to golf club to be reviewed at the Detailed Design stage.			TOTAL COST	£407,797.45	
- Fla	Proposed footway / widening of the existing footway to typically 2.0m throughout, to be achieved through widening in to the existing carriageway, verge, or private access.	Cyclists to share carriageway space with motorised vehicles. On-street parking control to be confirmed at the Detailed Design	No land acquisition required with this option. Signalised crossing will reduce vehicle speeds and risk of	TOTAL CONSTRUCTION COST	£299,851.07	AMPER
5b	Land boundary rear of gully – approximately 60m length of narrowing. Proposed traffic signal to facilitate one-way working system through narrow section.	stage.	injuries to cyclists and pedestrians.	DESIGN FEE (10%)	£43,178.55	AMBER



	On-street parking control and traffic calming measures to be confirmed at the Detailed Design stage. Existing data provided by Ceredigion County Council suggests traffic flows and volumes are suitable for on-carriageway cycling. Suitability of on-carriageway cycling to be reconfirmed through new traffic flow and volume data at Detailed Design stage. Proposed pedestrian crossing to facilitate the movement of cyclists and pedestrians to the school. Proposed pedestrian connection to golf club to be reviewed at the Detailed Design stage.			SITE SUPERVISION (7.5%) NEC PROJECT MANAGEMENT (7.5%) TOTAL COST	£32,383.92 £32,383.92 £407,797.45	
	Proposed footway / widening of the existing footway to typically 2.0m throughout, to be achieved through widening in to the existing carriageway, verge, or private access. 0.1 to 0.6m Land acquisition required with no signalisation. Option is Active Travel and Manual for	Cyclists to share carriageway space with motorised vehicles. On-street parking control to be confirmed at the Detailed Design stage. Land acquisition required from	Signalised crossing will reduce vehicle speeds and risk of injuries to cyclists and pedestrians. No signalisation necessary	TOTAL CONSTRUCTION COST	£258,811.07	
	Streets compliant. On-street parking control and traffic calming measures to be confirmed at the Detailed Design stage.	circa 9no. properties to facilitate the footway provisions. Significant change required to		DESIGN FEE (10%)	£37,268.79	
5c	Existing data provided by Ceredigion County Council suggests traffic flows and volumes are suitable for on-carriageway cycling. Suitability of on-carriageway cycling to be reconfirmed through new traffic flow and volume data at Detailed Design stage.	driver behaviour, due to existing utilisation of the route by strategic traffic.		SITE SUPERVISION (7.5%)	£27,951.60	RED
	Land acquisition to be confirmed at Detailed Design stage through exact confirmation of existing ownership boundaries and liaison with relevant landowners.			NEC PROJECT MANAGEMENT (7.5%)	£27,951.60	
	Proposed pedestrian connection to golf club to be reviewed at the Detailed Design stage.			TOTAL COST	£351,983.05	

5.4. Section 4 – TRA487 to B4227 via Third Party Land

5.4.1. Overview

Section 4 is approximately 350m in length and utilises third party land to connect the TRA487 to the B4337. Throughout this section the existing carriageway widths along Clos Allt Fach typically ranging between 5.3m and 6.2m with an existing footway North of the carriageway with a typical width ranging between 1.78m and 1.85m. There are currently no existing vehicular or Active Travel provisions that link Clos Allt Fach to the TRA487.

In order to provide this section, land agreements would be essential, although it should be noted that an agreement in principle has been given at this stage by 1no. key landowner.

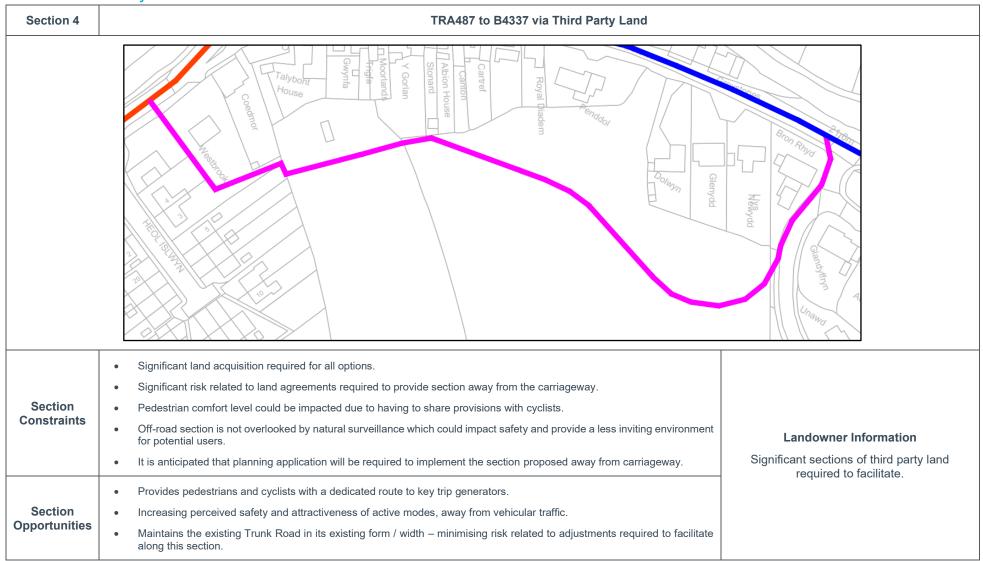
For both options considered through this section, there are a number of existing utility chambers / covers in numerous locations throughout the proposed facilities that would need to be brought up to level of any new / improved Active Travel link.

Given the nature of this section, there is some vegetation which would likely be affected which may have an effect on habitat. This would need to be assessed further at any subsequent design stage.

To aid in the improvement of Active Travel facilities within this section, the proposed options consider providing an facilities including Shared Use Path or improved Footway. These options are further explored in the Summary Table below. Different levels of land acquisition may be necessary to aid in the provision of some of the below listed options.



5.4.2. Summary





Option No.	Description	Option Specific Constraints	Option Specific Opportunities	Budget Cost Estimate		Overall Risk (RAG)
	Proposed shared pedestrian and cycle track typically 3.0m wide, to be achieved through land acquisition and / or widening the existing footway into the carriageway.	Would require a significant amount of land acquisition.	Provides an Active Travel facility that gives provision to cyclists and pedestrians.	TOTAL CONSTRUCTION COST	£277,397.57	
	Land acquisition to be confirmed at Detailed Design stage through exact confirmation of existing ownership boundaries and liaison with relevant landowners. Clos Allt Fach side road treatments, exact marking and signage to be confirmed at Detailed Design stage.			DESIGN FEE (10%)	£39,945.25	
2				SITE SUPERVISION (7.5%)	£29,958.94	RED
				NEC PROJECT MANAGEMENT (7.5%)	£29,958.94	
				TOTAL COST	£377,260.69	
	Proposed footway typically 2.0m, to be achieved through construction on acquired land and / or widening the existing footway into the carriageway. Land acquisition to be confirmed at Detailed Design stage through exact confirmation of existing ownership boundaries and liaison with relevant	Cyclists to share existing carriageway space with motorised vehicles or dismount and walk along new footway provision between TRA487 and Clos Allt Fach.	Provides an Active Travel facility for pedestrians with the requirement of less land acquisition than option 2.	TOTAL CONSTRUCTION COST	£200,745.11	
				DESIGN FEE (10%)	£28,907.30	
3 Clo	landowners. Clos Allt Fach side road treatments, exact marking and signage to be confirmed at Detailed Design stage.	Would require a significant amount of land acquisition.		SITE SUPERVISION (7.5%)	£21,680.47	RED
				NEC PROJECT MANAGEMENT (7.5%)	£21,680.47	
				TOTAL COST	£273,013.35	

5.5. Section 5 – B4337 to Ysgol Gynradd Wirfoddol Myfenydd

5.5.1. Overview

Section 5 is approximately 110m in length and runs from the B4337 where it crosses the Afon Carrog and continues to the junction of Maes Wyre, opposite Ysgol Gynradd Wirfoddol Myfenydd. Throughout this section the carriageway widths typically range between 5m and 5.5m. Beyond the existing 1.1m wide footbridge, there is an existing footway on both sides of the carriageway with typical width ranging between 1.5m and 1.6m.

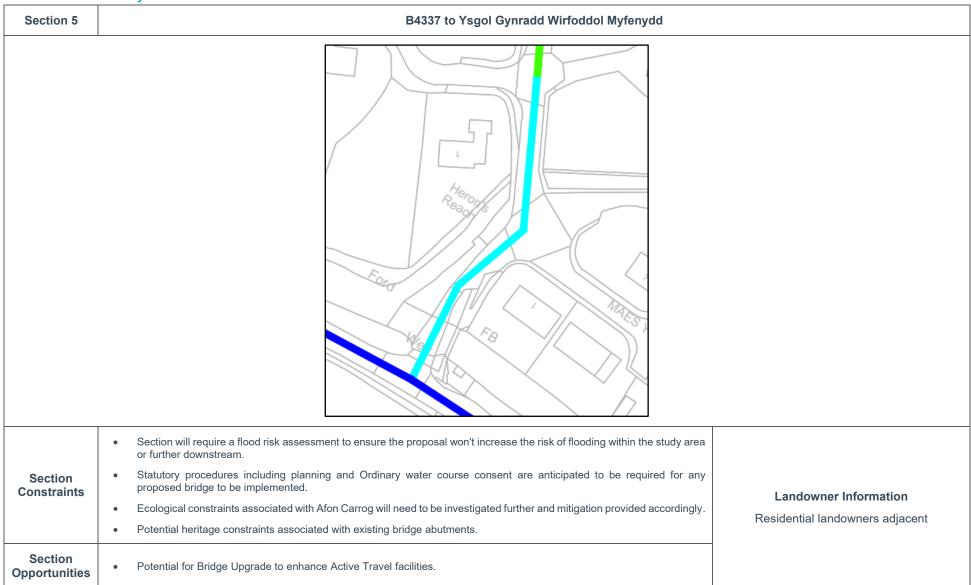
For some of the options considered through this section, there are a number of existing utility chambers / covers that would need to be brought up to level of any new / improved Active Travel link.

There is a small amount of vegetation on the proposed side of the carriageway through this section, suggesting that there would be some requirement for vegetation removal. Additionally, given the proximity to the Afon Carrog, detailed ecological and flood assessments would be required at subsequent design stages depending on the option taken forward.

This section considers an array of options relating to the existing river ford, including; construction of a new bridge structure to accommodate both vehicular and Active Travel traffic, widening / upgrading the existing bridge to accommodate Active Travel traffic (pedestrians and cyclists), and utilisation of the existing bridge structure (non-Active Travel compliant). The Options proposed for this Section also create a link between the B4337 and the school. These options are further explored in the Summary Table below.



5.5.2. Summary





Option No.	Description	Option Specific Constraints	Option Specific Opportunities	Budget Cost Estimate		Overall Risk (RAG)
	Proposed widening of existing footway to provide minimum width of 2.0m. To be achieved through widening in to the existing carriageway.	Significantly larger cost due to the provision of a new all-modes bridge.	Provides a new link between the B4337 and the school which facilitates motorised vehicles, pedestrians, and cyclists.	TOTAL CONSTRUCTION COST	£1,188,820.04	
	A new all-modes bridge to be provided to connect B4337 with the school. Traffic layout at new all-modes bridge including markings to be confirmed at Detailed Design stage (including bridge design). Junction arrangement to be reviewed at the Detailed Design stage.	Cyclists are to share the carriageway with motorised vehicles.	Cyclists are to share the carriageway with motorised Provides an Active Travel		£282,463.64	
1			pedestrians to utilise. Provides a more formalised link for both vehicular and Active	SITE SUPERVISION (7.5%)	£128,392.56	RED
	Proposed cyclist and pedestrian connection to school to be reviewed at Detailed Design stage.		Travel traffic between the B4337 and the School.	NEC PROJECT MANAGEMENT (7.5%)	£128,392.56	
				TOTAL COST	£1,728,068.82	
	Proposed shared pedestrian and cycle track typically more than 2.5m wide. To be achieved through widening existing footway in to the existing carriageway (north of bridge).	Structure is Active Travel compliant only, i.e., the structure can only accommodate pedestrians and cyclists.	Provides a new link between the B4337 and the School which facilitates pedestrians and cyclists.	TOTAL CONSTRUCTION COST	£324,272.43	
	New Active Travel bridge to be provided to connect B4337 with the school. Exact details of Active Travel		Provides an Active Travel compliant link along the unnamed county road for	DESIGN FEE (16.5%)	£77,047.13	
2	bridge to be confirmed at the Detailed Design stage. Junction arrangement to be reviewed at the Detailed Design stage.		pedestrians and cyclists to utilise.	SITE SUPERVISION (7.5%)	£35,021.42	AMBE
	Proposed cyclist and pedestrian connection to school to be reviewed at Detailed Design stage.			NEC PROJECT MANAGEMENT (7.5%)	£35,021.42	
				TOTAL COST	£471,362.40	



	Proposed shared pedestrian and cycle track typically more than 2.5m wide. To be achieved through widening existing footway in to the existing carriageway (north of existing bridge).	Existing footbridge to remain which only accommodates pedestrians, and due to its limited width is not Active Travel	Less costly in comparison to options 1 and 2 due to no provision of a new structure.	TOTAL CONSTRUCTION COST	£88,400.16	
	Existing footbridge to remain. Proposed widening of existing footway to provide a	compliant.	Provides an Active Travel compliant link along the unnamed county road for pedestrians and cyclists to utilise	DESIGN FEE (16.5%)	£21,003.88	
3	minimum width of 2.0m. To be achieved through widening into the existing carriageway. Junction arrangement to be reviewed at the Detailed		(but not across the ford).	SITE SUPERVISION (7.5%)	£9,547.22	RED
	Design stage. Proposed cyclist and pedestrian connection to school to be reviewed at Detailed Design stage.			NEC PROJECT MANAGEMENT (7.5%)	£9,547.22	
				TOTAL COST	£128,498.47	

6. Recommendation Summary

A summary of the recommended options for each of the sections are given in the table below. The Budget Estimate Costs are not inclusive of any costs relating to third party land acquisition or Statutory Utility Diversions.

These options have been recommended to provide the best feasible Active Travel link within each section, whilst considering existing constraints, deliverability, cost and overall risk. This approach would need to be considered and potentially revised following the Public Engagement process. It should also be noted that some of these sections provide duplication of provision with one another, and therefore some will not be required depending on the preferred route identified by stakeholders during the engagement process. As such, a total cost has not been provided at this stage.

Route Section	Location	Recommendation	Total Cost Estimate	Overall Risk (RAG)
1	Texaco Garage to TRA487 / B4337 Junction along TRA487	Option 3 Proposed shared pedestrian and cycle track typically more than 3.0m wide with a 0.5m buffer. To be achieved through widening of the existing footway in to the existing carriageway or footway (where present) or narrowing of the existing carriageway.	£889,695.49	AMBER
2	TRA487 / B4337 Junction to Ysgol Gynradd Wirfoddol Myfenydd along TRA487 and Unnamed Road	Option 4 Proposed widening of existing footway to provide a minimum width of 2.0m. To be achieved through land acquisition, widening in to existing carriageway or verge, and / or through access.	£499,399.34	RED
2A	TRA487 adjacent to the Black Lion Pub	Potential formalisation of the private lane tie-ins onto Trunk / County Road network. Enhance community to the eastern bus stop, Black Lion Pub, and across the A487 bridge linking into sections 1 and 3. Other possible interventions include improved links from Church Street, improved Trunk Road crossings, and localised footway improvements. This would need to be investigated further at the subsequent design stage.	TBC	TBC
3	TRA487 / B4337 Junction to Ystrad Teilo Farm access along the B4337	Option 5c Proposed footway / widening of the existing footway to typically 2.0m throughout, to be achieved through widening in to the existing carriageway, verge, or private access. 0.1 to 0.6m Land acquisition required with no signalisation. Option is Active Travel and Manual for Streets compliant.	£351,983.05	RED
4	TRA487 to B4337 via Third Party Land	Option 2 Proposed shared pedestrian and cycle track typically 3.0m wide, to be achieved through land acquisition and / or widening the existing footway into the carriageway.	£377,260.69	RED

		Option 2		
5	B4337 to Ysgol Gynradd Wirfoddol Myfenydd	Proposed shared pedestrian and cycle track typically more than 2.5m wide. To be achieved through widening existing footway in to the existing carriageway. New Active Travel bridge to be provided to connect B4337 with the school. Exact details of Active Travel bridge to be confirmed at the Detailed Design stage.	£471,362.40	AMBER

7. Conclusion and Next Steps

7.1. Summary

As part of this commission Atkins has developed a number of robust feasibility options for each of the five sections to begin to provide an improved Active Travel link through Llanrhystud, Ceredigion to enhance safety for school trips and influence modal shift away from private car travel. These have been developed such that different options from each of the sections may be combined to have the greatest benefit for the residents of Llanrhystud. The recommended options for each section have been given within Section 6 of this Technical Note, and summaries any costs and RAG ratings relating to each option. These costs exclude any requirement for land acquisition.

It is considered that whilst the proposed options are deemed feasible from an engineering perspective, constraints associate with ecology, heritage, and planning will need to be investigated further at the Detailed Design stage. The next steps discussed below will facilitate this further investigation to confirm the feasibility of the proposals.

7.2. Next Steps

The designs and options provided are still in the early stages of development. As such, the provided options may change and amalgamate to provide the most suitable provisions for the local area based on stakeholder consultation and feedback from the Local Authority. The design team will work closely and communicate with Cyngor Sir Ceredigion County Council (CSCCC) in order to formulate next steps in taking these designs through the option selection and feasibility stage.

It is considered that future landowner and public engagement exercises will be required to further inform and shape the final scheme which, in turn, will determine the full extent of future statutory procedures including any potential Planning and CPO.

It considered important that any affected landowners, residential or commercial tenants are consulted with to gauge their amenability to the scheme before the consultation material is introduced to the wider general public.

Third Party Liaison and Project Team Communication are the cornerstones of delivery of the scheme through the Detailed Design stage, focusing particularly upon successful negotiation of the necessary land purchase required in order to deliver the scheme. It is essential that successful relationships are established and maintained with all interested third parties, in order to ensure that a scheme is delivered which addresses the scheme objectives.

The future engagement is recommended to include the following Key Stakeholders:

- Welsh Government and NMWTRA;
- Landowners and tenants directly affected by the project, this to include agents appointed by those affected;
- School staff and pupils (Ysgol Gynradd Wirfoddol Myfenydd);
- Local residents and landowners;
- Businesses;
- Interest groups;
- Trusts;
- Ceredigion County Council Councillors and officers;
- Town Council Councillors and officers;
- Environmental Statutory Bodies;
- Statutory Undertakers (NRSWA C2, C3 and C4 as required).

At the public engagement stage, it is important that all members of the community have an opportunity to voice their thoughts and feedback, particularly those with protected characteristics. As such it is requested that CSCCC collate a list of local groups representing those with protected characteristics. Given the nature of the scheme which has a specific focus on providing a Safe Route to the primary school, the school and its children are considered key stakeholders. As such, it is recommended that a specific engagement exercise is undertaken with the children of the school being the target audience.

During the engagement it is also important to consider and provide the following points:

- The provision of a readily accessible point of contact within the Design Team;
- The dissemination of timely, consistent and accurate information to all stakeholders at key project stages;
- To consult with third parties, to represent their views and concerns and to incorporate their views and suggestions in the project design if at all possible (land questionnaires and ability to provide feedback on designs and proposals at the consultation event);
- To maintain accurate records of consultations that will provide continuity for future consultations if required, and dissemination of such information to relevant members of the Project Team;
- To establish public confidence in the Project Team's management and delivery of the project;
- All presentation material and correspondence are fully inclusive.

7.2.1. Consultation method

Consultation can be held at in person events or via digital mediums. If required, Atkins can develop a solution for undertaking a digital consultation depending on CSCCC's preference.

7.2.2. Website

Should a web-based consultation be required, it is assumed that it will be undertaken within the main CSCCC webpage; however, we can investigate alternative options if required. Atkins will provide any documents, drawings/presentations and questionnaire required and these can be uploaded by the relevant department within CSCCC.

7.2.3. Media

Unless agreed otherwise, all contact with the media will be via CSCCC. However, Atkins will assist in the preparation of press releases and equivalent if required.

7.2.4. Management of Issues Rising from Liaison

Issues and potential or actual refusals by the affected land owners to negotiate on the proposals will be reported to and addressed by the Project Team with a view to incorporating the wishes of third parties in the scheme design or, where this is not feasible or in the overall interest of the project, by the inclusion of mitigating or compensatory measures.

Actions will be reported back to the consultees, with a view to resolving issues and avoiding the need for CPO and associated public inquiry.

Whilst Atkins current commission does not include the Detailed Design or Construction Stage, should Atkins be involved at these stages, every effort will be made to preclude and anticipate complaints by minimising adverse impacts and by putting continuing to keep the key stakeholders engaged.

Nonetheless, should complaints still be made at the time, they will be addressed promptly, and corrective measures introduced where appropriate. Timely responses will be made to all complainants.

7.3. Indicative Scheme Programme, Risks and Assumptions

Given the early stages of this scheme development, we have provided an indicative timeline for delivery below.

The timelines provided below assumes that CSCCC and other stakeholders are content with the proposals contained within this document, and will be subject to further liaison, funding constraints and timings and also

any associated planning applications. It should be noted that whilst every effort will be made to avoid triggering the CPO process, an allowance has been made within the programme to accommodate a robust scenario.

7.3.1. Programme

Develop a Full Business Case for the preferred scheme through finalising the current feasibility proposals. This will include further development of the preferred Section and option to address Detailed Design and land acquisition requirements in addition to feedback from stakeholder and public consultation events. Dates to be confirmed with CSCCC.

Proposal for 2023 / 2024 Financial Year

- Engage with Key Stakeholders and undertake Public Engagement exercise;
- Undertake a detailed review of the adjacent landownership;
- Undertake a detailed review of the existing location, site conditions and anticipated opportunities and constraints;
- Further Surveys as required (extent to be determined following agreement of preferred option) –
 topographic, traffic surveys, pedestrian surveys, ecological surveys to inform site development,
 building surveys (where excavation is required near thresholds), existing bridge structure assessment
 and ground investigation;
- Build a test case for the scheme (revised testing mechanism under new WelTAG guidance) and complete WelTAG Stages as required;
- Progress preferred Section and option to a Preliminary Design stage;
- Initial Scheme consultation and consents including Land discussion and negotiations (Landowners, NMWTRA, businesses);
- C2/C3 Liaison with Statutory Utilities companies to identify the potential need for any diversionary work;
- Following further design refinement, undertake C4 Liaison with Statutory Utilities companies to confirm the need for any diversionary work;
- Consider initial feedback and refine design and undertake further consultation based on final option (pre-planning consultation); and
- Submit Planning Application (subject to land agreements).

Proposal for 2024 / 2025 Financial Year

- Finalise Detailed Design of preferred option;
- Land Acquisition (Potential CPO Inquiry should it not be possible to acquire land by agreement);
- Finalise any other required statutory processes;
- Prepare tender package (assumed to be delivered on the latest iteration of the SWMWREC Contractors framework); and
- Undertake tender exercise and appoint contractor.

Proposal for Q4 2024/2025/2025/2026 Financial Years

- Finalise any outstanding land acquisition tasks (including CPO if required);
- Construction of preferred Section and option;
- Supervision and Project Management during the construction phase; and
- Post construction scheme monitoring.

7.3.1.1. General Assumptions

- Proposals require an additional planning application and consultations with the relevant stakeholders (including landowners);
- Assumes that the development will require the pursuit of a CPO for third party land;

- Where possible, the development of the various project areas within the scope of works will be developed and delivered simultaneously; and
- Through liaison with CSCCC SAB Officer, SAB applications will be required.

7.3.2. Project Risks

- Ecological restrictions and time frames may delay the construction start date;
- SAB application process and liaison may delay the start of the construction period;
- Planning application process and liaison may delay the start of the construction period;
- CPO process exceeding the allocated time allowance;
- Contaminated Land any associated remedial works; and
- Statutory utility diversions.

7.3.3. Land Ownership

• This programme assumes that third party land will be required to deliver this scheme. This programme makes an allowance for initial land owner liaison as well as a CPO process, should negations prove unsuccessful.

7.3.4. Planning

- Given the potential for significant impacts on the site and the fact that it lies outside the highway boundary, permitted development rights under the Highways Act (1980) are removed and planning permission would be required. It is recommended that a pre-application enquiry is prepared and submitted to discuss the proposed scheme and the likely scope of the assessments and drawings required to support any planning application;
- Consideration should also be given to pre-application consultation with members of the public and engagement with statutory bodies and key stakeholders to present the draft proposals and invite feedback, in order to inform the design development of the scheme.

7.3.5. Ecological Considerations

- A Phase 1 habitat survey should be undertaken to identify whether protected and priority species are
 present within the study area. This will inform the need for species specific surveys, necessary
 assessment work and to inform design development and construction methods and programme;
- The design of the route (including any bridge structures) would need to be justified and be able to demonstrate that no adverse impact will be caused to the species and habitats present within the site and in the wider context;
- A HRA screening will be required in accordance with Conservation of Habitats and Species Regulations 2017 to confirm if an appropriate assessment of the implications for the designated features is required; and
- Additionally, consultation with Natural Resources Wales (NRW) may be required with regards to any
 likely impacts to the notified features of the existing river (to be determined at Detailed Design stages).

7.3.6. Tender

 At the appropriate stage, it is assumed that all works will be tendered through the SWMWREC Contractors Framework or latest iteration at the time of tender. The three elements of the project can be tendered separately or under a joint tender exercise depending on client preference, timescales and available funds and resource.

7.3.7. Construction

- Contractor programme may vary from estimate dependent on approvals, ecological and traffic management constraints/permitted site working hours; and
- All statutory utility diversions can be accommodated within the construction programme, including lead in times.

Appendix A.	Traffic Survey Results	



	Cycling Route Audit Tool		Existing Situ	uation		Suggested Amendments				
Section	Description	Total Available Score	Score	%	Critical Fails	Total Available Score	Score	%	Critical Fails	
1.1	Texaco Garage to Bridge by Black Lion Pub	46	21	46%	2	46	42	91%	0	
1.2	Bridge By Black Lion Pub to School Via A487	46	17	37%	2	46	40	87%	0	
1.3	Bridge By Black Lion Pub to School Via B4337	46	16	35%	2	45	38	83%	0	

50

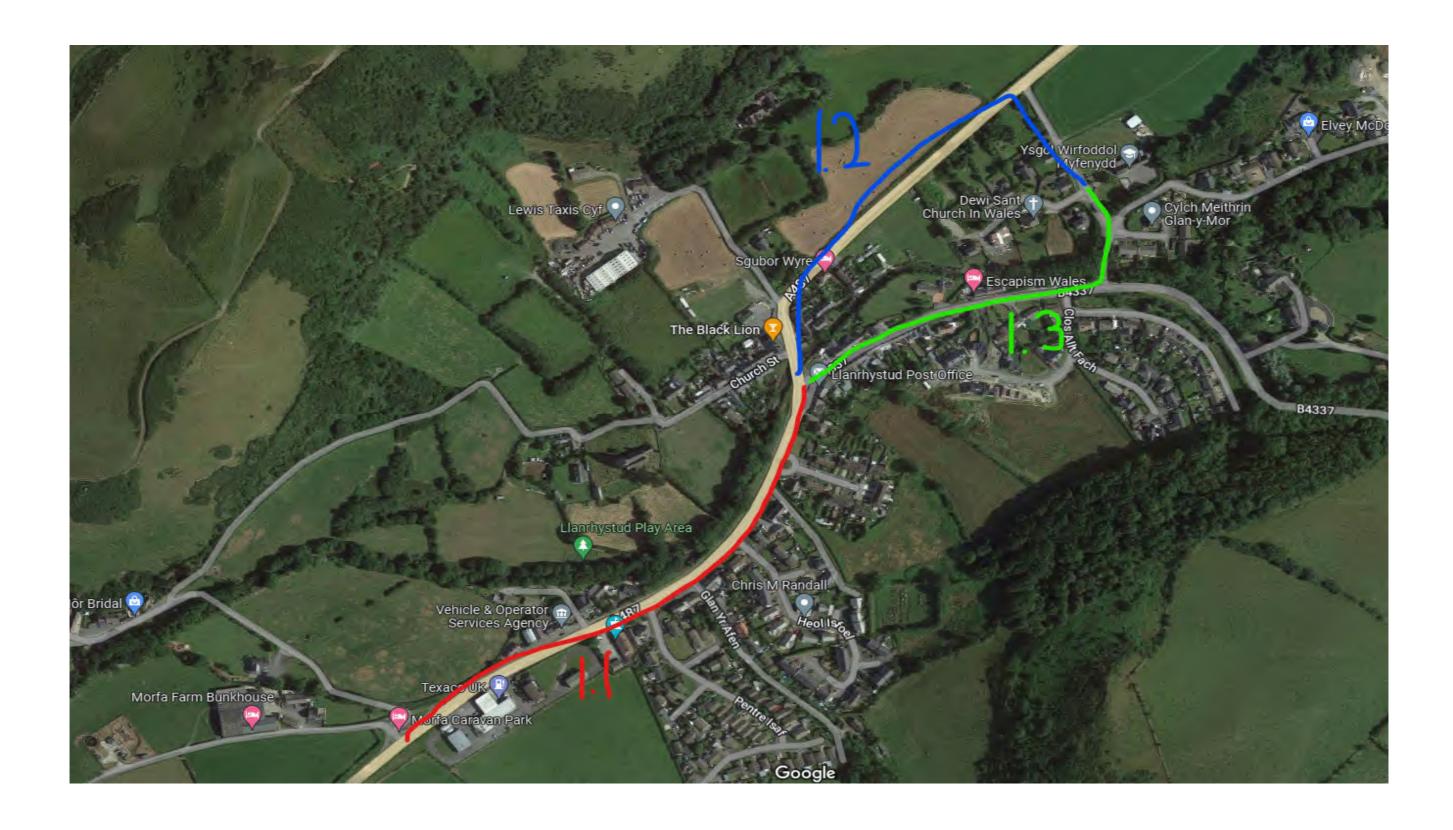
Total Available Score (Cycling)

Score (%)	Pass fail
80%	Pass (desirable score)
70%	Pass
60 - 69%	Fail (but may be eligible to be passed with a statement)
60% or below	Fail
Any score with a critical fail	Fail

The walking tool is scored out of 20 indicators (with one non-scored), and the cycling tool of 25 indicators. Each indicator is scored out of a maximum of 2 points, with a maximum of 40 points available for walking routes, and 50 available for a cycling route. These scores are then converted to percentages to establish if a route is a 'pass' or 'fail', as shown below.

Welsh Active Travel Act Guidance

Appendix H Audit Tools score criteria



Route 1.1 Cycling Audit

Key Requirement	Factor	Design Principle	Indicators	Critical	0 (Red)	1 (Amber)	2 (Green)	Total Score	Score	Comments	Total Score	Suggested amendments	Revised Score
	Connections	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network.	Ability to join/ leave route safely and easily: consider left and right turns		dismounting	Cyclists can connect to other routes with minimal disruption to their journey	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	2		No dedicated cycling routes along this section, all cycling is on carriageway	2	Provide dedicated cycling / shared use facilities along this section, designed so that cyclists are able to join other sections of the route safely.	2
Cohesion	Continuity and Wayfinding	Routes should be complete with no gaps in provision. 'End of route' signs should not be installed - cyclists should be shown how the route continues. Cyclists should not be 'abandoned', particularly at junctions where provision may be required to ensure safe crossing movements.	2.Provision for cyclists throughout the whole length of the route		route with no clear indication of how to continue their journey.	The route is made up of discrete sections, but cyclists can clearly understand how to navigate between them, including through junctions.	Cyclists are provided with a continuous route, including through junctions	2		No dedicated cycling routes along this section, all cycling is on carriageway	2	Provide dedicated cycling / shared use facilities along this section with appropriate signage. Consideration should be given to how the route continues along the A487 past texaco garage.	2
	Density of network	Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which make up the grid pattern. The ultimate aim should be a network with a mesh width of 250m.	3.Density of routes based on mesh width ie distances between primary and secondary routes within the network		Route contributes to a network density mesh width >1000	Route contributes to a network density mesh width 250 - 1000m	Route contributes to a network density mesh width <250m	2	0	No other routes in network			
	Distance	Routes should follow the shortest option available and be as near to the 'asthecrow-flies' distance as possible.	4.Deviation of route Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative.		Deviation factor against straight line or shortest road alternative >1.4	Deviation factor against straight line or shortest road alternative 1.2 – 1.4	Deviation factor against straight line or shortest road alternative <1.2	2		Actual distance along "route" = 485m Distance as the crow flies = 463m Deviation factor = 1.04	2	No suggested amendments.	2
Directness	Time: Frequency of required stops or give ways	The number of times a cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc.	5.Stopping and give way frequency		ways on the route is more than 4 per km	The number of stops or give ways on the route is between 2 and 4 per km	The number of stops or give ways on the route is less than 2 per km	2		Two locations where cyclists need to give way to traffic when travelling south-west along the A487 (at Texaco garage)	2	No suggested amendments.	2
Direct	Time: Delay at junctions	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.	6.Delay at junctions		Delay for cyclists at junctions is greater than for motor vehicles	Delay for cyclists at junctions is similar to delay for motor vehicles	Delay is shorter than for motor vehicles or cyclists are not required to stop at junctions (eg bypass at signals)	2	1	When turning in to texaco garage the wait for pedestrians is assumed to be similar to that of cars, similarly at the end of the route when turning onto the B4337.	2	No suggested amendments.	1
	Time: Delay on links	The length of delay caused by not being able to bypass slow moving traffic.	7.Ability to maintain own speed on links		Cyclists travel at speed of slowest vehicle (including a cycle) ahead	Cyclists can usually pass slow traffic and other cyclists	Cyclists can always choose an appropriate speed.	2	0	Lane widths may affect cyclists ability to pass slow moving traffic.	2	Provide deciated cycling / shared use facilities along this section, with appropriate width for the number of users.	2

	Gradients	Routes should avoid steep	8.Gradient		Route includes	There are no	There are no			Using Google Earth, it is		No suggested amendments.	
		gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow users to retain momentum gained on the descent.			sections steeper that the gradients recommended in Section 9.15 of the Guidance	sections of route steeper than the gradients recommended in Section 9.15 of the Guidance	sections of route which steeper than 2%	2		estimated there are no slopes steeper than 2%.	2		2
	Reduce/ remove speed differences where cyclists are sharing the carriageway	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.	9.Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction		85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	2		During the audit it did not appear that vehicles are travelling above 20mph on or through the junctions with texaco garage or at the junction with the B4337.		Provide dedicated cycling / shared use facilities along this section so that cyclists are not required to share the carriageway with motor vehicles.	2
			10.Motor traffic speed on sections of shared carriageway	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	2		85th percentile speed appears to be above 30mph	2	Provide dedicated cycling / shared use facilities along this section so that cyclists are not required to share the carriageway with motor vehicles.	2
	Avoid high motor traffic volumes where cyclists are sharing the carriageway	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	11.Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	>10000 AADT, or >5% HGV	5000-10000 AADT and 2-5%HGV	2500-5000 and <2% HGV	0-2500 AADT	2	1	need traffic figures	2	No suggested amendments.	1
	Risk of collision	Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Table 11.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist.		Cyclists sharing carriageway - nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists.	lanes less than 1.8m wide.	percentile motor traffic speed max 30mph.	Cyclists on route away from motor traffic (off road provision) or in off-carriageway cycle track. Cyclists in stepped / light segregated track; 85th percentile motor traffic speed max 30mph.	2	Critical	Cyclists share carriageway with motor vehicles, lane widths appear to be within critical range	2	Provide dedicated cycling / shared use facilities along this section so that cyclists are not required to share the carriageway with motor vehicles.	2
Safety		A high proportion of collisions involving cyclists occur at junctions. Junctions there-fore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads - cyclist priority and/or speed reduction across side roads Major roads - separation of cyclists from motor traffic through junctions.	13.Conflicting movements at junctions		Side road junctions frequent and/ or untreated. Major junctions, conflicting cycle/ motor traffic movements not separated	Side road junctions infrequent and with effective entry treatments. Major junctions, principal conflicting cycle/ motor traffic movements separated.	or treated to blend in with footway. Major junctions, all conflicting cycle/	2		Connecting junctions to route are untreated, movements are not separated.	2	Review and update junctions layouts along route and provide appropriate signage as neccasary.	2

	Avoid complex design		14.Legible road markings and road layout		Faded, old, unclear, complex road markings/ unclear or unfamiliar road layout	Generally legible road markings and road layout but some elements could be improved	Clear, understandable, simple road markings and road layout	2	1	No dedicated cycle markings along this route	2	Update signage and road markings for cyclists in line with any proposed shared use/ dedicated cycling facilities.	2
	Consider and reduce risk from kerbside activity	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	15.Conflict with kerbside activity	Narrow cycle lanes <1.5m or less (including any buffer) alongside parking/loading	with kerbside activity (eg nearside cycle lane < 2m (including buffer) wide alongside kerbside parking)	of cyclists, min 2m cycle lanes including buffer.	lane including buffer exceeds 3m.	2	Critical	No Dedicated cycle lane (<1.5m)		Kerbside activity could be reduced by providing shared use / dedicated cycle facilities, however bus stops etc may still cause some pedestrian conflict depending on the design of the new layout.	1
	Reduce severity of collisions where they do occur	Wherever possible routes should include "evasion room" (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	16.Evasion room and unnecessary hazards		Cyclists at risk of being trapped by physical hazards along more than half of the route.	The number of physical hazards could be further reduced	The route includes evasion room and avoids any physical hazards.	2	1	Carriageway within critical range, therefore potential for lack of evasion room	2	No suggested amendments.	2
	Surface quality	Density of defects including non cycle friendly ironworks, raised/sunken covers/gullies, potholes, poor quality carriageway paint (eg from previous cycle lane)	17.Major and minor defects		Numerous minor defects or any number of major defects	Minor and occasional defects	Smooth high grip surface	2	2	Carriageway in relatively good condition, tarmacadam surface	2	No suggested amendments.	2
Comfort		Pavement or carriageway construction providing smooth and level surface	18.Surface type		Any bumpy, unbound, slippery, and potentially hazardous surface.	Hand-laid materials, concrete paviours with frequent joints.	Machine laid smooth and non- slip surface - eg Thin Surfacing, or firm and closely jointed blocks undisturbed by turning heavy yehicles.	2	2	Machine laid surface coure.	2	No suggested amendments	2
O	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	separated from motor vehicles).	the route includes cycle provision with widths which are more than 25% below desirable	widths which are no more than 25% below desirable minimum values.	of the route includes cycle provision with widths which are no more than 25% below desirable minimum	Recommended widths are maintained throughout whole route	0	0	No dedicated cycling provision for length of this section	2	Provide dedicated cycling / shared use facilities to the appropriate widths stated in the active travel design guide.	2
	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	20.Signing		Route signing is poor with signs missing at key decision points.	Gaps identified in route signing which could be improved	Route is well signed with signs located at all decision points and junctions	2	0	No route signage	2	Provide neccasary route signage in line with any proposed facilities.	2
	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21.Lighting		Most or all of route is unlit	infrequent unlit/poorly lit sections	Route is lit to highway standards throughout	2	2	Route was lit to highway standards throughout.	2	No suggested amendments.	2
			22.Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	2	1	Route is along a main road and not far from activity, overlooked for some of its length	2	No suggested amendments.	1

Attractiveness	including people with disabilities	enable people to cycle on- road rather than using footways which are not suitable for shared use. Introducing cycling onto well-	pedestrians, Pedestrian Comfort Level based on TfL's Pedestrian Comfort guide -	is at Level C or below, or residual width for pedestrians is below those recommeded in Section 9.6 of the	is at Level B or above, or residual width for pedestrians is as per those	Pedestrian comfort is at Level A, or residual width for pedestrians is above those recommeded in Section 9.6 of the Guidance.	2		All cycling is currently on road, therefore no impact on pedestrians.	2	No suggested amendments	2
	Minimise street clutter	scheme layout	24.Signs informative and consistent but not overbearing or of inappropriate size	signs needed,	of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.			No route signage present		No suggested amendments.	
	parking	cycle parking within businesses and on street	25. Evidence of bicycles parked to street furniture or cycle stands	provision in	Some secure cycle parking provided but	Secure cycle parking provided, sufficient to meet demand	2	0	No cycle parking	2	Provide adequate cycle parking in line with demand	2
						Audit Score	46	21		46		42

Route 1.2 Cycling Audit

Key Requirement	Factor	Design Principle	Indicators	Critical	0 (Red)	1 (Amber)	2 (Green)	Total Score	Score	Comments	Total Score	Suggested amendments	Revised Score
	Connections	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network.	Ability to join/ leave route safely and easily: consider left and right turns		Cyclists cannot connect to other routes without dismounting	Cyclists can connect to other routes with minimal disruption to their journey	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	2	0	No dedicated cycling routes along this section, all cycling is on carriageway. No provision for cyclists wishing to turn onto school road from A487.	2	Provide dedicated cycling / shared use facilities along this section, designed so that cyclists are able to join other sections of the route safely, particularly when needing to turn from the A487 onto the school road.	2
Cohesion	Continuity and Wayfinding	Routes should be complete with no gaps in provision. 'End of route' signs should not be installed - cyclists should be shown how the route continues. Cyclists should not be 'abandoned', particularly at junctions where provision may be required to ensure safe crossing movements.	2.Provision for cyclists throughout the whole length of the route		Cyclists are 'abandoned' at points along the route with no clear indication of how to continue their journey.	The route is made up of discrete sections, but cyclists can clearly understand how to navigate between them, including through junctions.	Cyclists are provided with a continuous route, including through junctions	2	0	No dedicated cycling routes along this section, all cycling is on carriageway	2	Provide dedicated cycling / shared use facilities along this section with appropriate signage. Particular thought should be given to crossing the road at the junction to the school and continuity of the route for cyclists who wish to continue along the A487.	2
		Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance	3.Density of routes based on mesh width ie distances between primary and secondary routes within the network		Route contributes to a network density mesh width >1000	Route contributes to a network density mesh width 250 - 1000m	Route contributes to a network density mesh width <250m	2	0	No other routes in network			
	Distance	crow-flies' distance as possible.	4.Deviation of route Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative.		Deviation factor against straight line or shortest road alternative >1.4	Deviation factor against straight line or shortest road alternative 1.2 – 1.4	Deviation factor against straight line or shortest road alternative <1.2	2	0	Actual distance along "route" = 555m Distance as the crow flies = 360m Deviation factor = 1.54	2	No suggested amendments.	0
iness		The number of times a cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc.	5.Stopping and give way frequency		The number of stops or give ways on the route is more than 4 per km	The number of stops or give ways on the route is between 2 and 4 per km	The number of stops or give ways on the route is less than 2 per km	2	2	Cyclists not required to stop or give way along this section of the route	2	No suggested amendments.	2
Directness	Time: Delay at junctions	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.	6.Delay at junctions		junctions is greater than for motor vehicles	Delay for cyclists at junctions is similar to delay for motor vehicles	than for motor vehicles or cyclists are not required to stop at junctions (eg bypass at signals)	2	1	Delay is assumed to be similar to that of cars.	2	Crossing provision should be provided at junction with the school road.	2
	Time: Delay on links	The length of delay caused by not being able to bypass slow moving traffic.	7.Ability to maintain own speed on links		Cyclists travel at speed of slowest vehicle (including a cycle) ahead	Cyclists can usually pass slow traffic and other cyclists	Cyclists can always choose an appropriate speed.	2	1	Lane widths may affect cyclists ability to pass slow moving traffic.	2	Provide dedicated cycling / shared use facilities along this section, with appropriate width for the number of users.	2

			0.0 " 1		In	71	l Tri					F	
	Gradients	Routes should avoid steep gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow	8.Gradient		Route includes sections steeper that the gradients recommended in Section 9.15 of the Guidance	There are no sections of route steeper than the gradients recommended in Section 9.15 of the Guidance	There are no sections of route which steeper than 2%	2	1	There are no sections of route steeper than the gradients recommended in Section 9.15 of the Guidance	2	No suggested amendments.	1
		users to retain momentum gained on the descent.											
	Reduce/ remove speed differences where cyclists are sharing the carriageway	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.	9.Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	2	2	During the audit it did not appear that vehicles are travelling above 20mph on or through the junction with the school road.	2	Provide dedicated cycling / shared use facilities along this section so that cyclists are not required to share the carriageway with motor vehicles.	2
			10.Motor traffic speed on sections of shared carriageway	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	2	0	Speed limit for the majority of this section is 40mph, therefore 85th percentile speed above 30mph, potentially above 37mph due to proximity to derestricted speed limit after junction with school road	2	Provide dedicated cycling / shared use facilities along this section so that cyclists are not required to share the carriageway with motor vehicles.	2
	Avoid high motor traffic volumes where cyclists are sharing the carriageway	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	11.Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	>10000 AADT, or >5% HGV	5000-10000 AADT and 2-5%HGV	2500-5000 and <2% HGV	0-2500 AADT	2	1	need traffic figures	2	No suggested amendments.	1
Ąs	Risk of collision	Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Table 11.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist.	to reduce risk of collision alongside or from behind	Cyclists sharing carriageway - nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists.	lanes outside critical range (3.2m to 3.9m) or in cycle lanes less than	Cyclists in cycle lanes at least 1.8m wide on carriageway; 85th percentile motor traffic speed max 30mph.	Cyclists on route away from motor traffic (off road provision) or in off-carriageway cycle track. Cyclists in stepped / light segregated track; 85th percentile motor traffic speed max 30mph.	2	Critical Fail	Cyclists share carriageway with motor vehicles, lane widths appear to be within critical range	2	Provide dedicated cycling / shared use facilities along this section so that cyclists are not required to share the carriageway with motor vehicles.	2
Safety		A high proportion of collisions involving cyclists occur at junctions. Junctions there-fore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads - cyclist priority and/or speed reduction across side roads Major roads - separation of cyclists from motor traffic through junctions.	13.Conflicting movements at junctions		frequent and/ or untreated. Major junctions, conflicting cycle/ motor traffic movements not separated	Side road junctions infrequent and with effective enterfective introduced in the state of the st	or treated to blend in with footway. Major junctions, all conflicting cycle/ motor traffic	2	0	Connecting junctions to route are untreated, movements are not separated.	2	Review and update junctions layouts along route and provide appropriate signage as neccasary.	2

	Avoid complex design		14.Legible road markings and road layout		Faded, old, unclear, complex road markings/ unclear or unfamiliar road layout	Generally legible road markings and road layout but some elements could be improved	Clear, understandable, simple road markings and road layout	2		No dedicated cycle markings along this route	2	Update signage and road markings for cyclists in line with any proposed shared use/ dedicated cycling facilities.	2
	Consider and reduce risk from kerbside activity	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	15.Conflict with kerbside activity	Narrow cycle lanes <1.5m or less (including any buffer) alongside parking/loading	with kerbside activity (eg nearside cycle lane < 2m (including buffer) wide alongside kerbside parking)	of cyclists, min 2m cycle lanes including buffer.	lane including buffer exceeds 3m.	2	Critical Fail	No Dedicated cycle lane (<1.5m)	2	Kerbside activity could be reduced by providing shared use / dedicated cycle facilities, however bus stops etc may still cause some pedestrian conflict depending on the design of the new layout.	1
	Reduce severity of collisions where they do occur	Wherever possible routes should include "evasion room" (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	16.Evasion room and unnecessary hazards		Cyclists at risk of being trapped by physical hazards along more than half of the route.		The route includes evasion room and avoids any physical hazards.	2	1	Carriageway within critical range, therefore potential for lack of evasion room	2	No suggested amendments.	2
	Surface quality	Density of defects including non cycle friendly ironworks, raised/sunken covers/gullies, potholes, poor quality carriageway paint (eg from previous cycle lane)	17.Major and minor defects		Numerous minor defects or any number of major defects	Minor and occasional defects	Smooth high grip surface	2		Carriageway in relatively good condition, tarmacadam surface	2	No suggested amendments.	2
Comfort		Pavement or carriageway construction providing smooth and level surface	18.Surface type		Any bumpy, unbound, slippery, and potentially hazardous surface.		Machine laid smooth and non- slip surface - eg Thin Surfacing, or firm and closely jointed blocks undisturbed by turning heavy yehicles.	2	2	Machine laid surface coure.	2	No suggested amendments	2
O	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	separated from motor vehicles).	the route includes cycle provision	No more than 50% of the route includes cycle provision with widths which are no more than 25% below desirable minimum values.	of the route includes cycle provision with widths which are no more than 25% below desirable minimum	Recommended widths are maintained throughout whole route	0		No dedicated cycling provision for length of this section	2	Provide dedicated cycling / shared use facilities to the appropriate widths stated in the active travel design guide.	2
	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	20.Signing		Route signing is poor with signs missing at key decision points.	Gaps identified in route signing which could be improved	Route is well signed with signs located at all decision points and junctions	2	0	No route signage	2	Provide neccasary route signage in line with any proposed facilities.	2
	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21.Lighting		Most or all of route is unlit	infrequent unlit/poorly lit sections	Route is lit to highway standards throughout	2	0	Majority of route is unlit	2	Provide lighting to highway standards	2
			22.Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	2	1	Route is mostly along a main road and not far from activity, overlooked for some of its length	2	No suggested amendments.	1

Attractiveness	pedestrians, including people with disabilities	enable people to cycle on- road rather than using footways which are not suitable for shared use. Introducing cycling onto well-	pedestrians, Pedestrian Comfort Level based on TfL's Pedestrian Comfort guide -	is at Level C or below, or residual width for pedestrians is below those recommeded in Section 9.6 of the	is at Level B or above, or residual width for pedestrians is as per those	Pedestrian comfort is at Level A, or residual width for pedestrians is above those recommeded in Section 9.6 of the Guidance.	2		All cycling is currently on road so doesn't affect current pedestrian provision		Provide dedicated cycling lane / shared use facilities to the appropriate widths to ensure pedestrian comfort is maintained.	2
	Minimise street clutter	scheme layout	24.Signs informative and consistent but not overbearing or of inappropriate size	signs needed,	of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.			No route signage present		No suggested amendments.	
	parking	cycle parking within businesses and on street	25. Evidence of bicycles parked to street furniture or cycle stands	provision in	Some secure cycle parking provided but	Secure cycle parking provided, sufficient to meet demand	2	0	No cycle parking		Provide adequate cycle parking in line with demand	2
						Audit Score	46	17		46		40

Route 1.3 Cycling Audit

Key Requirement	Factor	Design Principle	Indicators	Critical	0 (Red)	1 (Amber)	2 (Green)	Total Score	Score	Comments	Total Score	Suggested amendments	Revised Score
	Connections	sections of the same route and between different routes in the network.	Ability to join/ leave route safely and easily: consider left and right turns		Cyclists cannot connect to other routes without dismounting	Cyclists can connect to other routes with minimal disruption to their journey	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	2	0	No dedicated cycling routes along this section, all cycling is on carriageway apart from short section over bridge. No crossing provision for cyclists. Cyclists need to dismount to travel over bridge	2	Provide dedicated cycling / shared use facilities along this section, designed so that cyclists are able to join other sections of the route safely, particularly when crossing the river towards the school	2
Cohesion	Continuity and Wayfinding	with no gaps in provision. 'End of route' signs should not be installed - cyclists should be shown how the route continues. Cyclists should not be 'abandoned', particularly at junctions where provision may be required to ensure safe crossing movements.	2.Provision for cyclists throughout the whole length of the route		Cyclists are 'abandoned' at points along the route with no clear indication of how to continue their journey.	The route is made up of discrete sections, but cyclists can clearly understand how to navigate between them, including through junctions.	Cyclists are provided with a continuous route, including through junctions	2		No dedicated cycling routes along this section, all cycling is on carriageway, no signage to indicate continuation of route across bridge	2	Provide dedicated cycling / shared use facilities along this section with appropriate signage. Particular thought should be given to crossing the river towards the school and continuity of the route for cyclists who wish to continue along the B4337.	2
	Density of network	provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which make up the grid pattern. The ultimate aim should be a network with a mesh width of 250m.	3.Density of routes based on mesh width ie distances between primary and secondary routes within the network		Route contributes to a network density mesh width >1000	Route contributes to a network density mesh width 250 - 1000m	Route contributes to a network density mesh width <250m	2	0	No other routes in network			
	Distance	shortest option available and be as near to the 'asthe- crow-flies' distance as possible.	4. Deviation of route Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative.		Deviation factor against straight line or shortest road alternative >1.4	Deviation factor against straight line or shortest road alternative 1.2 – 1.4	Deviation factor against straight line or shortest road alternative <1.2	2	1	Actual distance along "route" = 463m Distance as the crow flies = 360m Deviation factor = 1.29	2	No suggested amendments.	1
Directness		cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc.	5.Stopping and give way frequency		The number of stops or give ways on the route is more than 4 per km	The number of stops or give ways on the route is between 2 and 4 per km	The number of stops or give ways on the route is less than 2 per km	2	1	Cyclists are legally required to dismount at bridge	2	Provide a new bridge to accommodate cyclists without requirement to dismount	2
Direc	junctions	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.	6.Delay at junctions		Delay for cyclists at junctions is greater than for motor vehicles	junctions is similar to delay for motor vehicles	than for motor vehicles or cyclists are not required to stop at junctions (eg bypass at signals)	2	1	Delay is assumed to be similar to that of cars.	1	No suggested amendments.	1
	Time: Delay on links	The length of delay caused by not being able to bypass slow moving traffic.	7.Ability to maintain own speed on links		Cyclists travel at speed of slowest vehicle (including a cycle) ahead	Cyclists can usually pass slow traffic and other cyclists	Cyclists can always choose an appropriate speed.	2	0	1.5m wide crossing where cyclists are legally required to dismount causes delay fro cyclists	2	Provide widened crossing to active travel standards over river to allow cyclists to cross safely	2

	Gradients	Routes should avoid steep gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow users to retain momentum gained on the descent.	8. Gradient		Route includes sections steeper that the gradients recommended in Section 9.15 of the Guidance	There are no sections of route steeper than the gradients recommended in Section 9.15 of the Guidance	There are no sections of route which steeper than 2%	2		Ramp up to and down from the bridge appears to be steeper than gradients listed in section 9.15	2	Provide improved crossing over river with gradient in accordance with active travel design guidance	2
	Reduce/ remove speed differences where cyclists are sharing the carriageway	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.	9.Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	2		During the audit it did not appear that vehicles are travelling above 20mph on or through the junction with the B4337.		Provide dedicated cycling / shared use facilities along this section so that cyclists are not required to share the carriageway with motor vehicles.	2
		,	10.Motor traffic speed on sections of shared carriageway	85th percentile > 37mph (60kph)	85th percentile >30mph	85th percentile 20mph-30mph	85th percentile <20mph	2	1	Speed limit for the majority of this section is 30mph, therefore 85th percentile speed above 20mph.	2	No suggested amendments	1
	Avoid high motor traffic volumes where cyclists are sharing the carriageway	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	tantageway 11.Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	>10000 AADT, or >5% HGV	5000-10000 AADT and 2-5%HGV	2500-5000 and <2% HGV	0-2500 AADT	2	2	need traffic figures	2	No suggested amendments.	2
	Risk of collision	Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Table 11.1 This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist.	12.Segregation to reduce risk of collision alongside or from behind	Cyclists sharing carriageway - nearside lane in critical range between 3.2m and 3.9m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists.	Cyclists in unrestricted traffic lanes outside critical range (3.2m to 3.9m) or in cycle lanes less than 1.8m wide.	Cyclists in cycle lanes at least 1.8m wide on carriageway; 85th percentile motor traffic speed max 30mph.	Cyclists on route away from motor traffic (off road provision) or in off-carriageway cycle track. Cyclists in stepped / light segregated track; 85th percentile motor traffic speed max 30mph.	2	Critical Fail	Cyclists share carriageway with motor vehicles, lane widths appear to be within critical range		Provide dedicated cycling / shared use facilities along this section so that cyclists are not required to share the carriageway with motor vehicles.	2
Safety		A high proportion of collisions involving cyclists occur at junctions. Junctions there-fore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads - cyclist priority and/or speed reduction across side roads Major roads - separation of cyclists from motor traffic through junctions.	13.Conflicting movements at junctions		Side road junctions frequent and/ or untreated. Major junctions, conflicting cycle/ motor traffic movements not separated	infrequent and with effective entry treatments. Major junctions, principal conflicting	or treated to blend in with footway. Major junctions, all conflicting cycle/	2		Connecting junctions to route are untreated, movements are not separated.	2	Review and update junctions layouts along route and provide appropriate signage as neccasary.	2

	Avoid complex design		14.Legible road markings and road layout		Faded, old, unclear, complex road markings/ unclear or unfamiliar road layout	Generally legible road markings and road layout but some elements could be improved	Clear, understandable, simple road markings and road layout	2		Layout for cyclists straight- forward for majority of route, however unclear that cyclists should cross over and use narrow bridge.	2	Update signage and road markings for cyclists in line with any proposed shared use/ dedicated cycling facilities.	2
	Consider and reduce risk from kerbside activity	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	15.Conflict with kerbside activity	Narrow cycle lanes <1.5m or less (including any buffer) alongside parking/loading	with kerbside activity (eg nearside cycle lane < 2m (including buffer) wide alongside kerbside parking)	Some conflict with kerbside activity - eg less frequent activity on nearside of cyclists, min 2m cycle lanes including buffer.	No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3m.	2	Critical Fail	No Dedicated cycle lane (<1.5m)	2	Kerbside activity could be reduced by providing shared use / dedicated cycle facilites.	1
	Reduce severity of collisions where they do occur	Wherever possible routes should include "evasion room" (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	16.Evasion room and unnecessary hazards		Cyclists at risk of being trapped by physical hazards along more than half of the route.	The number of physical hazards could be further reduced	The route includes evasion room and avoids any physical hazards.	2	1	Bollards present at end of bridge section towards school	2	Reduce gradient of ramp down from the bridge towards the school and remove any bollards.	1
	Surface quality	Density of defects including non cycle friendly ironworks, raised/sunken covers/gullies, potholes, poor quality carriageway paint (eg from previous cycle lane)	17.Major and minor defects		Numerous minor defects or any number of major defects	Minor and occasional defects	Smooth high grip surface	2		Carriageway in relatively good condition, tarmacadam surface.	2	No suggested amendments	1
Comfort		Pavement or carriageway construction providing smooth and level surface	18.Surface type		Any bumpy, unbound, slippery, and potentially hazardous surface.	Hand-laid materials, concrete paviours with frequent joints.	Machine laid smooth and non- slip surface - eg Thin Surfacing, or firm and closely jointed blocks undisturbed by turning heavy yehicles.	2		Machine laid surface course on carriageway	2	Provide widened crossing to active travel standards over river with high friction surface.	2
0	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	separated from motor vehicles).	the route includes cycle provision with widths which are more than 25% below desirable	No more than 50% of the route includes cycle provision with widths which are no more than 25% below desirable minimum values.	of the route includes cycle provision with widths which are no more than 25% below desirable minimum	Recommended widths are maintained throughout whole route	0		No dedicated cycling provision for length of this section	2	Provide dedicated cycling / shared use facilities to the appropriate widths stated in the active travel design guide.	2
	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	20.Signing		Route signing is poor with signs missing at key decision points.	Gaps identified in route signing which could be improved	Route is well signed with signs located at all decision points and junctions	2	0	No route signage	2	Provide neccasary route signage in line with any proposed facilities.	2
	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	21.Lighting		Most or all of route is unlit	infrequent unlit/poorly lit sections	Route is lit to highway standards throughout	2	0	Lack of lighting for majority of this section of the route.	2	No suggested amendments.	0
			22.Isolation		Route is generally away from activity	Route is mainly overlooked and is not far from activity throughout its length	Route is overlooked throughout its length	2		Route is not far from activity and is overlooked for most of its length.	2	No suggested amendments.	2

Attractiveness	pedestrians, including people with disabilities	road cycle provision can enable people to cycle on- road rather than using footways which are not suitable for shared use. Introducing cycling onto well-	23.Impact on pedestrians, Pedestrian Comfort Level based on TfL's Pedestrian Comfort guide - Section 9.6 of the Guidance	is at Level C or below, or residual width for pedestrians is below those recommeded in Section 9.6 of the	above, or residual width for pedestrians is as per those	Pedestrian comfort is at Level A, or residual width for pedestrians is above those recommeded in Section 9.6 of the Guidance.	2		Cycling / pushing a bicycle over the bridge would affect pedestrians also using the bridge due to narrow 1.5m width.		Provide dedicated cycling lane / shared use facilities to the appropriate widths to ensure pedestrian comfort is maintained.	2
		scheme layout	24.Signs informative and consistent but not overbearing or of inappropriate size	signs needed,	of signing particularly around junctions.	Signing for wayfinding purposes only and not causing additional obstruction.			No route signage present		No suggested amendments.	
	parking	cycle parking within businesses and on street	25. Evidence of bicycles parked to street furniture or cycle stands	provision in	cycle parking provided but	Secure cycle parking provided, sufficient to meet demand	2	0	No cycle parking		Provide adequate cycle parking in line with demand	2
						Audit Score	46	16		45		38

	Walking Route Audit Tool		Existing Situat	tion		Suggested Amendments				
Section	Description	Total Available Score	Score	%	Critical Fails	Total Available Score	Score	%	Critical Fails	
1.1	Texaco Garage to Bridge by Black Lion Pub	36	21	58%	1	36	35	97%	0	
1.2	Bridge By Black Lion Pub to School Via A487	36	7	19%	1	36	34	94%	0	
1.3	Bridge By Black Lion Pub to School Via B4337	34	7	21%	1	34	28	82%	0	

Total Available Score (Walking)

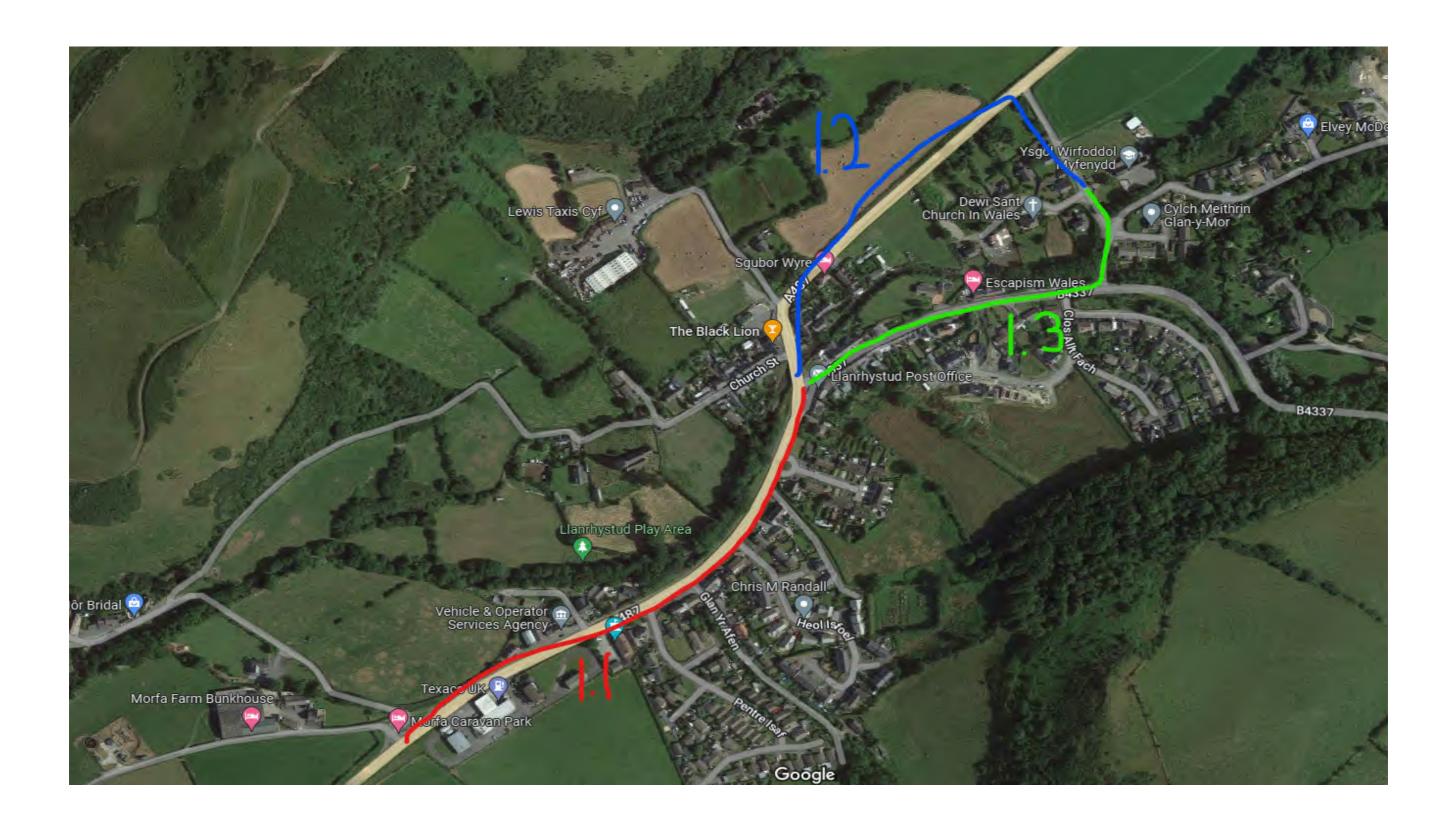
40

Score (%)	Pass fail
80%	Pass (desirable score)
70%	Pass
60 - 69%	Fail (but may be eligible to be passed with a statement)
60% or below	Fail
Any score with a critical fail	Fail

The walking tool is scored out of 20 indicators (with one non-scored), and the cycling tool of 25 indicators. Each indicator is scored out of a maximum of 2 points, with a maximum of 40 points available for walking routes, and 50 available for a cycling route. These scores are then converted to percentages to establish if a route is a 'pass' or 'fail', as shown below.

Welsh Active Travel Act Guidance

Appendix H Audit Tools score criteria



1.1 Walking Assessment

1.1	Walking Assessment									
Audit Categories	2 (Green)	1 (Amber)	0 (Red)	Critical	Total Available Score	Score	Comments	Suggested amendments	Total Available Revised Score	Revised Score
ATTRACTIVENESS maintenance	Footways well maintained, with no significant issues noted.	Minor littering. Overgrown vegetation. Street furniture falling into minor disrepair (for example, peeling paint).	Littering and/or dog mess prevalent. Seriously overgrown vegetation, including low branches. Street furniture falling into major disrepair.		2	1	Northern footway is well maintained with no evidence of littering or overgrown vegetation. However, evidence of general disrepair and lack of maintainance on A487 southern footway.	Suggest footway surface on southern side of road is repaired, with tactiles replaced to current standards	2	2
2. ATTRACTIVENESS - fear of crime	No evidence of vandalism with appropriate natural surveillance.	street).	Major or prevalent vandalism. Evidence of criminal/ antisocial activity. Route is isolated, not subject to natural surveillance (including where sight lines		2	2	This section of the route is located on what appears to be a well lit main road, with traffic regularly passing. Also houses and businesses facing the route for most of	No suggested amendments	2	2
ATTRACTIVENESS traffic noise and pollution	Traffic noise and pollution do not affect the attractiveness.	Levels of traffic noise and/or pollution could be improved.	Severe traffic pollution and/or severe traffic noise.		2	1	Traffic noise and pollution not observed to be offputting	Suggest introduction of 20mph speed limit to reduce air pollution and traffic noise	2	2
4. ATTRACTIVENESS - other	Examples of 'other' attractiven - Evidence that lighting is not p - Temporary features affecting - Excessive use of guardrail or Score 0-2 as appropriate	present, or is deficient; the attractiveness of routes (e.	g. refuse sacks).		2	2	Route appears to be well lit, with regularly placed rest points for pedestrians (benches)	No suggested amendments	2	2
5. COMFORT - condition	Footways level and in good condition, with no trip hazards.	Some defects noted, typically isolated (such as trenching or patching) or minor (such as cracked, but level pavers). Defects unlikely to result in trips or difficulty for wheelchairs, prams etc. Some footway crossovers resulting in uneven surface.	or trenching. Large number of footway crossovers resulting in uneven surface.		2	1	Footway on North side level and generally in good condition with minor defects noted from footway partial repairs/slit trenches over some short lengths. Footway on South side of carriageway features a large number of junctions and crossovers, resulting in an uneven surface	Resurface areas where patching is present on footway. Undertake review of Southern footway to improve pedestrian safety, and clear segregation between carriageway and footway areas. Continuous crossings at side roads would also provide further comfort gains.	2	2
6. COMFORT - footway width	A, or width is above those recommended in Section 9.6 of the Guidance (>2m).	Pedestrian comfort is at Level B or above, or width is as per those recommended in Section 9.6 of the Guidance (1.5m - 2m).	Pedestrian comfort is at Level C or below, or width is below those recommended in Section 9.6 of the Guidance (<1.5m).		2		The path was generally between 1.5-2 and wider in some instances. No widths below 1.5m were recorded for this section.	The number of users should be counted and compared to Table 11.5 of the ATAG. If neccesary widen accordingly. Widening could be undertaken to the footway on the North side of the carriageway to provide 2.0m Desireable Minimum, per the Active Travel Guidance	2	2
7. COMFORT - width on staggered crossings/ pedestrian islands/refuges	A, or width is above those	Pedestrian comfort is at Level B or above, or width is as per those recommended in Section 9.6 of the Guidance (1.5m - 2m).			2	1	Some crossings along the route were less than 1.5m, however some 2m crossings were also observed.	Widen all uncontrolled crossings to 2m	2	2

8. COMFORT - footway parking 9. COMFORT	No instances of vehicles parking on footways noted. Clearance widths generally in excess of 2m between permanent obstructions.	Clearance widths between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads due to footway parking. Footway parking causes some deviation from desire. Slopes exist but gradients do	Clearance widths less than 1.5m. Footway parking requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay. Footway parking causes significant deviation from Gradients exceed 8 per cent	2	0	Footway parking observed on southern footway, however northern footway was free of footway parking and minimum width of 1.5m clearance between obstructions. No slopes observed on	Traffic orders or formal parking provision should be considered. Also suggested that improvements are made to regularise parking and improve footway provision adjacent Glan Yr Afen No suggested amendments	2	2
- gradient	footway.	not exceed 8 per cent (1 in	(1 in 12).	2	2	footway	no suggested amendments	2	2
10.COMFORT - other	opened into footway); - Barriers/gates restricting according - Bus shelters restricting clears	icting clearance width for pedes ess; and	, 0 , 0	2	1	Some ponding issues and obstructions noted on southern footway, however northern footway is free from obstruction and ponding. Clearance at bus shelters is above 2m.	Resurface southern footway areas where ponding is present	2	2
11.DIRECTNESS - footway provision	Footways are provided to cater for pedestrian desire lines (e.g. adjacent to road).	Footway provision could be improved to better cater for pedestrian desire lines.	Footways are not provided to cater for pedestrian desire lines.	2	2	The route is adjacent to the A487 for its extent. Some potential crossing points (particularly by the bridge) have been missed.	Provide an uncontrolled crossing point directly adjacent to the bridge, and at other locations along the route	2	2
12.DIRECTNESS - location of crossings in relation to desire lines	Crossings follow desire lines.	Crossings partially diverting pedestrians away from desire lines.	Crossings deviate significantly from desire lines.	2	1	Location of uncontrolled crossings along this section reflect anticipated desire lines, additional crossings could be added to improve directness.	Dependant on demand provide an uncontrolled or controlled crossing point directly adjacent to the bridge and at other locations along the route	2	2
13.DIRECTNESS - gaps in traffic (where no controlled crossings present or if likely to cross outside of controlled	Crossing of road easy, direct, and comfortable and without delay (< 5s average).	Crossing of road direct, but associated with some delay (up to 15s average).	Crossing of road associated indirect, or associated with significant delay (>15s average).	2	1	Sufficient gaps in traffic to comfortably cross road using uncontrolled crossings, crossing time less than 15 seconds.	No suggested amendments	2	1
14.DIRECTNESS - impact of controlled crossings on journey time	Crossings are single phase pelican/puffin or zebra crossings.	Crossings are staggered but do not add significantly to journey time. Unlikely to wait >5s in	Staggered crossings add significantly to journey time. Likely to wait >10s in pedestrian is-land.			There were no controlled crossings along this route, therefore this factor is not relevant.	No suggested amendments	0	0
15. DIRECTNESS - green man time	Green man time is of sufficient length to cross comfortably.	Pedestrians would benefit from extended green man time but current time unlikely to deter users	Green man time would not give vulnerable users sufficient time to cross			There were no controlled crossings along this route, therefore this factor is not relevant	No suggested amendments	0	0
16.DIRECTNESS - other	Examples of 'other' directness - Routes to/from bus stops not - Steps restricting access for a - Confusing layout for pedestris Score 0-2 as appropriate	accommodated;	for users.	2	1	Route is direct along this section, with no diversion required to access bus shelters etc, no steps noted and straight-forward layout.	Shorten corssing distance between tactiles adjacent Glan Yr Afen	2	2
17.SAFETY - traffic volume	Traffic volume low, or pedestrians can keep distance from moderate traffic volumes.	Traffic volume moderate and pedestrians in close proximity.	High traffic volume, with pedestrians unable to keep their distance from traffic.	2	2	Route adjacent to A487 however moderate traffic volume noted with footway width sufficient to keep distance from passing traffic	No suggested amendments	2	2
18.SAFETY - traffic speed	Traffic speeds low, or pedestrians can keep distance from moderate traffic speeds	pedestrians in close	High traffic speeds, with pedestrians unable to keep their distance from traffic.	2	0	Speeds currently high and aforementioned parking creates risk	Suggest reduced speed limit through this section	2	2
19.SAFETY - visibility	Good visibility for all users.	Visibility could be somewhat improved but unlikely to result in collisions.	Poor visibility, likely to result in collisions.	2	2	Route is relatively straight for the most part with good visibility along entire length.	No suggested amendments	2	2

COHERENCE dropped kerbs and tactile paving	Dropped kerb and tactile paving meets current standards.	Dropped kerbs and tactile paving provided, albeit not to current standards.	Dropped kerbs provided but tactile paving absent or incorrect.	Dropped kerbs and tactile paving absent along the route.	2			Replace existing tactile paving to current standard	2	2
COHERENCE	Signage - Note the presence factor)				Ü	Provide route signage highlighting prescence of route				
				Total Score	36	21	Total Revi	sed Score	36	35

1.2 Walking Assessment

1.2 Walking Assessment										
Audit Categories	2 (Green)	1 (Amber)	0 (Red)	Critical	Total Available Score	Score	Comments	Suggested amendments	Total Available Revised Score	Revised Score
ATTRACTIVENESS maintenance	Footways well maintained, with no significant issues noted.	falling into minor disrepair (for example, peeling paint).	Littering and/or dog mess prevalent. Seriously overgrown vegetation, including low branches. Street furniture falling into major disrenair		2	2	Northern footway is well maintained with no evidence of littering or overgrown vegetation.	No suggested amendments	2	2
2. ATTRACTIVENESS - fear of crime	No evidence of vandalism with appropriate natural surveillance.	natural surveillance (e.g.	Major or prevalent vandalism. Evidence of criminal/ antisocial activity. Route is isolated, not subject to natural surveillance (including where sight lines		2	1	This section of the route is locatied on a main road with traffic regularly passing. Also houses and pub facing the route for some of the length.	Even with active travel route improvements, natural surveillance will still be limited along this section	2	1
ATTRACTIVENESS traffic noise and pollution	Traffic noise and pollution do not affect the attractiveness.	Levels of traffic noise and/or pollution could be improved.	Severe traffic pollution and/or severe traffic noise.		2	1	Traffic noise and pollution not observed to be offputting	Suggest introduction of reduced speed limit to reduce air pollution and	2	2
4. ATTRACTIVENESS - other	Examples of 'other' attractiven - Evidence that lighting is not - Temporary features affecting - Excessive use of guardrail or Score 0-2 as appropriate	oresent, or is deficient; the attractiveness of routes (e.g	g. refuse sacks).		2	0	No footway present from the Black Lion pub until junction with the school and no lighting along this section	Provide lit footway link to connect to exisitng route adjacent to school	2	2
5. COMFORT - condition	Footways level and in good condition, with no trip hazards.		subsided or fretted pavement, or significant uneven patching or trenching. Large number of footway crossovers resulting in uneven surface.		2	0	No footway present from the Black Lion pub until junction with the school	Provide footway link to connect to footway at junction to school	2	2
6. COMFORT - footway width	Pedestrian comfort is at Level A, or width is above those recommended in Section 9.6 of the Guidance (>2m).	Pedestrian comfort is at Level B or above, or width is as per those recommended in Section 9.6 of the Guidance	Pedestrian comfort is at Leve C or below, or width is below those recommended in Section 9.6 of the Guidance (<1.5m)		2	0	No footway present from the Black Lion pub until junction with the school	Provide active travel standard footway link to connect to exisitng footway near junction to school.	2	2
7. COMFORT - width on staggered crossings/ pedestrian islands/refuges	Pedestrian comfort is at Level A, or width is above those recommended in Section 9.6 of the Guidance (>2m) to accommodate wheel-chair	Pedestrian comfort is at Level	Pedestrian comfort is at Leve C or below, or width is below those recommended in Section 9.6 of the Guidance (<1.5m) i.e. standard		2	0	Some crossings are present but below 1.5m width	Widen existing crossings to 2m where possible, widen footway if neccasary	2	2
8. COMFORT - footway parking	No instances of vehicles parking on footways noted. Clearance widths generally in excess of 2m between permanent obstructions.		Clearance widths less than 1.5m. Footway parking requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay. Footway parking causes significant deviation from		2	0	No Footway parking observed along this section, however pedestrians still forced to walk on highway due to lack of footway	Provide continuous footway link to connect to footway at junction to school	2	2
9. COMFORT - gradient	There are no slopes on footway.	Slopes exist but gradients do not exceed 8 per cent (1 in 12).	Gradients exceed 8 per cent (1 in 12).		2	2	Where footway is present the gradient is below 8%, however there is a significant portion of the route where no footway is present	Provide footway link to connect to footway at junction to school	2	2
10.COMFORT - other	opened into footway); - Barriers/gates restricting acc - Bus shelters restricting clear	icting clearance width for pedes ess; and			2	0	Lack of footway along this section significantly detracts from the attractiveness of this route. Bus shelter located on footway means that footway ends with no continuity.	Provide footway link to connect to footway at junction to school and relocate exising bus stop adjacent to Black lion.	2	2

11.DIRECTNESS	Egotwaya ara provided to	Footway provision and b	Footstove ere not not ideal to		1		There is no footway provision	Drovido continuous factures	^	
	Footways are provided to cater for pedestrian desire	Footway provision could be improved to better cater for	Footways are not provided to cater for pedestrian desire		2	0	for a significant extent of this	Provide continuous footway link to connect to footway at	2	2
iodway provision	lines (e.g. adiacent to road).	pedestrian desire lines.	lines.		-	,	route.	iunction to school		_
12.DIRECTNESS		Crossings partially diverting	Crossings deviate				No suitable crossing to	Provide active travel	2	
- location of crossings in relation		pedestrians away from desire	significantly from desire lines.		2	0	opposite side of the road,	compliant crossings in		2
to desire lines		lines.			-	٠	including bus stop.	locations on the pedestrian		_
13.DIRECTNESS	Crossing of road easy, direct,	Crossing of road direct, but	Crossing of road associated					desire line Provide improved crossing	2	
	and comfortable and without		indirect, or associated with				Crossing widths and proximity	facilities in this section of the		
controlled crossings present or if		(up to 15s average).	significant delay (>15s		2	0	to junctions makes it difficult	route, linking the two bus		2
likely to cross outside of con-	usiay (100 average).	(up to 100 avolugo).	average).		2	U	to cross In this location	stops adjacent to the Black		2
trolled							without crossing provision.	Lion Pub		
14.DIRECTNESS	0	0	04					No	0	
_	Crossings are single phase pelican/puffin or zebra	Crossings are staggered but do not add significantly to	Staggered crossings add significantly to journey time.				There were no controlled	No suggested amendments	U	
		journey time.	Likely to wait >10s in				crossings along this route,			0
journey time		Unlikely to wait >5s in	pedestrian is-land.				therefore this factor is not			·
journey unie		nedestrian island	pedestriari is-iarid.				relevant.			
		Pedestrians would benefit	Green man time would not				There were no controlled	No suggested amendments	0	
	sufficient length to cross	from extended green man	give vulnerable users				crossings along this route,			0
	comfortably.		sufficient time to cross				therefore this factor is not			_
16.DIRECTNESS	Examples of 'other' directness	to deter users	comfortably				relevant. No provision to cross to	Provide improved crossing	2	
- other	- Routes to/from bus stops not						opposite side of road,	facilities along the route,	2	
- otrici	 Steps restricting access for al 						dropped kerb present on	including linking the two bus		
		ans creating severance issues t	for users		2	0	eastern side of road opposite	stops adjacent to the Black		2
	Score 0-2 as appropriate	and oreating deverance located i	ioi usors.				bridge, but no tactiles and no	Lion Pub. Ensure there is		
	coole o 2 do appropriate						matching dropped kerb on	contunuity for route including		
47.0AEET)/	T#	T#:	11:b. 4 #:				opposite side of road	auitable areasings	0	
	Traffic volume low, or	Traffic volume moderate and	High traffic volume, with					Provide footway for extent of	2	
		pedestrians in close	pedestrians unable to keep their distance from traffic.			_	No footway therefore	route to ensure pedestrians		
	distance from moderate traffic volumes.	proximity.	their distance from traffic.		2	0	pedestrians unable to keep	are able to keep safe distance passing traffic		2
	volumes.						distance from traffic	distance passing trainc		
18.SAFETY	Troffic and along an	Traffic speeds moderate and	I limb traffic anada with					Dravida facturar for extent of	2	
	Traffic speeds low, or pedestrians can keep	pedestrians in close	High traffic speeds, with pedestrians unable to keep				No footway therefore	Provide footway for extent of route to ensure pedestrians	2	
	distance from moderate traffic		their distance from traffic.		2	0	pedestrians unable to keep	are able to keep safe		2
	sneeds	proximity.	their distance from trainc.				distance from traffic	distance passing traffic		
19.SAFETY	Good visibility for all users.	Visibility could be somewhat	Poor visibility, likely to result				Route is reletively straight	minor vegetation clearance	2	
- visibility	•	improved but unlikely to result	in collisions.				apart from sharp bend after	at locations of limited		
		in collisions.			2	1	the Black Lion pub and at the	visibility		1
							junction with the Trunk Road			
20. COHERENCE	Dropped kerb and tactile	Dropped kerbs and tactile	Dropped kerbs provided but	Dropped kerbs			by the school	Reprovide existing tactiles to	2	
		paving provided, albeit not to	tactile paving absent or	and tactile				meet current standards,	2	
		current standards.	incorrect.	paving absent				remove dropped kerb on		
paving	Standards.	current standards.	incorrect.				Tactile paying missing at	junction with B4337. Provide		
				along the route.			Tactile paving missing at crossing along stretch of	tactiles on crossing along		
				route.	2	0	unamed road from junction	stretch of unamed road from		2
							with A487 towards school	junction with A487 towards		
								school		
COHERENCE	Signage - Note the presence a	nd quality of route signage (no	score is required for this					Provide proper route signage		
	factor)	. , , , , , , , , , , , , , , , , , , ,	·					to increase awareness of		
								route		
							There was no route signage			
							along the route			
							Ŭ			
				Total Score	36	7		Total Revised Score	36	34

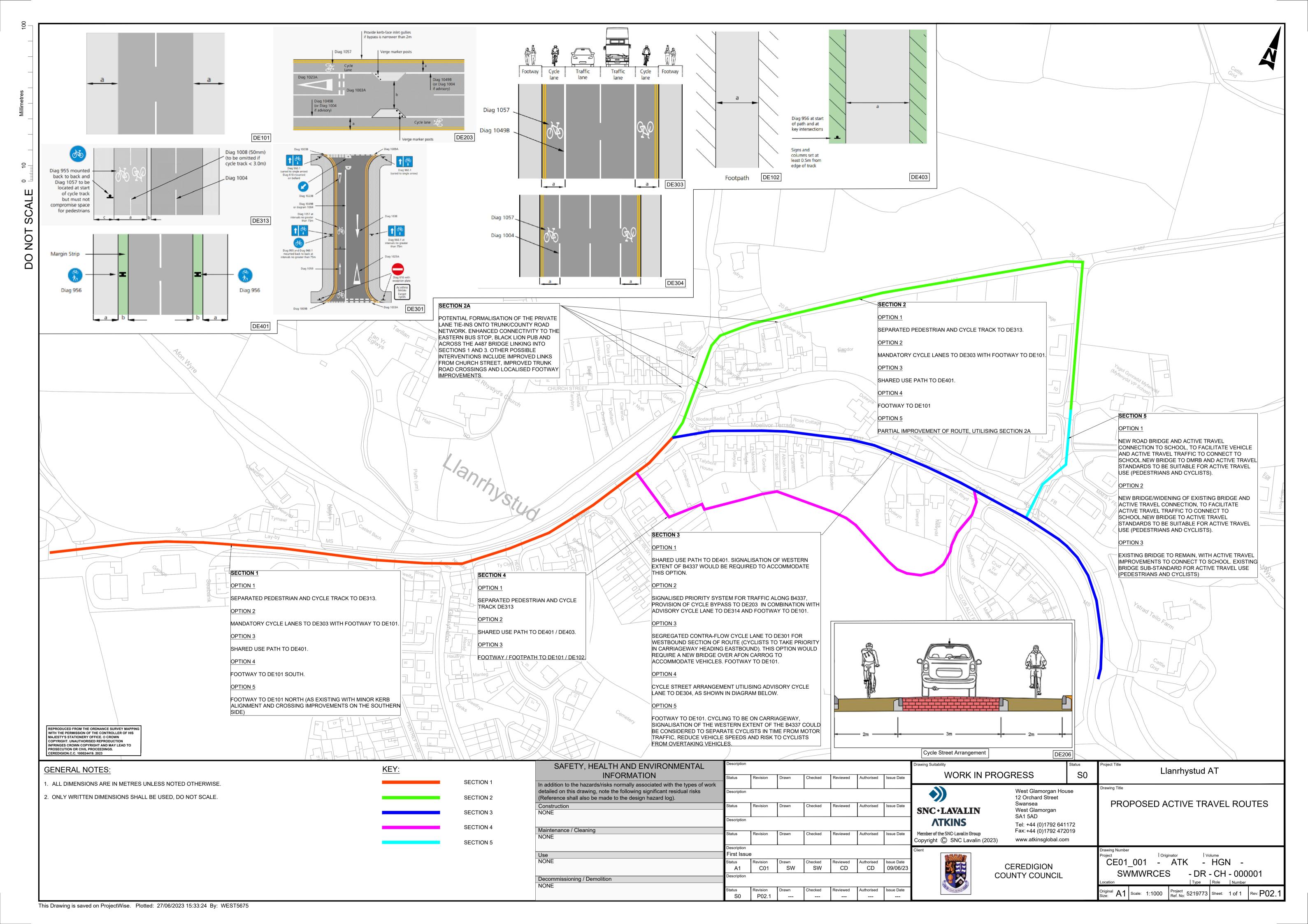
1.3 Walking Assessment

	3 Walking Assessment				Total Available				Total Available	Revised
Audit Categories	2 (Green)	1 (Amber)	0 (Red)	Critical	Score	Score	Comments	Suggested amendments	Revised Score	
ATTRACTIVENESS maintenance	Footways well maintained, with no significant issues noted.	Minor littering. Overgrown vegetation. Street furniture falling into minor disrepair (for example, peeling paint).	Littering and/or dog mess prevalent. Seriously overgrown vegetation, including low branches. Street furniture falling into major disrepair.		2	0	"Footway" appears to be ill maintained on both sides of the road for start of this section, varying surface materials detracts from pedestrian comfort. Section over the bridge towards school noted to have lack of maintanance, build up of leaves etc.	Formalise footway provision by providing active travel standard footway with single material used for pavement surface. Suggest more regular maintenance of bridge section.	2	2
2. ATTRACTIVENESS - fear of crime	No evidence of vandalism with appropriate natural surveillance.	Minor vandalism. Lack of active frontage and natural surveillance (e.g. houses set back or back onto street).	Major or prevalent vandalism. Evidence of criminal/ antisocial activity. Route is isolated, not subject to natural surveillance (including where sight lines are inadequate).		2	1	Majority of this section of the route is located on a road with traffic regularly passing. Also houses and facing the route for majority of the length. Short section of footway over the river is more isolated away from natural surveilance.	No suggested amendments	2	1
ATTRACTIVENESS traffic noise and pollution	Traffic noise and pollution do not affect the attractiveness.	Levels of traffic noise and/or pollution could be improved.	Severe traffic pollution and/or severe traffic noise.		2	1	Traffic noise and pollution not observed to be offputting.	No suggested amendments	2	1
4. ATTRACTIVENESS - other	Examples of 'other' attractiven - Evidence that lighting is not p - Temporary features affecting - Excessive use of guardrail or Score 0-2 as appropriate	present, or is deficient; the attractiveness of routes (e.	g. refuse sacks).		2	0	Unclear whether pavement is intended to be a pedestrian footway or merely act as separation between properties and carriageway for some of the length of this scheme, varied pavement surface contributes to poor levels of attractiveness. Lack of public lighting along this section also noted.	Formalise footway provision by providing active travel standard footway with single material used for pavement surface. Undertake lighting assessment and provide lighting as appropriate. Suggest more regular maintenance of bridge section.	2	2
5. COMFORT - condition	Footways level and in good condition, with no trip hazards.		subsided or fretted pavement, or significant uneven patching or trenching. Large number of footway crossovers resulting in uneven surface.		2	0	Unclear whether pavement is intended to be public footway for some of the length. Uneven surface in varying states of disrepair with varying crossfall. High likelyhood of trips and falls with significant difficulty for prams, wheelchairs etc. Leaves and debris near bridge section also likely to increase risk of slips and falls.	Formalise footway provision by providing active travel standard footway with single material used for pavement surface. Suggest more regular maintenance of bridge section.	2	2
6. COMFORT - footway width	Pedestrian comfort is at Level A, or width is above those recommended in Section 9.6 of the Guidance (>2m).	Pedestrian comfort is at Level B or above, or width is as per those recommended in Section 9.6 of the Guidance (1.5m - 2m).	Pedestrian comfort is at Level C or below, or width is below those recommended in Section 9.6 of the Guidance (<1.5m).		2	0	Pavement with varying widths generally less than 2m, with no pavement along some lengths of this section.	Formalise footway provision along by providing active travel standard footway with single material used for pavement surface.	2	2

7. COMFORT - width on staggered crossings/ pedestrian islands/refuges	A, or width is above those recommended in Section 9.6 of the Guidance (>2m) to accommodate wheel-chair	Pedestrian comfort is at Level B or above, or width is as per those recommended in Section 9.6 of the Guidance (1.5m - 2m).	C or below, or width is below those recommended in Section 9.6 of the Guidance (<1.5m) i.e. standard	0	0	No staggered crossings present along this section	No suggested amendments	0	0
COMFORT footway parking	excess of 2m between permanent obstructions.	Clearance widths between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads due to footway parking. Footway parking causes some deviation from desire lines.	Clearance widths less than 1.5m. Footway parking requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay. Footway parking causes significant deviation from desire lines.	2	0	Instances of footway parking observed with less than 1.5m width available for pedestrians to pass, narrow footway in some areas means that pedestrians are forced to walk on carriageway.	Formalise footway provision by providing active travel standard footway with single material used for pavement surface. Suggest more regular maintenance of bridge section.	2	2
9. COMFORT - gradient	footway.	Slopes exist but gradients do not exceed 8 per cent (1 in 12).	Gradients exceed 8 per cent (1 in 12).	2	1	Footway is observed to be steep before and after bridge over the river, combined with narrow footway over this length, however footway generally less than 8% for this section of the route.	No suggested amendments	2	1
10.COMFORT - other	Examples of 'other' comfort issues include: - Temporary obstructions restricting clearance width for pedestrians (e.g. driveway gates opened into footway); - Barriers/gates restricting access; and - Bus shelters restricting clearance width Poorly drained footways resulting in noticeable ponding issues/slippery surfaces Score 0-2 as appropriate			2	0	It is not clear whether the pavement along this section of the route is intented to be used as a public footway. The pavement surface has varying materials with some of them noticably slippery, narrow widths and obstacles at the front of the properties significantly detract from pedestrian comfort		2	2
11.DIRECTNESS - footway provision	Footways are provided to cater for pedestrian desire lines (e.g. adjacent to road).	Footway provision could be improved to better cater for pedestrian desire lines.	Footways are not provided to cater for pedestrian desire lines.	2	0	It is not clear whether the pavement along some of this route is intented to be used as a public footway. In some instances pedestrians are forced to walk on the carriageway due to the lack of footway therefore not catering for pedestrian desire lines.		2	2
12.DIRECTNESS - location of crossings in relation to desire lines	Crossings follow desire lines.	Crossings partially diverting pedestrians away from desire lines.	Crossings deviate significantly from desire lines.	2	1	Where crossings are present they follow pedestrian desire lines	No suggested amendments	2	1
likely to cross outside of con- trolled	and comfortable and without delay (< 5s average).	Crossing of road direct, but associated with some delay (up to 15s average).	Crossing of road associated indirect, or associated with significant delay (>15s average).	2	1	Possible to cross road without controlled crossing	No suggested amendments	2	1
14.DIRECTNESS - impact of controlled crossings on journey time	crossings.	Crossings are staggered but do not add significantly to journey time. Unlikely to wait >5s in nedestrian island	Staggered crossings add significantly to journey time. Likely to wait >10s in pedestrian is-land.	0	0	There were no controlled crossings along this route, therefore this factor is not relevant.	No suggested amendments	0	0
15. DIRECTNESS - green man time	Green man time is of sufficient length to cross comfortably.	Pedestrian swould benefit from extended green man time but current time unlikely to deter users	Green man time would not give vulnerable users sufficient time to cross comfortably	0	0	There were no controlled crossings along this route, therefore this factor is not relevant	No suggested amendments	0	0

16.DIRECTNESS - other	Examples of 'other' directness issues include: - Routes to/from bus stops not accommodated; - Steps restricting access for all users; - Confusing layout for pedestrians creating severance issues for users. Score 0-2 as appropriate				2	0	Lack of crossing provision potentially causes issues for pedestrians, one instance of tactiles placed incorrectly which could cause confusion for pedestrians.	Provide crossing faclities with tactiles and dropped kerbs to active travel standard where required.	2	2
17.SAFETY - traffic volume	pedestrians can keep distance from moderate traffic volumes.	·	High traffic volume, with pedestrians unable to keep their distance from traffic.		2	0	No footway provision for some lengths stopping pedestrians from being able to keep their distance from traffic	Formalise footway provision by providing active travel standard footway with single material used for pavement surface. Suggest more regular maintenance of bridge section.	2	2
18.SAFETY - traffic speed		Traffic speeds moderate and pedestrians in close proximity.	High traffic speeds, with pedestrians unable to keep their distance from traffic.		2	1	No footway provision for some lengths stopping pedestrians from being able to keep their distance from traffic	Formalise footway provision by providing active travel standard footway with single material used for pavement surface. Suggest more regular maintenance of bridge section.	2	2
19.SAFETY - visibility	,	Visibility could be somewhat improved but unlikely to result in collisions.			2	1	Route is relatively straight for entire length with good visibility. Limited visibility at bridge over river.	No suggested amendments	2	1
20. COHERENCE - dropped kerbs and tactile paving		Dropped kerbs and tactile paving provided, albeit not to current standards.	Dropped kerbs provided but tactile paving absent or incorrect.	Dropped kerbs and tactile paving absent along the route.	2	0	Tactile paving provided at crossing after bridge over river is incorrect. Tactile paving missing at crossing opposite school.	Provide crossing facilities with tactiles and dropped kerbs to active travel standard where required.	2	2
COHERENCE	Signage - Note the presence and quality of route signage (no score is required for this factor)						There was no route signage along the route	Provide route signage to ensure that route is sufficiently signposted		
				Total Score	34	7		Total Revised Score	34	28

Appendix C. Initial Active Travel Route Sections Drawings



Appendix D. Feasibility Drawings

