## Technical Note

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

[^0]
## 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 <br> Authority | Typical <br> Width <br> $(\mathbf{m})$ | Narrowest <br> Width (m) | Posted <br> Speed Limit <br> $(\mathrm{mph})$ | Additional Comments |
| :---: | :---: | :---: | :---: | :---: | :--- |
| TRA487 | NMWTRA | 7.6 m | 6.2 m | 30 mph | 2 No. existing pedestrian <br> crossing islands |
| B4337 |  | 6.4 m | 5.7 m | $* 30 \mathrm{mph}$ | Significant anticipated <br> boundary/capacity constraints <br> between existing properties |
| Un-Named <br> County <br> Network | CSCCC |  | 5.3 m | 4.8 m | $* 30 \mathrm{mph}$ | | 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 20 mph . This is in line with the Welsh Government's 20 mph rollout strategy which will start being implemented across the country from the $17^{\text {th }}$ 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 <br> (National Grid <br> Reference) | Speed of <br> Road at Time <br> of Survey | Speed (85th <br> Percentile) | Calculated <br> Average Daily <br> Traffic Flows | Peak Hourly <br> Flow (\% <br> Total Daily) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SS455 | A487 <br> $(253491,269315)$ | 40 mph | 44 mph | 6390 | $555(9 \%)$ |
| 1 | B4337 <br> $(254177,269776)$ | 30 mph | 25 mph | 2786 | $282(9 \%)$ |
| 2 | Outside School <br> $(254129,269927)$ | 20 mph | 25 mph | 400 | $100(16 \%)$ |

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

### 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 tools ${ }^{2}$. 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.

[^1]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. <br> No evidence of littering of overgrown vegetation. <br> Evidence of general disrepair on A478 southern footway. <br> Traffic noise and pollution not off putting. | Footways generally between 1.5-2m with occasional minor defects and parking on footway. <br> Some crossings were below 1.5 m , while 2 m crossings were also observed. <br> No slopes observed along route. | Route contains numerous uncontrolled crossings which generally reflect anticipated desire lines. <br> Route is direct with good access to bus shelters. <br> 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. <br> Speeds are currently high which causes risks due to footway parking. | Dropped kerbs and tactile provided however not to current standard. <br> No route signage present. | The existing provisions scored a failing $58 \%$ which included a critical failure. <br> With the suggested amendments the route scored $97 \%$. <br> 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. <br> 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. <br> Some crossings are present however they are below 1.5 m in width. | No footways present for significant sections along the route. <br> Lack of crossing point along route to bus stop. <br> 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. <br> No route signage present. | The existing provisions scored a failing $19 \%$ which included a critical failure. <br> With the suggested amendments the route scored $94 \%$. <br> The critical failure was for dropped kerbs and tactile paving being absent along the route. |

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 2 m 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. <br> Pedestrian comfort not impacted due to cycling on carriageway. <br> No route signage or cycle parking provided. | Machine laid surface in relatively good condition. <br> 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. <br> 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. <br> Potential lack of evasion room as carriageway is within critical range. <br> $85 \%$ percentile speed appears to be above 30 mph on sections of shared carriageway. | The route features no dedicated cycling provisions along this section. <br> This route is the only one on the network. | The existing provisions scored a failing $46 \%$ which included 2 critical fails. <br> With the suggested amendments the route scored 91\%. <br> 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 <br> Element | Speed Limit | Design Speed | Derivation |
| :--- | :--- | :--- | :--- |
| Link | 48kph (30mph) | 60 kph | DMRB CD109 (Table 2.5) |
|  | $32 \mathrm{kph}(20 \mathrm{mph})$ | - | MfS (Table 7.1) (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 <br> Element | Road Type | Carriageway | Derivation |
| :--- | :--- | :--- | :--- |
| }{} | S2 - Trunk Road <br> (existing) | 7.3m Minimum Two Way <br> Full Carriageway Width | DMRB CD109 (Table 2.3) |
|  | S2 - Trunk Road/County <br> Road | 6m Minimum Two Way <br> Full Carriageway Width | DMRB CD109 (Table 2.3) |
|  | - | 5.5m Two Way Full <br> Carriageway Width (Two <br> HGV's to pass) | Manual for Streets (Figure <br> $7.1)$ |
|  | - | 4.8m Two Way Full <br> Carriageway Width (One <br> HGV and car to pass) | Manual for Streets (Figure <br> 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 <br> Element | Parameter | Derivation |
| :--- | :--- | :--- |
| Width | 2 m width for Pedestrian Track <br> 2.5 m width for Cycle Track <br> 0.5 m additional Cycle Track width when bounded by <br> vertical features above 600 mm high <br> 0.25 m additional Cycle Track width when bounded by <br> vertical features between 150-600mm high | Active Travel (DE313) |
| Separation Strip | 0.5 m separation strip for Speed Limit of 30mph or less | Active Travel (DE313) |
| Headroom | 2.7 m headroom minimum <br> 2.4 m for length less than 23 m <br> 2.3 m for instantaneous obstructions such as signs | Active Travel (Para 9.12.1) |
|  |  |  |


| Crossfall | $2.5 \%$ desirable crossfall <br> $3.3 \%$ desirable maximum crossfall <br> $10 \%$ absolute maximum at crossings | Active Travel (Para 9.7.4) |
| :--- | :--- | :--- |
| Gradient | $* 5 \%$ desirable maximum longitudinal gradient |  |
| $* 8 \%$ absolute maximum longitudinal gradient |  |  |$\quad$ Active Travel (Para 9.7.2)

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

### 3.4.4. 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 20 mph .

### 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 <br> Element | Parameter | Derivation |
| :--- | :--- | :--- |
| Width | 2 m desirable width <br> 1.5 m width where constraints are present <br> 1.2 m absolute minimum width at immovable objects | Active Travel (Para 9.6.2) <br> Active Travel (DE101) |
|  |  |  |


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

### 3.4.6. $\quad$ Stopping Sight Distance

Table 3-6 - Stopping Sight Distance

| Design <br> Element | Parameter | Derivation |
| :--- | :--- | :--- |
| Visibility | 43 m for a 30mph speed limit (adjusted for bonnet length) <br> 25 m for a 20mph speed limit (adjusted for bonnet length) | Manual for Streets (Table <br> $7.1)$ |

### 3.4.7. Pedestrian Crossing Visibility

Table 3-7 - Pedestrian Crossing Visibility

| Design <br> Element | Parameter | Speed | Distance | Derivation |
| :--- | :--- | :--- | :--- | :--- |
| Visibility | ${ }^{*} X^{\prime}$ Distance | N/A | 1.5 m absolute <br> minimum <br> (Crossing) |  |
| 2.0 m desirable <br> 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 <br> Element | Parameter | Cyclist Speed | Distance | Derivation |
| :--- | :--- | :--- | :--- | :--- |
| Cyclist SSD <br> (Crossing) | 'Y' Distance |  | 40 kph design speed | 47 m |
| Active Travel (Table 9.5) |  |  |  |  |
|  |  | 30 kph design speed | 31 m |  |
|  |  | 20 kph design speed | 17 m |  |

### 3.4.9. Visibility Splays

Table 3-9 - Visibility Splays

| Design <br> Element | Visibility Splays |  |  | Derivation |
| :--- | :--- | :--- | :--- | :--- |
|  | X - Distance | Y - Distance | Design Speed |  |
| Junctions | 4.5 m | 215 m | 100kph (60mph) | DMRB CD123 (Para 3.6, 3.7, |
|  |  |  | $3.8)$ |  |
|  | 2.4 m | DMRB CD109 (Table 2.10) |  |  |
|  | $(2 \mathrm{~m}$ relaxation) | (Adjusted for <br> bonnet length) | 30 mph | Manual for Streets) (Table <br> $7.1)$ |
|  |  |  |  | Manual for Streets 2 (Para |

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 <br> Element | Visibility Splays | Derivation |  |
| :--- | :--- | :--- | :--- |
|  | X - Distance | $Y$ - Distance |  |
| Junctions | $2 m$ | $2 m$ | 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.
- $\quad$ 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. <br> *Option 2: Mandatory Cycle Lanes to DE303, with footway to DE101. <br> Option 3: Shared Use Path to DE401. <br> Option 4: Footway to DE101 South. <br> Option 5: Footway to DE101 North (as existing with minor kerb alignment and crossing <br> improvements on the Southern side). |
| 2 | **Option 1: Separated pedestrian and cycle track to DE313. <br> *Option 2: Mandatory cycle lanes to DE303 with footway to DE101. <br> **Option 3: Shared use path to DE401. <br> Option 4: Footway to DE101. <br> tOption 5: Partial improvement of route, utilising Section 2A. |
| 3 | Option 1: Shared use path to DE401. Signalisation of western extent of B4337 would be <br> required to accommodate this option. <br> *Option 2: Signalised priority system for traffic along B4337, provision of cycle bypass to <br> DE203 in combination with advisory cycle lane to DE314 and footway to DE101. <br> Option 3: Segregated contra-flow cycle lane to DE301 for westbound section of route <br> (cyclists to take priority in carriageway heading eastbound). This option would require a <br> new bridge over Afon Carrog to accommodate vehicles. Footway to DE101. <br> *Option 4: Cycle Street arrangement utilising advisory cycle lane to DE304. <br> Option 5: Footway to DE101. Cycling to be on carriageway, signalisation of the western <br> extent of the B4337 could be considered to separate cyclists in time from motor traffic, <br> reduce vehicle speeds and risk to cyclists from overtaking vehicles. <br> 5a) Land boundary front of gully circa 100m length narrowing (signalisation) |
| 5 | 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 |  |

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).

* 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.
t† Not progressed further to feasibility design due to space requirements and anticipated traffic volumes.
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

## 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 560 m 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 6 m and 9 m with an existing footway on both sides of typical width between 1.6 m and 2.7 m .

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.

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


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

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

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|  | adjacent preferred option developed further to the Detailed Design. |  |  | TOTAL COST | £809,880.90 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | Proposed widening of existing footway south to provide a minimum width of 2.0 m . To be achieved through widening in to existing carriageway or verge. <br> Existing parking arrangement to be reviewed and exact arrangement to be confirmed at the Detailed Design stage. <br> 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. | Only provides pedestrians with an Active Travel facility - cyclists would utilise existing carriageway (not ideal considering AADT/traffic flows and speeds). | Smaller cross-section required compared to options 1 and 3. <br> Only requires a widening of the existing footway. | $\begin{aligned} & \text { TOTAL } \\ & \text { CONSTRUCTION } \\ & \text { COST } \end{aligned}$ | £179,529.48 | GREEN |
|  |  |  |  | DESIGN FEE (10\%) | £25,852.25 |  |
|  |  |  |  | $\begin{gathered} \text { SITE } \\ \text { SUPERVIION } \\ (7.5 \%) \end{gathered}$ | £19,389.18 |  |
|  |  |  |  | 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 500 m 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 6 m and 6.8 m . Within the western extents of this section, there are existing footways on both sides of the TRA487 with a typical width between 1 m and 2 m .

For the majority (approximately 310 m ) 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 4.8 m and 5.3 m , with an existing footway on the western side of a typical width ranging between 1 m to 1.6 m .

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 2.0 m . 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 nonActive 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.

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### 5.2.2. Summary



| Section Constraints | - Proposals located along TRA487 which will require approval from NMWTRA and Welsh Government. <br> - Cyclists would have to share provisions with road users. <br> - Businesses including the Black Lion pub will need consistent access during construction stage. | Landowner Information <br> Multiple residential landowners |
| :---: | :---: | :---: |
| Section Opportunities | - Provides pedestrians with a dedicated route to key trip generators. <br> - Improved traffic flow for motor vehicles in sections where cycling is taken off carriageway |  |

[^2]

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

### 5.3.1. Overview

Section 3 is approximately 450 m 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 4 m and 6 m .

For the initial 115 m along the B4337 there are no existing formal footways on either side of the carriageway. Immediately after, for approximately 185 m to the location adjacent to the existing ford footbridge, the existing footway typically ranges between 1.6 m and 1.8 m . From the ford footbridge for approximately 130 m 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.

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### 5.3.2. Summary

Section 3
TRA487 / B4337 Junction to Ystrad Teilo Farm access along the B4337


|  | - Limited highway cross-section throughout the initial 115 m length of B4337 from the TRA487 junction. |  |
| :---: | :---: | :---: | :---: | :---: |
| Section | - Section will require a flood risk assessment to ensure the proposal won't increase the risk of flooding within the study area |  |
| Constraints | or further downstream. |  |


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

\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \& Proposed pedestrian connection to the golf club to be reviewed at the Detailed Design stage. \& \& \& TOTAL COST \& £352,153.98 \& \\
\hline 5a \& \begin{tabular}{l}
Proposed footway / widening of the existing footway to typically 2.0 m throughout, to be achieved through widening in to the existing carriageway, verge, or private access. \\
Land boundary front of gully - approximately 100 m 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. \\
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.
\end{tabular} \& \begin{tabular}{l}
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.
\end{tabular} \& \begin{tabular}{l}
No land acquisition required with this option. \\
Signalised crossing will reduce vehicle speeds and risk of injuries to cyclists and pedestrians.
\end{tabular} \& \begin{tabular}{l}
TOTAL CONSTRUCTION COST \\
DESIGN FEE (10\%) \\
SITE SUPERVISION (7.5\%) \\
NEC PROJECT MANAGEMENT (7.5\%) \\
TOTAL COST
\end{tabular} \& \(£ 299,851.07\)
\(£ 43,178.55\)
\(£ 32,383.92\)
£32,383.92

£407,797.45 \& AMBER <br>

\hline 5b \& | Proposed footway / widening of the existing footway to typically 2.0 m throughout, to be achieved through widening in to the existing carriageway, verge, or private access. |
| :--- |
| Land boundary rear of gully - approximately 60 m length of narrowing. |
| Proposed traffic signal to facilitate one-way working system through narrow section. | \& | Cyclists to share carriageway space with motorised vehicles. |
| :--- |
| On-street parking control to be confirmed at the 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 |
| :--- |
| DESIGN FEE (10\%) | \& $£ 299,851.07$

$£ 43,178.55$ \& AMBER <br>
\hline
\end{tabular}



### 5.4. Section 4 - TRA487 to B4227 via Third Party Land

### 5.4.1. Overview

Section 4 is approximately 350 m 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 5.3 m and 6.2 m with an existing footway North of the carriageway with a typical width ranging between 1.78 m and 1.85 m . 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 1 no. 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.

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### 5.4.2. Summary



| Option No. | Description | Option Specific Constraints | Option Specific Opportunities | Budget Cos | Estimate | Overall Risk (RAG) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | Proposed shared pedestrian and cycle track typically 3.0 m wide, to be achieved through land acquisition and / or widening the existing footway into the carriageway. <br> Land acquisition to be confirmed at Detailed Design stage through exact confirmation of existing ownership boundaries and liaison with relevant landowners. <br> 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. | Provides an Active Travel facility that gives provision to cyclists and pedestrians. | TOTAL CONSTRUCTION COST <br> DESIGN FEE (10\%) | $£ 277,397.57$ $£ 39,945.25$ | RED |
|  |  |  |  | SITE SUPERVISION (7.5\%) | £29,958.94 |  |
|  |  |  |  | NEC PROJECT MANAGEMENT (7.5\%) | £29,958.94 |  |
|  |  |  |  | TOTAL COST | £377,260.69 |  |
| 3 | Proposed footway typically 2.0 m , to be achieved through construction on acquired land and / or widening the existing footway into the carriageway. <br> Land acquisition to be confirmed at Detailed Design stage through exact confirmation of existing ownership boundaries and liaison with relevant landowners. <br> Clos Allt Fach side road treatments, exact marking and signage to be confirmed at Detailed Design stage. | Cyclists to share existing carriageway space with motorised vehicles or dismount and walk along new footway provision between TRA487 and Clos Allt Fach. <br> Would require a significant amount of land acquisition. | Provides an Active Travel facility for pedestrians with the requirement of less land acquisition than option 2. |  | £200,745.11 | RED |
|  |  |  |  | DESIGN FEE (10\%) | £28,907.30 |  |
|  |  |  |  | SITE SUPERVISION (7.5\%) | £21,680.47 |  |
|  |  |  |  | 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 110 m 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 5 m and 5.5 m . Beyond the existing 1.1 m wide footbridge, there is an existing footway on both sides of the carriageway with typical width ranging between 1.5 m and 1.6 m .

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.

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### 5.5.2. Summary

| Section 5 | B4337 to Ysgol Gynradd Wirfoddol Myfenydd |  |
| :---: | :---: | :---: |
|  |  |  |
| Section Constraints | - Section will require a flood risk assessment to ensure the proposal won't increase the risk of flooding within the study area or further downstream. <br> - Statutory procedures including planning and Ordinary water course consent are anticipated to be required for any proposed bridge to be implemented. <br> - Ecological constraints associated with Afon Carrog will need to be investigated further and mitigation provided accordingly. <br> - Potential heritage constraints associated with existing bridge abutments. | Landowner Information <br> Residential landowners adjacent |
| Section Opportunities | - Potential for Bridge Upgrade to enhance Active Travel facilities. |  |


|  | - Potential for enhanced Active Travel facilities on the approach to the school along the Unnamed Road. |  |  | Budget Cost Estimate |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Option No. | Description | Option Specific Constraints | Option Specific Opportunities |  |  | Overall Risk (RAG) |
| 1 | Proposed widening of existing footway to provide minimum width of 2.0 m . To be achieved through widening in to the existing carriageway. <br> A new all-modes bridge to be provided to connect B4337 with the school. Traffic layout at new allmodes bridge including markings to be confirmed at Detailed Design stage (including bridge design). <br> Junction arrangement to be reviewed at the Detailed Design stage. <br> Proposed cyclist and pedestrian connection to school to be reviewed at Detailed Design stage. | Significantly larger cost due to the provision of a new all-modes bridge. <br> Cyclists are to share the carriageway with motorised vehicles. | Provides a new link between the B4337 and the school which facilitates motorised vehicles, pedestrians, and cyclists. <br> Provides an Active Travel compliant link along the unnamed county road for pedestrians to utilise. <br> Provides a more formalised link for both vehicular and Active Travel traffic between the B4337 and the School. | TOTAL <br> CONSTRUCTION <br> COST <br> DESIGN FEE <br> $(16.5 \%)$ <br> SITE <br> SUPERVISION <br> (7.5\%) <br> NEC PROJECT <br> MANAGEMENT (7.5\%) <br> TOTAL COST | $£ 1,188,820.04$ <br> $£ 282,463.64$ <br> $£ 128,392.56$ <br> $£ 128,392.56$ <br> $£ 1,728,068.82$ | RED |
| 2 | Proposed shared pedestrian and cycle track typically more than 2.5 m wide. To be achieved through widening existing footway in to the existing carriageway (north of bridge). <br> 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. <br> Junction arrangement to be reviewed at the Detailed Design stage. <br> Proposed cyclist and pedestrian connection to school to be reviewed at Detailed Design stage. | 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. <br> Provides an Active Travel compliant link along the unnamed county road for pedestrians and cyclists to utilise. | TOTAL CONSTRUCTION COST <br> TOTAL COST | $\begin{array}{r}£ 324,272.43 \\ £ 77,047.13 \\ £ 35,021.42 \\ £ 35,021.42 \\ \hline\end{array}$ | AMBER |

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| 3 | Proposed shared pedestrian and cycle track typically more than 2.5 m wide. To be achieved through widening existing footway in to the existing carriageway (north of existing bridge). <br> Existing footbridge to remain. <br> Proposed widening of existing footway to provide a minimum width of 2.0 m . To be achieved through widening into the existing carriageway. <br> Junction arrangement to be reviewed at the Detailed Design stage. <br> Proposed cyclist and pedestrian connection to school to be reviewed at Detailed Design stage. | Existing footbridge to remain which only accommodates pedestrians, and due to its limited width is not Active Travel compliant. | Less costly in comparison to options 1 and 2 due to no provision of a new structure. <br> Provides an Active Travel compliant link along the unnamed county road for pedestrians and cyclists to utilise (but not across the ford). | TOTAL CONSTRUCTION COST | £88,400.16 | RED |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\begin{gathered} \text { DESIGN FEE } \\ (16.5 \%) \end{gathered}$ | £21,003.88 |  |
|  |  |  |  | SITE SUPERVISION (7.5\%) | £9,547.22 |  |
|  |  |  |  | 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 <br> Proposed shared pedestrian and cycle track typically more than 3.0 m wide with a 0.5 m 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 <br> Proposed widening of existing footway to provide a minimum width of 2.0 m . To be achieved through land acquisition, widening in to existing carriageway or verge, and / or through access. | £499,399.34 | RED |
| 2 A | 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 <br> Proposed footway / widening of the existing footway to typically 2.0 m throughout, to be achieved through widening in to the existing carriageway, verge, or private access. <br> 0.1 to 0.6 m 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 <br> Proposed shared pedestrian and cycle track typically 3.0 m wide, to be achieved through land acquisition and / or widening the existing footway into the carriageway. | £377,260.69 | RED |


| 5 | B4337 to Ysgol Gynradd Wirfoddol Myfenydd | Option 2 <br> Proposed shared pedestrian and cycle track typically more than 2.5 m wide. To be achieved through widening existing footway in to the existing carriageway. <br> 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 WeITAG 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

## Appendix B. Active Travel Audit Details

| Cycling Route Audit Tool | Existing Situation |  |  |  | Suggested Amendments |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Section ${ }^{\text {D }}$ 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 |

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 |



| Key <br> Requirement | Factor | Design Principle | Indicators | Critical | 0 (Red) | 1 (Amber) | 2 (Green) |  | \% |  | Total Score | Suggested amendments | Revised Score |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 읗 <br> 이 | 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. | 1. 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 minima disruption to their journey | Cyclists have <br> dedicated <br> connections to <br> other routes <br> provided, with no <br> interruption to their <br> journey | 2 | 0 | 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 oin other sections of the route safely. | 2 |
|  | 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. | $\begin{aligned} & \text { 2.Provision } \\ & \text { for cyclists } \\ & \text { throughout the } \\ & \text { whole length of } \\ & \text { the route } \end{aligned}$ |  | 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. Consideration should be given to how the route continues along the A487 past texaco garage. | 2 |
|  | Density of network |  | 3.Density of routes based on mesh width ie distances between primary and secondary routes within the network |  | Route <br> contributes to a <br> network density <br> mesh width <br> >1000 | Route <br> contributes to a <br> network density <br> mesh width 250 <br> - 1000m | Route contributes to a network density menh width c250m | 2 | 0 | No other routes in network |  |  |  |
|  | Distance | Routes should follow the 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. |  | $\begin{aligned} & \text { Deviation factor } \\ & \text { against straight } \\ & \text { line or shortest } \\ & \text { road alternative } \\ & >1.4 \end{aligned}$ | 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 | 2 | Actual distance along "route" $=485 \mathrm{~m}$ <br> Distance as the crow flies = 463m <br> Deviation factor $=1.04$ | 2 | No suggested amendments. | 2 |
|  | 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 |  | 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 | 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 |
|  | Time: <br> 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. | $\begin{aligned} & \text { 6.Delay at } \\ & \text { junctions } \end{aligned}$ |  | 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 |
|  | $\begin{aligned} & \text { Time: } \\ & \text { Delay } \\ & \text { on links } \end{aligned}$ | 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 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 steper than the gradients recommended in Section 9.15 of the Guidance | There are no sections of route which steeper than 2\% | 2 | 2 | Using Google Earth, it is estimated there are no slopes steeper than $2 \%$. | 2 | No suggested amendments. | 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. Thiis 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 > <br> 37 mph (60kph) | 85th percentile $>30 \mathrm{mph}$ | 85th percentile $20 \mathrm{mph}-30 \mathrm{mph}$ | 85th percentile <20mph | 2 | 2 | During the audit it did not appear that vehicles are travelling above 20 mph on or through the junctions with texaco garage or at the junction with the B4337. | 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 > 37 mph ( 60 kph ) | $\begin{aligned} & 85 \text { th percentile } \\ & >30 \mathrm{mph} \end{aligned}$ | 85th percentile $20 \mathrm{mph}-30 \mathrm{mph}$ | $\begin{aligned} & \text { 85th percentile } \\ & <20 \mathrm{mph} \end{aligned}$ | 2 | 0 | 85th percentile speed appears to be above 30 mph | 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 | $\begin{aligned} & >10000 \text { AADT, } \\ & \text { or }>5 \% \text { HGV } \end{aligned}$ | $\begin{aligned} & 5000-10000 \\ & \text { AADT and } \\ & 2-5 \% \mathrm{HGV} \end{aligned}$ | $\begin{aligned} & 2500-5000 \text { and } \\ & <2 \% \mathrm{HGV} \end{aligned}$ | 0-2500 AADT | 2 | 1 | need traffic figures | 2 | No suggested amendments. | 1 |
|  |  | 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 3.2 m and 3.9 m wide and traffic volumes prevent motor vehicles into opposite lane to pass cyclists. | Cyclists in unrestricted traffic lanes outside critical range $(3.2 \mathrm{~m}$ to 3.9 m$)$ or in cycle lanes less than 1.8m wide. | Cyclists in cycle lanes at least 1.8 m wide on carriageway; 85th percentile motor traffic speed max 30 mph . | Cyclists on route away from motor traffic (off road provision) or in offcarriageway cycle track. Cyclists in stepped / light segregated track; 85th percentile motor traffic speed max 30 mph . | 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 sothat cyclists are not required to share <br> the carriageway with $m$ motor vehicles. | 2 |
| $\frac{\stackrel{\rightharpoonup}{\oplus}}{\stackrel{\circ}{\oplus}}$ |  | A high proportion of cyclists onvolving Junctions there-fore need particular attention to reduce the risk of collision. Junction treatments include: <br> Minorlside roads - cyclist priority and/or speed reduction across side roads Major roads - separation of cyclists from motor traffic through iunctions. | 13.Conflicting movements at junctions |  | Side road junctions frequent and or untreated. Maiof. junctions, conficing cycle/ motor trafficic movemet separated not | Side road junctions infrequent and with effective entry treatments. Major junctions, principal conflicting cycle/ motor traffic movements separated. | Side roads closed or treated to blend in with footway. Major junctions, all conflicting cycle/ motor traffic streams separated | 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 |


|  | $\begin{aligned} & \text { Avoid complex } \\ & \text { design } \end{aligned}$ |  | $\begin{aligned} & \text { 14.Legible road } \\ & \text { markings and road } \\ & \text { layout } \end{aligned}$ |  | 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, <br> understandable, <br> simple road <br> markings and road layout | 2 | 1 | No dedicated cycle markings along this route | 2 | Update signage and road marking 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. | $\begin{aligned} & \text { 15.Conflict with } \\ & \text { kerbside activity } \end{aligned}$ | Narrow cycle lanes $<1.5 \mathrm{~m}$ or less (including any buffer) alongside parking/loading | Significant conflict with kerbside activity (eg nearside cycle lane $<2 \mathrm{~m}$ (including buffer) wide alongside kerbside | Some conflict with kerbside activity eg less frequent activity on nearside of cyclists, $\min 2 \mathrm{~m}$ cycle lanes including buffer. | No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3 m . | 2 | Critical | No Dedicated cycle lane (<1.5m) | 2 | Kerbside activity could be reduced by providing shared use / dedicated cycle facilites, however bus stops etc may still cause some pedestrian conflict depending on the design of the new layout. | 1 |
|  | Reduce <br> 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. |  |  | 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 <br> evasion room and <br> avoids any <br> physical hazards. | 2 | 1 | Carriageway within critical range, therefore potential for lack of evasion room | 2 | No suggested amendments. | 2 |
| $\begin{aligned} & \stackrel{\rightharpoonup}{0} \\ & \stackrel{\theta}{0} \\ & \hline 0 \end{aligned}$ | $\begin{aligned} & \text { Surface } \\ & \text { quality } \end{aligned}$ | Density of defects including non cycle friendly ironworks, raised/sunken covers/gullies, potholes, poor quality carriageway paint (eg from previous cycle lane) | $\begin{aligned} & \text { 17.Major and } \\ & \text { minor defects } \end{aligned}$ |  | 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 |
|  |  | Pavement or carriageway construction providing smooth and level surfac | 18.Surface type |  | Any bumpy, unbound, slippery, and potentially hazardous surface | Hand-laid materials, concrete paviours w wht frequent joints. | Machine laid smooth and nonslip surface - eg Thin Surfacing, or firm and closely jointed blocks undisturbed by turning heavy vehicles. | 2 | 2 | Machine laid surface coure. | 2 | No suggested amendments | 2 |
|  | $\begin{aligned} & \text { Effective width } \\ & \text { without conflict } \end{aligned}$ | $\begin{aligned} & \text { Cyclists should be able to } \\ & \text { comfortaly cyyle without } \\ & \text { risk of conflict with other } \\ & \text { users both on and off road. } \end{aligned}$ | 19.Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles) | More than 50\% of the route includes cycle provision with widths which are more than desirable minimum values. | No more than 50\% of the route includes cycle provision with widths which are no more than $25 \%$ below desirable minimum values. | No more than 25\% 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 |
|  | Waytinding | 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 |  | $\begin{aligned} & \text { Most or all of route } \\ & \text { is unlit } \end{aligned}$ | $\begin{aligned} & \text { Short and } \\ & \text { infrequent } \\ & \text { unlit/poorly lit } \\ & \text { sections } \end{aligned}$ | Route is lit to <br> highway standards <br> 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 |


|  | lmpact on pedestrians, including people with disabilities | Introduction of dedicated onroad cycle provision can enable people to cycle onroad rather than using footways which are not suitable for shared use. Introducing cycling onto wellused footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths. | 23.Impact on pedestrians, Pedestrian Comfort Level based on TfL's Pedestrian Comfort guide Section 9.6 of the Guidance | Pedestrian comfort is at Level Co below, or residual width for pedestrians is below those recom meded in Section 9.6 of the Guidance. | Pedestrian comfort is at Level B or above, or residual width for pedestrians is as per those recommeded in Section 9.6 of the Guidance. | Pedestrian comfort is at Level $A$, or residual width for pedestrians is above those recommeded in Section 9.6 of the Guidance. | 2 | 2 | All cycling is currently on road, therefore no impact on pedestrians. | 2 | No suggested amendments | 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Minimise street clutter | Signing required to support scheme layout | 24.Signs informative and consistent but not overbearing or of inappropriate size | Large number of signs needed, difficult to follow and/ or leading to clutter | Moderate amount <br> of signing <br> particularly around <br> junctions. | Signing for wayfinding purposes only and not causing additional obstruction |  |  | No route signage present |  | No suggested amendments. |  |
|  | Secure cycle parking | $\begin{aligned} & \text { Ease of access to secure } \\ & \text { cycle parking within } \\ & \text { businesses and on street } \end{aligned}$ | 25. Evidence of bicycles parked to street furniture or cycle stands | No additional cycle <br> parking provided or <br> inadequate <br> provision in <br> insecure <br> nonoverlooked <br> areas | Some secure cycle parking provided but not enough to | 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 |  |  |  |  |  | 42 |


| Key <br> Requirement | Factor | Design Principle | Indicators | Critical | 0 (Red) | 1 (Amber) | 2 (Green) |  | \% |  | 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. | 1. 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 <br> dedicated <br> connections to <br> other routes <br> provided, with no <br> interruption to their <br> 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 |
|  | 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 <br> 'abandoned' at <br> points along the <br> route with no <br> clear indication <br> of how to continue <br> 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 |
|  | Density of network | Cycle networks should provide a mesh hor grid) of routes across the town or city The Tensitito of hee network is the distance between the routes which make pup te giri pattern. The ultimate aim should be a network with a mesh | 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 -1000 m | Route contributes to a network density mesh width $<250 \mathrm{~m}$ | 2 | 0 | No other routes in network |  |  |  |
|  | Distance | Routes should follow the shortest option available and be as near to the 'asthe-crow-flies' distance as possible. | 4.Deviation of route <br> 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 $>1.4$ | $\begin{aligned} & \text { Deviation factor } \\ & \text { against straight } \\ & \text { line or shortest } \\ & \text { road alternative } \\ & 1.2-1.4 \end{aligned}$ | Deviation factor against straight line or shortest road alternative <1.2 | 2 | 0 | Actual distance along "route" = 555 m <br> Distance as the crow flies = 360m <br> Deviation factor $=1.54$ | 2 | No suggested amendments. | 0 |
|  | 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 |  | 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 |
|  | Time: <br> Delay at junction | 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. | $\begin{aligned} & \text { 6.Delay at } \\ & \text { junctions } \end{aligned}$ |  | $\begin{aligned} & \text { Delay for cyclists at } \\ & \text { junctions is greater } \\ & \text { than for motor } \\ & \text { vehicles } \end{aligned}$ | Delay for cyclists a 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 | Delay is assumed to be similar to that of cars. | 2 | Crossing provision should be provided at junction with the school road. | 2 |
|  | $\begin{aligned} & \text { Time: } \\ & \text { Delay } \\ & \text { on links } \end{aligned}$ | The length of delay caused by not being able to bypass slow moving traffic. | $\begin{array}{\|l} \text { 7.Ability to } \\ \text { maintain own } \\ \text { speed on links } \end{array}$ |  | 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 |


|  | 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 <br> sections of route <br> which steeper than <br> $2 \%$ | 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 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 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 | $\begin{aligned} & \text { 85th percentile > } \\ & 37 \mathrm{mph}(60 \mathrm{kph}) \end{aligned}$ | $\begin{aligned} & \begin{array}{l} \text { 85th percentile } \\ >30 \mathrm{mph} \end{array} \end{aligned}$ | $\begin{aligned} & \text { 85th percentile } \\ & 20 \mathrm{mph}-30 \mathrm{mph} \end{aligned}$ | $\begin{aligned} & \text { 85th percentile } \\ & \text { <20mph } \end{aligned}$ | 2 | 2 | During the audit it did not appear that vehicles are travelling above 20 mph 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 fhared carriageway | $\begin{aligned} & \text { 85th percentile > } \\ & 37 \mathrm{mph}(60 \mathrm{kph}) \end{aligned}$ | $\begin{aligned} & \text { 85th percentile } \\ & >30 \mathrm{mph} \end{aligned}$ | $\begin{aligned} & \text { 85th percentile } \\ & 20 \mathrm{mph}-30 \mathrm{mph} \end{aligned}$ | $\begin{aligned} & \text { 85th percentile } \\ & \text { <20mph } \end{aligned}$ | 2 | 0 | Speed limit for the majority of this section is 40 mph , therefore 85 th percentile speed above 30 mph , potentially above 37 mph 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 | $\begin{aligned} & >10000 \text { AADT, } \\ & \text { or }>5 \% \text { HGV } \end{aligned}$ | 5000-10000 AADT and 2-5\%HGV | $\begin{aligned} & 2500-5000 \text { and } \\ & <2 \% \mathrm{HGV} \end{aligned}$ | 0-2500 AADT | 2 | 1 | need traffic figures | 2 | No suggested amendments. | 1 |
|  | $\begin{aligned} & \text { Risk of } \\ & \text { collision } \end{aligned}$ | 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 3.2 m and 3.9 m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists. | Cyclists in unrestricted raffic lanes outside critical range $(3.2 \mathrm{~m}$ to 30.9m) or in cyle lanes less than 1.8 m wide. | Cyclists in cycle lanes at least 1.8 m wide on carriageway; 85th percentile motor traffic speed max 30 mph . | Cyclists on route away from motor traffic (off road provision) or in offcarriageway cycle track. Cyclists in stepped / light segregated track; 85th percentile motor traffic speed max 30 mph . | 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 $\left\lvert\, \begin{aligned} & \text { that cyclists are not required to share } \\ & \text { the carriageway with motor vehicles. }\end{aligned}\right.$ the carriageway with motor vehicles. | 2 |
| $\frac{\stackrel{\rightharpoonup}{0}}{\stackrel{\circ}{\omega}}$ |  | A high proportion of <br> collisions involving <br> cyclists occur at junctions. <br> Junctions there-fore need <br> particular attention to <br> reduce the risk of collision. <br> Junction treatments <br> include: <br> Minor/side roads - cyclist <br> priority and/or speed <br> reduction across side <br> roads <br> Major roads - separation of <br> cyclists from motor traffic <br> through junctions. | $\begin{aligned} & \text { 13.Conflicting } \\ & \text { movements at } \\ & \text { junctions } \end{aligned}$ |  | 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. | Side roads closed <br> or treated to blend <br> in with footway. <br> Major junctions, all <br> conflicting yccle/ <br> motor traffic <br> streams separated. | 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 |


|  | $\begin{aligned} & \text { Avoid complex } \\ & \text { design } \end{aligned}$ |  | 14.Legible road markings and road layout layout |  | $\begin{aligned} & \text { Faded, old, } \\ & \text { unclear, complex } \\ & \text { road markings/ } \\ & \text { unclear or } \\ & \text { unfamiliar road } \\ & \text { layout } \end{aligned}$ | $\begin{aligned} & \text { Generally legible } \\ & \text { road markings and } \\ & \text { road layout but } \\ & \text { some elements } \\ & \text { could be improved } \end{aligned}$ | Clear, <br> understandable, <br> simple road <br> markings and road <br> 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. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 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. | $\begin{aligned} & \text { 15.Conflict with } \\ & \text { kerbside activity } \end{aligned}$ | Narrow cycle lanes <1.5m or less (including any buffer) alongside parking/loading | Significant conflict with kerbside activity (eg nearside cycle lane $<2 \mathrm{~m}$ (including buffer) wide alongside kerbside parking) | Some conflict with kerbside activity eg less frequent activity on nearside of cyclists, $\min 2 \mathrm{~m}$ cycle lanes including buffer. | No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3 m . | 2 | Critical Fail | No Dedicated cycle lane (<1.5m) | 2 | Kerbside activity could be reduced by providing shared use / dedicated cycle facilites, however bus stops etc may still cause some pedestrian conflict depending on the design of the new layout. |  |
|  | 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 | $\begin{aligned} & \text { 16. Evasion } \\ & \text { room and } \\ & \text { unnecessary } \\ & \text { hazards } \end{aligned}$ |  | 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 evasaion room and avoids any physical hazards. | 2 | 1 | Carriageway within critical range, therefore potential for lack of evasion room | 2 | No suggested amendments. |  |
| $\begin{aligned} & \stackrel{\rightharpoonup}{\circ} \\ & \text { Ēㅇ } \end{aligned}$ | $\begin{aligned} & \text { Surface } \\ & \text { quality } \end{aligned}$ | Density of defects including non cycle friendly ironworks, raised/sunken covers/gullies potholes, poor quality carriageway paint (eg from previous cycle lane) | $\begin{aligned} & \text { 17.Major and } \\ & \text { minor defects } \end{aligned}$ |  | Numerous minor defects or any number of major defects | $\begin{array}{\|l} \hline \text { Minor and } \\ \text { occasional defects } \end{array}$ | Smooth high grip surface | 2 | 2 | Carriageway in relatively good condition, tarmacadam surface | 2 | No suggested amendments. |  |
|  |  | Pavement or carriageway construction providing smooth and level surface | 18.Surface type |  | Any bumpy, <br> unbound, slippery, <br> and potentially <br> hazardous surface. | Hand-laid materials, concrete paviours with frequent joints. | Machine laid smooth and non- smif purface eg Thin Surfacing, or Thima nd closely jointed blocks undisturbed by turning heavy vehicles | 2 | 2 | Machine laid surface coure. | 2 | No suggested amendments |  |
|  | $\begin{aligned} & \text { Effective width } \\ & \text { without conflict } \end{aligned}$ | $\begin{aligned} & \text { Cyclists should be able to } \\ & \text { comfortably cycle without } \\ & \text { risk of ocflict with other } \\ & \text { users both on and off road. } \end{aligned}$ | 19.Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles) | More than $50 \%$ of the route includes cycle provision with widths which are more tha desirable minimum values | No more than 50\% of the route includes cycle provision with widths which are no more than $25 \%$ below desiabbe minimum values. R | No more than $25 \%$ <br> of the route <br> includes cycle <br> provision with <br> widths which are no <br> more than $25 \%$ <br> below desirable <br> 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. |  |
|  | Waytinding | 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 <br> signed with signs <br> located at all <br> decision points and <br> junctions$\|$ | 2 | 0 | No route signage | 2 | Provide neccasary route signage in line with any proposed facilities. |  |
|  | 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 |  | $\begin{array}{\|l\|} \hline \text { Most or all of route } \\ \text { is unlit } \end{array}$ | Short and infrequent unlitpoorly lit sections | Route is itit to <br> highway standards <br> throughout | 2 | 0 | Majority of route is unlit | 2 | Provide lighting to highway standards |  |
|  |  |  | 22.Isolation |  | $\begin{aligned} & \text { Route is generally } \\ & \text { away from activity } \end{aligned}$ | Route is mainly <br> overlooked and is <br> not far from activity <br> throughout its <br> 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. |  |


|  | Impact on including people with disabilities | Introduction of dedicated onroad cycle provision can enable people to cycle onroad rather than using footways which are not suitable for shared use Introducing cycling onto wellused footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths. | 23.Impact on pedestrians, Pedestrian Comfort Level based on TfL's Pedestrian Comfort guide Section 9.6 of the Guidance | Pedestrian comfort <br> is at Level Cor <br> below, or residual <br> width for <br> pedestrians is <br> below those <br> recomeded in <br> Section 9.6 of the <br> Guidance. | Pedestrian comfort is at Level $B$ or above, or residual width for pedestrians is as per those recommeded in Section 9.6 of the Guidance. | Pedestrian comfort is at Level $A$, or residual width for pedestrians is above those recommeded in Section 9.6 of the Guidance. | 2 | 2 | All cycling is currently on road so doesn't affect current pedestrian provision | 2 | Provide dedicated cycling lane / shared use facilities to the appropriate widths to ensure pedestrian comfort is maintained. | 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { Minimise street } \\ & \text { clutter } \end{aligned}$ | Signing required to support scheme layout | 24.Signs informative and consistent but not overbearing or of inappropriate size inappropriate size | Large number of signn needed, difficult to follow and/ or leading to clutter | Moderate amount <br> of signing <br> particularly around <br> junctions. | Signing for wayfinding purposes only and not causing additional obstruction |  |  | No route signage present |  | No suggested amendments. |  |
|  | Secure cycle parking | Ease of access to secure cycle parking within businesses and on stree | 25. Evidence of bicycles parked to street furniture or cycle stands | No additional cycle <br> parking provided or <br> inadequate <br> provision in <br> insecure <br> nonoverlooked <br> areas$\|$ | $\begin{aligned} & \text { Some secure } \\ & \text { cycle parking } \\ & \text { provided but } \\ & \text { not enough to } \\ & \text { meet demand } \end{aligned}$ | 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 |  |  |  |  |  | 40 |


| Key <br> Requirement | Factor | Design Principle | Indicators | Critical | 0 (Red) | 1 (Amber) | 2 (Green) |  | $\frac{\square}{8}$ |  | 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. | 1. 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 minima 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 oin other sections of the route safely, particularly when crossing the river towards the school | 2 |
|  | 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, 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 | $\begin{aligned} & \text { Crossing movements. } \\ & \text { Cycle entworks should } \\ & \text { provide mesh or or orid) } \\ & \text { of routes acrosss the town } \\ & \text { or city The density of the } \\ & \text { network is the distance } \\ & \text { between the routes which } \\ & \text { make up the grid pattern. } \\ & \text { The utimate aim should } \\ & \text { be a network with a mesh } \end{aligned}$ | 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 -1000 m | Route <br> contributes to a <br> network density <br> mesh width <br> $<250 \mathrm{~m}$ | 2 | 0 | No other routes in network |  |  |  |
|  | Distance | Routes should follow the shortest option available and be as near to the 'asthe-crow-flies' distance as possible. | 4.Deviation of route <br> Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) shortest road alternative. |  | Deviation factor against straight line or shortest road alternative $>1.4$ | $\begin{array}{\|l\|l} \hline \text { Deviation factor } \\ \text { against straight } \\ \text { line or shortest } \\ \text { road alternative } \\ 1.2-1.4 \end{array}$ | $\begin{aligned} & \text { Deviation factor } \\ & \text { against straight } \\ & \text { line or shortest } \\ & \text { road alternative } \\ & <1.2 \end{aligned}$ | 2 | 1 | Actual distance along "route" $=463 \mathrm{~m}$ <br> Distance as the crow flies = 360m <br> Deviation factor $=1.29$ | 2 | No suggested amendments. | 1 |
|  | 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 |  | 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 |
|  | 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. | $\begin{aligned} & \text { 6.Delay at } \\ & \text { junctions } \end{aligned}$ |  | Delay for cyclists at <br> junctions is greater <br> than for motor <br> 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 | Delay is assumed to be similar to that of cars. | 1 | No suggested amendments. | 1 |
|  | $\begin{aligned} & \text { Time: } \\ & \text { Delay } \\ & \text { on links } \end{aligned}$ | 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 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 | 0 | 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 > 37 mph ( 60 kph ) | 85 th percentile $>30$ enph <br> $>30 \mathrm{mph}$ | $\begin{aligned} & \text { 85th percentile } \\ & \text { 20mph-30mph } \end{aligned}$ | $\begin{aligned} & \text { 85th percentile } \\ & <20 \mathrm{mph} \end{aligned}$ | 2 | 2 | During the audit it did not appear that vehicles are travelling above 20 mph on or through the junction with the B4337. | 2 | Provide dedicated cycling / shared use facilities along this section so that cyclists are not required to share the carriageway with the carriageway with motor vehicles. | 2 |
|  |  |  | 10.Motor traffic <br> speed on sections <br> of shared <br> carriageway | $\begin{array}{\|l\|} \hline 85 \mathrm{th} \text { percentile }> \\ 37 \mathrm{mph}(60 \mathrm{kph}) \end{array}$ | $\begin{aligned} & \text { 85th percentile } \\ & >30 \mathrm{mph} \end{aligned}$ | $\begin{aligned} & \text { 85th percentile } \\ & 20 \mathrm{mph}-30 \mathrm{mph} \end{aligned}$ | $\begin{aligned} & \text { 85th percentile } \\ & \text { <20mph } \end{aligned}$ | 2 | 1 | Speed limit for the majority of this section is 30 mph , therefore 85th percentile speed above 20 mph . | 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. | 11.Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour | $\begin{aligned} & >10000 \mathrm{AADT}, \\ & \text { or }>5 \% \mathrm{HGV} \text {, } \end{aligned}$ | $\begin{aligned} & 5000-10000 \\ & \text { AADT and } \\ & 2-5 \% H G V \end{aligned}$ | $\begin{aligned} & 2500-5000 \text { and } \\ & <2 \% \text { HGV } \end{aligned}$ | 0-2500 AADT | 2 | 2 | need trafic figures | 2 | No suggested amendments. | 2 |
|  | $\begin{aligned} & \text { Risk of } \\ & \text { collision } \end{aligned}$ | 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 <br> to reduce risk <br> of collision <br> alongside or <br> from behind | Cyclists sharing carriageway nearside lane in critical range between 3.2 m and 3.9 m wide and traffic volumes prevent motor vehicles moving easily into opposite lane to pass cyclists to pass cyclists. | Cyclists in unrestricted traffic lanes outside critical range $(3.2 \mathrm{~m}$ to 3.9m) or in cyle lanes less than 1.8 m wide. | Cyclists in cycle anes at least 1.8 m wide on carriageway; 85th percentile motor traffic speed max 30 mph . | 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 the carriageway with motor vehicles. | 2 |
| $\stackrel{\stackrel{\rightharpoonup}{\omega}}{\stackrel{\omega}{\omega}}$ |  | A high proportion of <br> collisions involving <br> cyclists occura at junctions. <br> Junctions there-fore need <br> particular attention to <br> reduce the risk of collision. <br> Junction treatments <br> include: <br> Minor/side roads - cyclist <br> priority and/or speed <br> reduction across side <br> roads <br> Major roads - separation of <br> cyclists from motor traffic | $\begin{aligned} & \text { 13.Conflicting } \\ & \text { movements at } \\ & \text { junctions } \end{aligned}$ |  |  | Side road junctions infrequent and with effecetive entry treatment. Major junctions, pricoipal confifiting cyclep motor traffic movements separated. | Side roads closed <br> or treated to blend <br> in with footway. <br> Major junctions, all <br> conflicting cycle/ <br> motor traffic <br> streams separated. | 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 |


|  | $\begin{aligned} & \text { Avoid complex } \\ & \text { design } \end{aligned}$ |  | $\begin{aligned} & \text { 14.Legible road } \\ & \text { markings and road } \\ & \text { layout } \end{aligned}$ |  | 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, <br> understandable, <br> simple road <br> markings and road layout | 2 | 1 | Layout for cyclists straightforward 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. | $\begin{aligned} & \text { 15.Conflict with } \\ & \text { kerbside activity } \end{aligned}$ | Narrow cycle lanes $<1.5 \mathrm{~m}$ or less (including any buffer) alongside parking/loading | Significant conflict with kerbside activity (eg nearside cycle lane $<2 \mathrm{~m}$ (including buffer) wide alongside kerbside | Some conflict with kerbside activity eg less frequent activity on nearside of cyclists, $\min 2 \mathrm{~m}$ cycle lanes including buffer. | No/very limited conflict with kerbside activity or width of cycle lane including buffer exceeds 3 m . | 2 | Critical Fail | $\begin{aligned} & \text { No Dedicated cycle lane } \\ & (<1.5 \mathrm{~m}) \end{aligned}$ | 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. |  |  | 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 <br> evasion room and <br> avoids any <br> 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 |
| $\begin{aligned} & \stackrel{\rightharpoonup}{0} \\ & \stackrel{\theta}{0} \\ & \hline 0 \end{aligned}$ | $\begin{aligned} & \text { Surface } \\ & \text { quality } \end{aligned}$ | Density of defects including non cycle friendly ironworks, raised/sunken covers/gullies, potholes, poor quality carriageway paint (eg from previous cycle lane) | $\begin{aligned} & \text { 17.Major and } \\ & \text { minor defects } \end{aligned}$ |  | Numerous minor defects or any number of major defects | Minor and occasional defects | Smooth high grip surface | 2 | 1 | Carriageway in relatively good condition, tarmacadam surface. | 2 | No suggested amendments | 1 |
|  |  | Pavement or carriageway construction providing smooth and level surfac | 18.Surface type |  | Any bumpy, unbound, slippery, and potentially hazardous surface | Hand-laid materials, concrete paviours w wht frequent joints. | Machine laid smooth and nonslip surface - eg Thin Surfacing, or firm and closely jointed blocks undisturbed by turning heavy vehicles. | 2 | 2 | Machine laid surface course on carriageway | 2 | Provide widened crossing to active travel standards over river with high friction surface. | 2 |
|  | $\begin{aligned} & \text { Effective width } \\ & \text { without conflict } \end{aligned}$ | $\begin{aligned} & \text { Cyclists should be able to } \\ & \text { comfortaly cyyle without } \\ & \text { risk of conflict with other } \\ & \text { users both on and off road. } \end{aligned}$ | 19.Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles) | More than 50\% of the route includes cycle provision with widths which are more than desirable minimum values. | No more than 50\% of the route includes cycle provision with widths which are no more than $25 \%$ below desirable minimum values. | No more than 25\% 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 |
|  | Wayifinding | 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 |  | $\begin{aligned} & \text { Most or all of route } \\ & \text { is unlit } \end{aligned}$ | $\begin{aligned} & \text { Short and } \\ & \text { infrequent } \\ & \text { unlit/poorly lit } \\ & \text { sections } \end{aligned}$ | Route is lit to <br> highway standards <br> 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 | 2 | Route is not far from activity and is overlooked for most of its length. | 2 | No suggested amendments. | 2 |


|  |  | Introduction of dedicated onroad cycle provision can enable people to cycle onroad rather than using footways which are not suitable for shared use Introducing cycling onto wellused footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths. | 23.Impact on pedestrians, Pedestrian Comfort Level based on TfL's Pedestrian Comfort guide Section 9.6 of the Guidance | Pedestrian comfort is at Level Cor or below, or residual width for pedestrians is below those reconmeded in Section 9.6 of the Guidance. | $\begin{aligned} & \text { Pedestrian comfort } \\ & \text { is at Level B or } \\ & \text { above, or residual } \\ & \text { width for } \\ & \text { pedestrians is as } \\ & \text { per those } \\ & \text { recomeded in } \\ & \text { Section } 9.6 \text { of the } \\ & \text { Guidance. } \end{aligned}$ | Pedestrian comfor is at Level A , or residual width for pedestrians is above those recommeded in Section 9.6 of the Guidance. | 2 | 1 | Cycling / pushing a bicycle over the bridge would affect pedestrians also using the bridge due to narrow 1.5 m width. | 2 | Provide dedicated cycling lane $/$ shared use facilities to the appropriate widths to ensure pedestrian comfort is maintained. | 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { Minimise street } \\ & \text { clutter } \end{aligned}$ | Signing required to support scheme layout | 24.Signs informative and consistent but not overbearing or of inappropriate size inappropriate size | Large number of signn needed, difficult to follow and/ or leading to clutter | Moderate amount <br> of signing <br> particularly around <br> junctions. | Signing for wayfinding purposes only and not causing additional obstruction |  |  | No route signage present |  | No suggested amendments. |  |
|  | Secure cycle parking | Ease of access to secure cycle parking within businesses and on stree | 25. Evidence of bicycles parked to street furniture or cycle stands | No additional cycle <br> parking provided or <br> inadequate <br> provision in <br> insecure <br> nonoverlooked <br> areas$\|$ | $\begin{aligned} & \text { Some secure } \\ & \text { cycle parking } \\ & \text { provided but } \\ & \text { not enough to } \\ & \text { meet demand } \end{aligned}$ | 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 |  |  |  |  |  | 38 |


|  | Walking Route Audit Tool | Existing Situation |  |  |  | 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 <br> indicators. Each indicator is scored out of a maximum of 2 points, with a maximum of 40 points <br> available for walking routes, and 50 available for a cycling route. These scores are then converted <br> to percentages to establish if a route is a 'pass' or 'fail', as shown below. |  |



| Audit Categories | 2 (Green) | 1 (Amber) | 0 (Red) | Critical | Total Available Score | Score | Comments | Suggested amendments | Total Available Revised Score | Revised Score |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. ATTRACTIVENESS <br> - 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 <br> - 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. <br> 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 |
| 3. 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 20 mph speed limit to reduce air pollution and traffic noise | 2 | 2 |
| 4. ATTRACTIVENESS - other | Examples of 'other' attractiven <br> - Evidence that lighting is not p <br> - Temporary features affecting <br> - Excessive use of guardrail or Score 0-2 as appropriate | ess issues include: present, or is deficient; the attractiveness of routes (e.g. bollards | 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 <br> - 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. | subsided or fretted pavement, or significant uneven patching or trenching. <br> 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. <br> 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. <br> Undertake review of Southern footway to improve pedestrian safety, and clear segregation between carriageway and footway areas. <br> Continuous crossings at side roads would also provide further comfort gains. | 2 | 2 |
| 6. COMFORT <br> - footway width | Pedestrian comfort is at Level A, or width is above those recommended in Section 9.6 of the Guidance ( $>2 \mathrm{~m}$ ). | Pedestrian comfort is at Level B or above, or width is as per those recommended in Section 9.6 of the Guidance ( $1.5 \mathrm{~m}-2 \mathrm{~m}$ ). | Pedestrian comfort is at Level C or below, or width is below those recommended in Section 9.6 of the Guidance (<1.5m). |  | 2 | 1 | The path was generally between 1.5-2 and wider in some instances. No widths below 1.5 m 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. <br> Widening could be undertaken to the footway on the North side of the carriageway to provide 2.0 m Desireable Minimum, per the Active Travel Guidance | 2 | 2 |
| 7. COMFORT <br> - 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 ( $>2 \mathrm{~m}$ ) to accommodate wheel-chair weare | Pedestrian comfort is at Level B or above, or width is as per those recommended in Section 9.6 of the Guidance ( $1.5 \mathrm{~m}-2 \mathrm{~m}$ ). | Pedestrian comfort is at Level C or below, or width is below those recommended in Section 9.6 of the Guidance (<1.5m) i.e. standard thathair width |  | 2 | 1 | Some crossings along the route were less than 1.5 m , however some 2 m crossings were also observed. | Widen all uncontrolled crossings to 2 m | 2 | 2 |


| 8. COMFORT - footway parking | No instances of vehicles parking on footways noted. Clearance widths generally in excess of 2 m between permanent obstructions. | Clearance widths between approximately 1.5 m and 2 m . Occasional need for 'give and take' between users and walking on roads due to footway parking. <br> Footway parking causes some deviation from desire | Clearance widths less than 1.5 m . Footway parking requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay. <br> Footway parking causes significant deviation from | 2 | 0 | Footway parking observed on southern footway, however northern footway was free of footway parking and minimum width of 1.5 m clearance between obstructions. | 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 | 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 | No slopes observed on footway | No suggested amendments | 2 | 2 |
| 10.COMFORT <br> - other | Examples of 'other' comfort iss <br> - Temporary obstructions restri opened into footway); <br> - Barriers/gates restricting acce <br> - Bus shelters restricting cleara <br> - Poorly drained footways resul <br> Score 0-2 as appropriate | sues include: <br> icting clearance width for pedes <br> ess; and <br> ance width. <br> lting in noticeable ponding issu | strians (e.g. driveway gates <br> es/slippery surfaces | 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 2 m . | 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. <br> 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 <br> - 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 (< 5 s average). | Crossing of road direct, but associated with some delay (up to 15 s 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 |
| rracinal <br> - 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 $>5 \mathrm{~s}$ 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 comfortably |  |  | 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 <br> - Routes to/from bus stops not <br> - Steps restricting access for all <br> - Confusing layout for pedestria <br> Score 0-2 as appropriate | issues include: t accommodated; all users; ians creating severance issues | 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 <br> pedestrians can keep <br> distance from moderate traffic <br> 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 | No suggested amendments | 2 | 2 |
| 18.SAFETY - traffic speed | Traffic speeds low, or pedestrians can keep distance from moderate traffic | Traffic speeds moderate and pedestrians in close proximity. | 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 alona entire lenath. | No suggested amendments | 2 | 2 |


| 20. COHERENCE <br> - 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 | 0 | Dropped kerbs and tactiles provided however not to current standard. | Replace existing tactile paving to current standard | 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 highlighting prescence of route |  |  |
| Total Score |  |  |  |  | 36 | 21 | Total Revised Score |  | 36 | 35 |


| Audit Categories | 2 (Green) | 1 (Amber) | O (Red) | Critical | Total Available Score | Score | Comments | Suggested amendments | Total Available Revised Score | Revised Score |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. ATTRACTIVENESS <br> - 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 maior disrenair |  | 2 | 2 | Northern footway is well maintained with no evidence of littering or overgrown vegetation. | No suggested amendments |  | 2 |
| 2. ATTRACTIVENESS | 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 |  | 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 |
| 3. ATTRACTIVENESS <br> - 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' attractiveness issues include: <br> - Evidence that lighting is not present, or is deficient; <br> - Temporary features affecting the attractiveness of routes (e.g. refuse sacks). <br> - Excessive use of guardrail or bollards <br> Score 0-2 as appropriate |  |  |  | 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 <br> - 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 | subsided or fretted pavement, or significant uneven patching or trenching. <br> 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 $(15 m-2 m)$ | Pedestrian comfort is at Level C or below, or width is below those recommended in Section 9.6 of the Guidance $(<15 \mathrm{~m})$ |  | 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 <br> - 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 ( $>2 \mathrm{~m}$ ) 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 ( $1.5 \mathrm{~m}-2 \mathrm{~m}$ ). | Pedestrian comfort is at Level 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 1.5 m width | Widen existing crossings to 2 m where possible, widen footway if neccasary | 2 | 2 |
| $\begin{aligned} & \text { 8. COMFORT } \\ & \text { - footway parking } \end{aligned}$ | No instances of vehicles parking on footways noted. Clearance widths generally in excess of $2 m$ between permanent obstructions. | Clearance widths between approximately 1.5 m and 2 m. Occasional need for 'give and take' between users and walking on roads due to footway parking. Footway parking causes some deviation from desire | Clearance widths less than 1.5 m . 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 <br> - 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 footwav is present | Provide footway link to connect to footway at junction to school | 2 | 2 |
| 10.COMFORT - other | Examples of 'other' comfort iss <br> - Temporary obstructions restri opened into footway); <br> - Barriers/gates restricting acce <br> - Bus shelters restricting cleara <br> - Poorly drained footways resul <br> Score 0-2 as appropriate | sues include: <br> icting clearance width for pedes <br> ess; and ance width. <br> ulting in noticeable ponding issu | strians (e.g. driveway gates <br> ues/slippery surfaces |  | 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 - footway provision | Footways are provided to cater for pedestrian desire lines (e.a. adiacent to road). | Footway provision could be improved to better cater for Dedestrian desire lines. | Footways are not provided to cater for pedestrian desire lines. |  | 2 | 0 | There is no footway provision for a significant extent of this route. | Provide continuous footway link to connect to footway at iunction to school | ${ }^{2}$ | 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12.DIRECTNESS <br> - 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 | 0 | No suitable crossing to opposite side of the road, including bus stop. | Provide active travel compliant crossings in locations on the pedestrian desire line | 2 | 2 |
| 13.DIRECTNESS <br> - 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 15 s average). | Crossing of road associated indirect, or associated with significant delay (>15s average). |  | 2 | 0 | Crossing widths and proximity to junctions makes it difficult to cross In this location without crossing provision. | Provide improved crossing facilities in this section of the route, linking the two bus stops adjacent to the Black Lion Pub | 2 | 2 |
| -rracina) <br> - impact of controlled crossings on <br> 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 $>5$ s 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 comfortably |  |  |  | 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 <br> - Routes to/from bus stops not <br> - Steps restricting access for all <br> - Confusing layout for pedestria <br> Score 0-2 as appropriate | issues include: <br> accommodated; <br> all users; <br> ans creating severance issues | for users. |  | 2 | 0 | No provision to cross to opposite side of road, dropped kerb present on eastern side of road opposite bridge, but no tactiles and no matching dropped kerb on onbosite side of road | Provide improved crossing facilities along the route, including linking the two bus stops adjacent to the Black Lion Pub. Ensure there is contunuity for route including | 2 | 2 |
| 17.SAFETY <br> - traffic volume | Traffic volume low, or <br> pedestrians can keep <br> distance from moderate traffic <br> volumes. | Traffic volume moderate and pedestrians in close proximity. | High traffic volume, with pedestrians unable to keep their distance from traffic. |  | 2 | 0 | No footway therefore pedestrians unable to keep distance from traffic | $\begin{aligned} & \text { Provitabe footway for extent of } \\ & \text { Provide to ensure pedestrians } \\ & \text { are able to keep safe } \\ & \text { distance passing traffic } \end{aligned}$ | 2 | 2 |
| $\begin{aligned} & \text { 18.SAFETY } \\ & \text { - traffic speed } \end{aligned}$ | Traffic speeds low, or <br> pedestrians can keep <br> distance from moderate traffic <br> sneeds | Traffic speeds moderate and pedestrians in close proximity. | High traffic speeds, with pedestrians unable to keep their distance from traffic. |  | 2 | 0 | No footway therefore pedestrians unable to keep distance from traffic | Provide footway for extent of route to ensure pedestrians are able to keep safe distance nassina traffic | 2 | 2 |
| 19.SAFETY <br> - 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 | 1 | Route is reletively straight apart from sharp bend after the Black Lion pub and at the junction with the Trunk Road bv the school | minor vegetation clearance at locations of limited visibility | 2 | 1 |
| 20. COHERENCE <br> - 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 | 0 | Tactile paving missing at crossing along stretch of unamed road from junction with A487 towards school | Reprovide existing tactiles to meet current standards, remove dropped kerb on junction with B4337. Provide tactiles on crossing along stretch of unamed road from junction with A487 towards school | 2 | 2 |
| COHERENCE | Signage - Note the presence a factor) | and quality of route signage (no | score is required for this |  |  |  | There was no route signage along the route | Provide proper route signage to increase awareness of route |  |  |


| Audit Categories | 2 (Green) | 1 (Amber) | 0 (Red) | Critical | Total Available Score | Score | Comments | Suggested amendments | Total Available Revised Score | Revised Score |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. ATTRACTIVENESS <br> - maintenance | Footways well maintained, with no significant issues noted. | $\begin{array}{\|l\|} \hline \begin{array}{l} \text { innor littering. Overgrown } \\ \text { vegetation. Street furniture } \\ \text { falling into minor disrepair (for } \\ \text { example, peeling paint). } \end{array} \\ \hline \end{array}$ | 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 | 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 |
| 3. ATTRACTIVENESS <br> - 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 <br> - Evidence that lighting is not $p$ <br> - Temporary features affecting <br> - Excessive use of guardrail or <br> Score 0-2 as appropriate | ness issues include: present, or is deficient; the attractiveness of routes (e.g r bollards | 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. | 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. | subsided or fretted pavement, or significant uneven patching or trenching. <br> 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 ( $>2 \mathrm{~m}$ ). | Pedestrian comfort is at Level B or above, or width is as per those recommended in Section 9.6 of the Guidance ( $1.5 \mathrm{~m}-2 \mathrm{~m}$ ). | 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 2 m , 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 <br> - 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 ( $>2 m$ ) 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 ( $1.5 \mathrm{~m}-2 \mathrm{~m}$ ). | Pedestrian comfort is at Level 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 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8. COMFORT - footway parking | No instances of vehicles parking on footways noted. Clearance widths generally in excess of $2 m$ between permanent obstructions. | Clearance widths between approximately 1.5 m and 2 m . 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 1.5 m . 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 1.5 m 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 <br> - 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 | 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 |
| $\begin{aligned} & \text { 10.COMFORT } \\ & \text { - other } \end{aligned}$ | Examples of 'other' comfort iss - Temporary obstructions restri opened into footway); <br> - Barriers/gates restricting acce <br> - Bus shelters restricting cleara <br> - Poorly drained footways resu <br> Score $0-2$ as appropriate | sues include: ricting clearance width for pedes <br> ess; and ance width. ulting in noticeable ponding issu | strians (e.g. driveway gates <br> es/slippery surfaces | 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 nedestrian comfort | 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 |
| 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. | 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 |
| 12.DIRECTNESS <br> - location of crossings in relation <br> 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 |
| 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 (< 5 s average). | Crossing of road direct, but associated with some delay (up to 15 s 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 <br> - impact of controlled crossings <br> on <br> journey time | Crossings are single phase pelican/puffin or zebra crossings. | Crossings are staggered but do not add significantly to journey time. <br> Unlikely to wait >5s in | Staggered crossings add significantly to journey time. Likely to wait $>10$ s 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. | 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 comfortably | 0 | 0 | There were no controlled crossings along this route, therefore this factor is not relevant | No suggested amendments | 0 | 0 |



## Appendix C. Initial Active Travel Route Sections Drawings



## Appendix D. Feasibility Drawings



















[^0]:    ${ }^{1}$ Active Travel (Wales) Act Guidance 2021

[^1]:    ${ }^{2}$ Active Travel Act guidance: walking and cycling route audit tools (appendix H)| GOV.WALES

[^2]:    CE01_001-ATK-HGN-SWMWRCES-RP-CH-000001 | C02 | 11/07/23
    Llanrhystud AT | Design Technical Note

