Fort William Active Travel Masterplan Refresh 2019

Final Report

Highlands and Islands Transport Partnership (HITRANS)

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Quality information

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Revision History

Revision	Revision date	Details	Authorized	Name	Position
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1	24/09/2019	Addressing stakeholder comments		Yannis Kontolaimakis	Project Manager
2	03/12/2019	Addressing stakeholder comments		Alison Craig	Graduate Consultant

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1. Introduction

1.1 Background to the Commission

AECOM has been commissioned by Highlands and Islands Transport Partnership (HITRANS) to update the current Fort William Active Travel Audit that was developed in 2010. For the purpose of the update the following tasks have been identified: Desktop review of current audit; Policy review; Baseline data review; Engagement (light touch); and a Site audit and review of 2010 recommendations.

The main output of this commission is an updated Active Travel Masterplan, including recommendations, presented in a concise format to maximise its accessibility and 'buy in' from the general public. This report constitutes that Active Travel Masterplan.

1.2 Location and Study Area

The study area comprises two main parts: the largest settlement of Fort William and Inverlochy, which is south of the River Lochy and the area to the north which includes the settlements of Caol, Corpach and Banavie. The study area also includes the small settlement of Torlundy to the northeast of Fort William. The study area is shown in Figure 1-1.

The Fort William & Lochaber area is branded as the 'Outdoor Capital of the UK', with access to active travel routes and activities, including water sports, snow sports, hill climbing, walking and cycling. In addition to the multiple mountain bike and off-road trails in the study area, cyclists can also use the National Cycle Network Route 78 (NCN78) which connects Fort William to Oban and to Inverness through the Great Glen along the Caledonia Way.

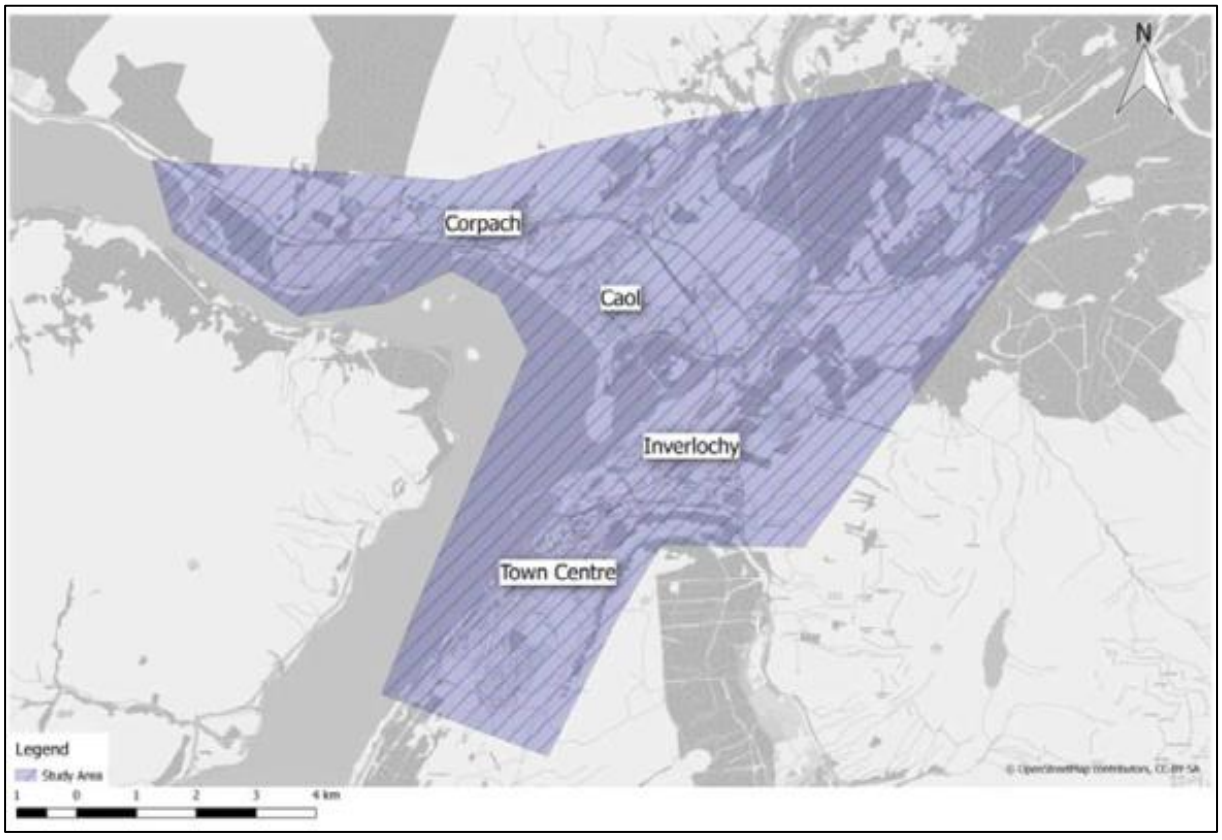


Figure 1-1 - Fort William Active Travel Masterplan Study Area

1.3 Report Structure

Following this introductory chapter, the masterplan will follow the structure detailed below:

- Audit Methodology and Design Basis
- Walking and Cycling in the Study Area
- Potential Fort William Area Active Travel Network
- Prioritised Action Plan
- Conclusions

2. Audit Methodology and Design Basis

The methodology that was followed when undertaking the active travel audit is outlined in section 2.1 and the Design Basis for the infrastructure proposed within the area of interest is outlined in section 2.2.

2.1 Audit Methodology

An in-depth methodology was developed as part of the 2010 audit to assess existing and proposed active travel infrastructure. This methodology included the following:

- A desktop study including demographics, travel to work patterns, public transport information and traffic accident data;
- Analysis of the main trip generators and attractors;
- An engagement exercise with relevant stakeholders;
- On-site audits; and
- Application of a 'prioritisation filter'.

The audits that have been conducted as part of the update of the 2010 work followed a similar methodology to that outlined above, albeit without the use of the 'prioritisation filter'. The desktop study and analysis of main trip generators / attractors are discussed further in section 3.

For the purposes of this updated Masterplan, routes and recommendations identified in the 2010 audit were used as a basis for engagement with stakeholders. Stakeholders were invited to attend a workshop that was held on Thursday 23 May 2019 in Fort William, with the purpose of gathering information on the following items:

- Who the network should be for;
- What the existing trip generators and attractors are;
- What has been implemented since the 2010 audit;
- Whether there is consensus on the active travel network proposed in the 2010 audit; and
- Problem areas and areas for improvement.

During the workshop there was consensus that the active travel network proposed in the 2010 audit should be the basis of what is taken forward as the Masterplan, while various additions and alterations were proposed.

The on-site audits took place following the workshop to ensure routes identified by stakeholders were audited, as well as audits of the existing infrastructure and those that were identified during the 2010 audits.

On-site audits of the existing conditions for walking and cycling were informed by the Transport Research Laboratory's (TRL) Pedestrian Environment Review System (PERS) and the Welsh Government's 'Design Guidance – Active Travel (Wales) Act 2013'.

2.2 Design Basis

When considering the different forms of pedestrian and cycle infrastructure throughout the study area and the appropriate level of intervention, various guidance documents were referenced. The following sections outline the predominant resources that were referenced in the consideration of appropriate widths for footways, carriageways and cycle infrastructure along the various routes that were considered.

2.2.1 Guidance

The following documents were used to inform the study and the consideration of the appropriate level of infrastructure:

- Cycling by Design (Transport Scotland, 2010);
- Designing Streets (The Scottish Government, 2010); and
- Handbook for Cycle-friendly Design (Sustrans, 2014).

Guidance on the key items that must be considered when determining the new cross section of the road is detailed in sections 2.2.3 to 2.2.7. These items are listed below:

- Footway widths;
- Segregated cycleway widths, including:
  - Cycleway widths;
  - Buffer strip width;
  - Integration with parking / loading;
  - Integration with bus stops.
- Shared cycleway / footway widths;
- Carriageway widths; and
- Quiet streets specification.

Footway and carriageway widths can vary dependant on the street type that is being considered. Consideration should be given to the volume and type of traffic that uses the street, whether the street is a bus route, the pedestrian volumes using the footways and whether shared use or segregated footways are to be utilised.

2.2.2 Design Approach

Figure 2-1 is an extract from Sustrans' 'Handbook for Cycle Friendly Design' that outlines how vehicle speeds and the volume of traffic can be used to inform the level of intervention.

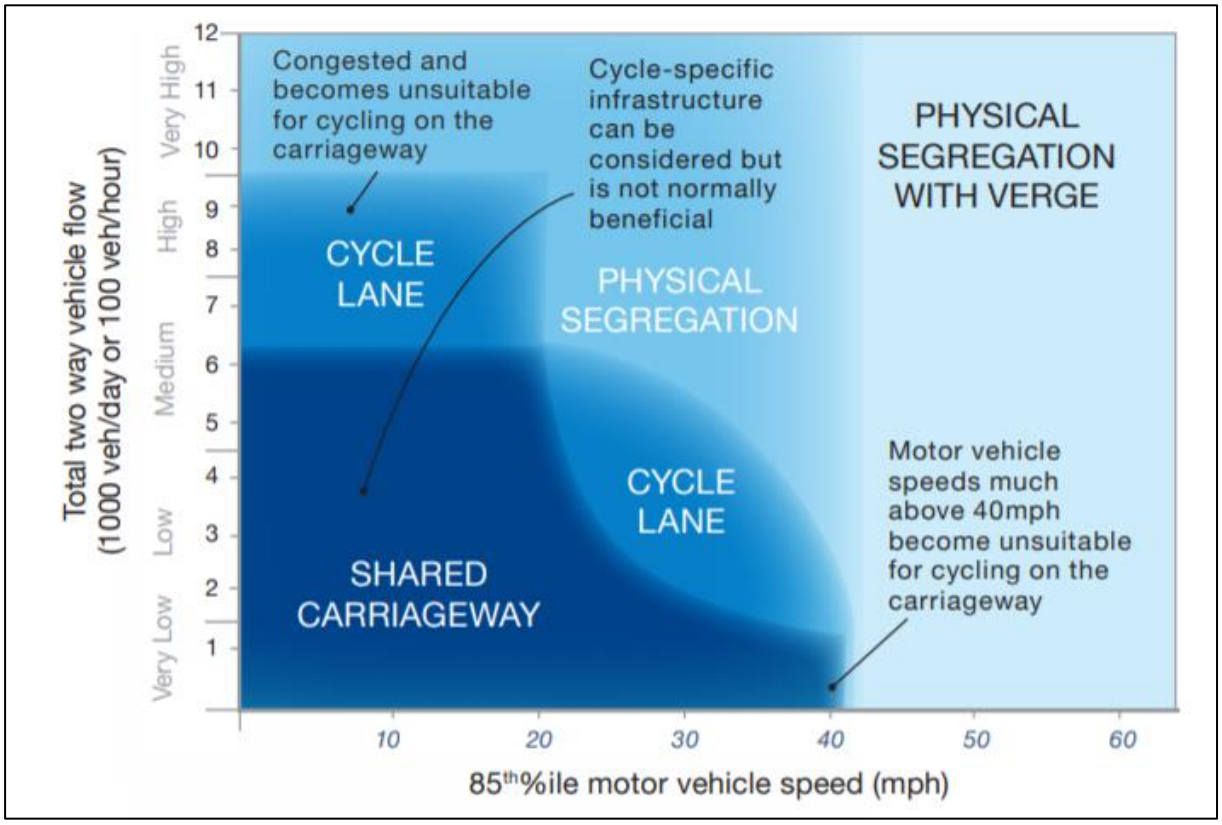


Figure 2-1 - Level of Intervention, Vehicle Speeds and Traffic Volume

Source: Sustrans (2014). Handbook for cycle-friendly design

A similar figure can be found in Transport Scotland's 'Cycling by Design' (2010). It should be noted that the anticipated level of use should also be considered in the assessment of the appropriate level of intervention.

2.2.3 Footway Widths

Designing Streets, the Scottish Government's policy statement for street design, suggests that effective footway widths should generally be 1.5 metres to 2 metres on lightly-used streets, but should be appropriately wide for the anticipated use.

2.2.4 Segregated Cycleways

The minimum cycleway widths suggested in Cycling by Design are presented in Figure 2-2.

Kerb-segregated cycle lane	Standard	Width (m)*	Comments
With-flow or contra-flow lane	Desirable Minimum Width	2.0	Typically operates satisfactorily for flows of up to 200 cycles per hour. The minimum width that should be considered to permit cyclists to pass each other.
	Absolute Minimum Width	1.5	Typically operates satisfactorily for flows of up to 100 cycles per hour.
Two-way lane	Desirable Minimum Width	3.0	Typically operates satisfactorily for two-way flows of up to 300 cycles per hour and will permit some overtaking.
	Absolute Minimum Width	2.0	The minimum width that should be considered to permit cyclists travelling in opposite directions to pass each other. Operates satisfactorily for two-way flows of up to 200 cycles per hour.

* The running width of the lanes should be free from obstructions such as debris, unsafe gullies, road markings and street furniture. Consideration must be given to the need for additional clearance distances to fixed objects such as kerbs (Table 6.3). Consideration should be given to an enhanced routine maintenance regime.

Figure 2-2 - Segregated Cycleway Width (Cycling by Design)

Source: Cycling by Design (2010) (Chapter 5.2, Page 54, Table 5.4)

Cycling by Design suggests a minimum buffer /separation strip width of 0.5 metres, while the Handbook for Cycle-friendly Design suggests raising this to 1.5 metres where the speed limit is greater than 40mph.

2.2.5 Shared Use Footway / Path Width

The widths of shared use footways outlined in Cycle by Design are provided in Figure 2-3.

Facility		Width (m)		Comments
Segregated cycleway or cyclepath	One way cycles only	Desirable Minimum	2.0	Operates satisfactorily for one-way flows of up to 150 cycles per hour with minimal overtaking anticipated.
		Absolute Minimum	1.5	The running width required that is free from obstructions such as debris, gullies, line markings and street furniture.
	Two way cycles only	Desirable Minimum	3.0	Operates satisfactorily for two-way flows up to 300 cycles per hour.
		Absolute Minimum	2.0*	Operates satisfactorily for two-way flows of up to 200 cycles per hour free from obstructions such as debris, surface gullies, line markings and street furniture.
	Pedestrian only space	Desirable Minimum	2.0	The minimum width in normal circumstances to permit unobstructed passage by opposing wheelchairs.
		Absolute Minimum	1.5	Acceptable over short distances in specifically constrained environments, such as at bus stops or where obstacles are unavoidable (Transport Scotland 2009).
Shared cycleway or cyclepath	Pedestrian and cycle space	Desirable Minimum	3.0	Typically regarded as the minimum acceptable for combined flows of up to 300 per hour.
		Absolute Minimum	2.0**	Can operate for combined flows of up to 200 per hour but will require cycles and pedestrians to frequently take evasive action to pass each other.

* Widths narrower than 2m can present a hazard to cyclists, however widths as low as 1.5m may be acceptable over short distances where there is no alternative. This width should only be considered where two-way flows of less than 150 cycles per hour are likely.

** In particularly constrained situations or for combined flows of less than 100 per hour, a width of 1.5m may be considered. However this will create conflict between users and should only be used over short distances where no alternative is available.

Figure 2-3 - Shared Use Footway / Path Widths (Cycling by Design)

Source: Cycling by Design (2010) – Section 6.1.4, Page 63, Table 6.2

The suggested widths for shared use paths / footways in the Handbook for Cycle-friendly Design are broadly similar, with 3 metres suggested on most paths in the urban environment, which can be reduced to 2.5 metres on access routes and routes that have low use. This reduces to 2.5 metres and 2 metres respectively in the rural environment.

Due to the nature of the road network in Fort William and the surrounding area, and the observed level of use of the footways, it is suggested that 2.5 metres is taken as the default shared footway / path width, with this being narrowed to 2 metres for more constrained locations.

2.2.6 Carriageway Width

The SCOT's National Roads Development Guide (2013) indicates that carriageways on bus routes should not generally be less than 6 metres wide. The Highland Council's 'Road and Transport Guidelines for New Developments' (2013) states that the minimum width of a Local Distributor Road shall be 6 metres, rising to 7.3 metres if it is a bus route or gives access to an industrial development.

2.2.7 Quiet Streets Specification

Where a road is to be utilised as a quiet street, it is anticipated that this will include measures such as traffic calming and raised junctions at key locations. The street would be appropriately redesigned based on the transport user hierarchy, with pedestrians at the top, cyclists and public transport second and third, and motorised vehicles at the bottom. The principle is to reduce the dominance and speeds of motor vehicles and to make the road easier to cross and travel along on foot and by bike.

3. Walking and Cycling in the Study Area

3.1 Overview of current conditions for active travel

This section provides an overview of current conditions related to active travel, including method of travel to work / study (highlighting active travel modes) and distance travelled to work.

The tables below illustrate the travel mode split to place of work or study for residents of the Study Area, aged 16-74. Results are also presented alongside the equivalent percentages for the Highland local authority area and Scotland wide for comparison.

Table 3-1 - Census 2011: Method of Travel to Work or Study[1]

Mode of Transport	Banavie and Corpach	Caol	Fort William	Study Area	Highland	Scotland
Work or study mainly at or from home	13.1%	12.2%	13.7%	13.2%	14.9 %	11.3 %
Underground, metro, light rail or tram	0.0%	0.0%	0.0%	0.0%	0.0 %	0.3 %
Train	0.3%	0.6%	0.4%	0.5%	1.2 %	3.5 %
Bus, minibus or coach	11.4%	14.0%	11.3%	12.1%	9.5 %	13.4 %
Taxi or minicab	0.4%	0.4%	0.6%	0.5%	0.4 %	0.7 %
Driving a car or van	45.4%	39.0%	36.3%	38.3%	42.6 %	40.9 %
Passenger in a car or van	13.1%	12.8%	10.9%	11.8%	9.6 %	9.0 %
Motorcycle, scooter or moped	0.1%	0.3%	0.1%	0.1%	0.2 %	0.2 %
Bicycle	5.3%	4.5%	3.0%	3.8%	2.4 %	1.3 %
On foot	10.1%	15.7%	22.8%	19.0%	17.7 %	18.5 %
Other	0.7%	0.4%	0.8%	0.7%	1.4 %	0.9 %

As demonstrated in the table above, the overall mode split for the Study Area is generally in alignment with both regional and national mode splits. The proportion of people in the study area cycling to work or study is higher than the Highland and national average, particularly in the Fort William area. The proportion of people in the Fort William area walking to work or study is greater than the Highland average, due to its close proximity to Fort William town centre. The proportion of people in Banavie, Corpach and Caol that cycle to work is greater than the Highland and national average. The proportion of those that walk however is lower.

[1] 2011 Scotland Census www.scotlandscensus.gov.uk

Table 3-2 - Census: Distance Travelled to Work[2]

Distance travelled to work	Banavie and Corpach	Caol	Fort William	Study Area	Highland	Scotland
Work mainly at or from home	12.3%	11.6%	14.2%	13.2%	15.8%	10.8%
Less than 2km	14.5%	35.3%	41.5%	36.1%	21.0%	16.8%
2km to less than 5km	43.9%	32.2%	19.5%	26.5%	15.5%	17.6%
5km to less than 10km	3.6%	0.6%	2.6%	2.1%	8.0%	16.2%
10km to less than 20km	4.9%	4.2%	4.0%	4.2%	12.0%	14.5%
20km to less than 30km	0.6%	0.3%	0.3%	0.4%	6.5%	6.2%
30km to less than 40km	0.6%	0.4%	0.5%	0.5%	2.4%	2.9%
40km to less than 60km	1.3%	1.5%	0.8%	1.1%	1.7%	2.1%
60km and over	4.0%	3.6%	5.7%	4.9%	4.4%	2.0%
Other	14.2%	10.2%	10.8%	11.1%	12.7%	10.9%

Census data showing the distance travelled to work demonstrates that 62.6% of people work within 5km of their home, considerably higher than the national average. This demonstrates an opportunity in the area for everyday journeys to potentially be made by foot or bike.

3.2 Existing Active Travel Infrastructure

The existing infrastructure for walking and cycling within the area of interest is presented in Figure 3-1.

[2] 2011 Scotland Census www.scotlandscensus.gov.uk

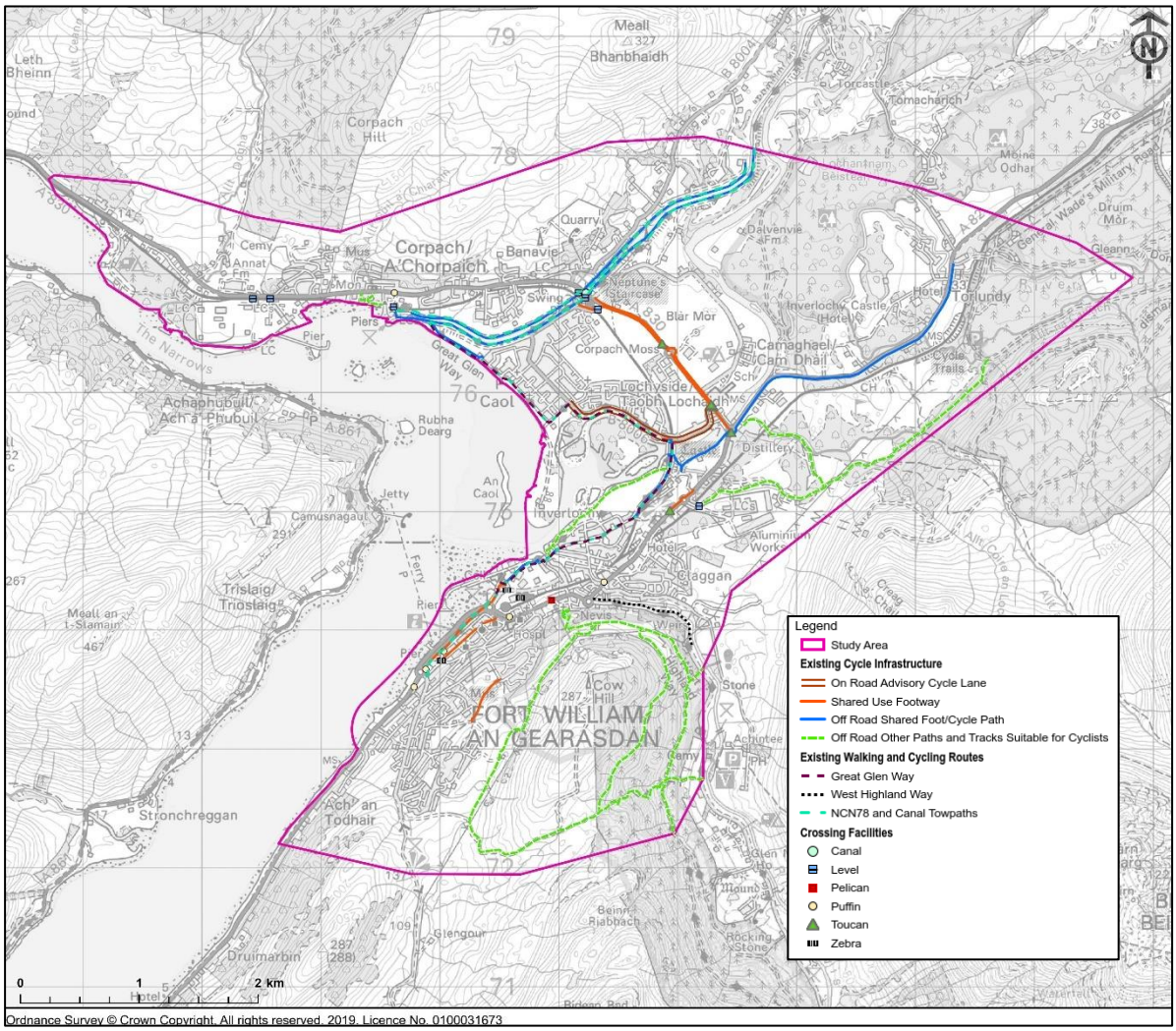


Figure 3-1 - Existing Active Travel Infrastructure

The infrastructure within Fort William can be broadly categorised as follows:

- Footways and footpaths suitable for people travelling on-foot

  Most of the roads in the area have footways provided on both sides of the road, although there are exceptions where no footway is provided, or one is only provided on one side of the road.

- Paths suitable for people travelling on foot or by mountain bike

  There are a number of paths within the area of interest that are suitable for use by people travelling on foot or by mountain bike. This includes sections of the Great Glen Way; the Cow Hill Circuit; and paths to the south-east of the A82 (across An Sidhean).

- Shared use footways / paths

  There are several areas, footways or paths that are signed as being shared use (for pedestrians and cyclists), including the Plantation Path, along the pedestrianised section of the High Street, on the A82 at the Fort William Retail Park; on various sections of NCN78 and along the A830 Road to the Isles.

- Advisory cycle lanes

  Advisory cycle lanes are provided on Kilmallie Road, from south of the junction with the A830 to Caol. However, these were observed to be very faint in places to the point where they are not continuous. It is unclear whether they are faded or whether there have been attempts to remove them from the carriageway surface.

- Controlled and uncontrolled crossings

  There are uncontrolled crossings throughout the scheme extents, although the audit did pick up a number of issues with these crossings. Additionally, within the study area it is common to see dropped kerbs without tactile paving.

  The provision of controlled crossings within the area of interest can be seen in Figure 3-1, and includes Puffins and Toucans. There are also some Zebra crossings within the area of interest.

Examples of the existing infrastructure for walking and cycling are shown in Figure 3-2 to Figure 3-11.

Figure 3-2 - Footways on both sides of Camanachd Crescent

Figure 3-3 - Footway on only one side of Argyll Road

Figure 3-4 - Path suitable for walking and for mountain bikers, Great Glen Way

Figure 3-5 - Off-road paths suitable for walkers and mountain bikers to north and west of A82

Figure 3-6 - Shared Use Path, NCN78

Figure 3-7 - Shared Use Footway, A830

Figure 3-8 - Advisory Cycle Lanes (Kilmallie Road, between the Soldiers Bridge and A830, looking north)

Figure 3-9 - Advisory Cycle Lanes (Kilmallie Road, at Mossfield Drive, looking south-west)

Figure 3-10 - Toucan Crossing at Junction of B806 and A830

Figure 3-11 - Zebra Crossing on MacFarlane Way

The Great Glen Way and the West Highland Way are two long distance walking routes that start / end in Fort William. The West Highland Way runs from Milngavie to Fort William, running along the C1162 Glen Nevis, A82 Belford Road, across The Parade and along the High Street to the end point at Gordon Square / Station Square. The West Highland Way can be cycled on a mountain bike, although there are sections of the route along which cyclists would have to dismount.

The sections of The Great Glen Way that fall within the study area can be walked or cycled. The southern extent of the route is the roundabout to the south-west of the An Aird Roundabout (junction of the A82 and An Aird Road). Within the area of interest, from this point northwards it follows the alignment of NCN78.

Further detail regarding the existing provision for cycling is discussed in section 3.3, while cycle parking is discussed in section 3.4.

3.3 Existing provision for cycling

The existing provision for cycling in the area of interest is shown in Figure 3-12.

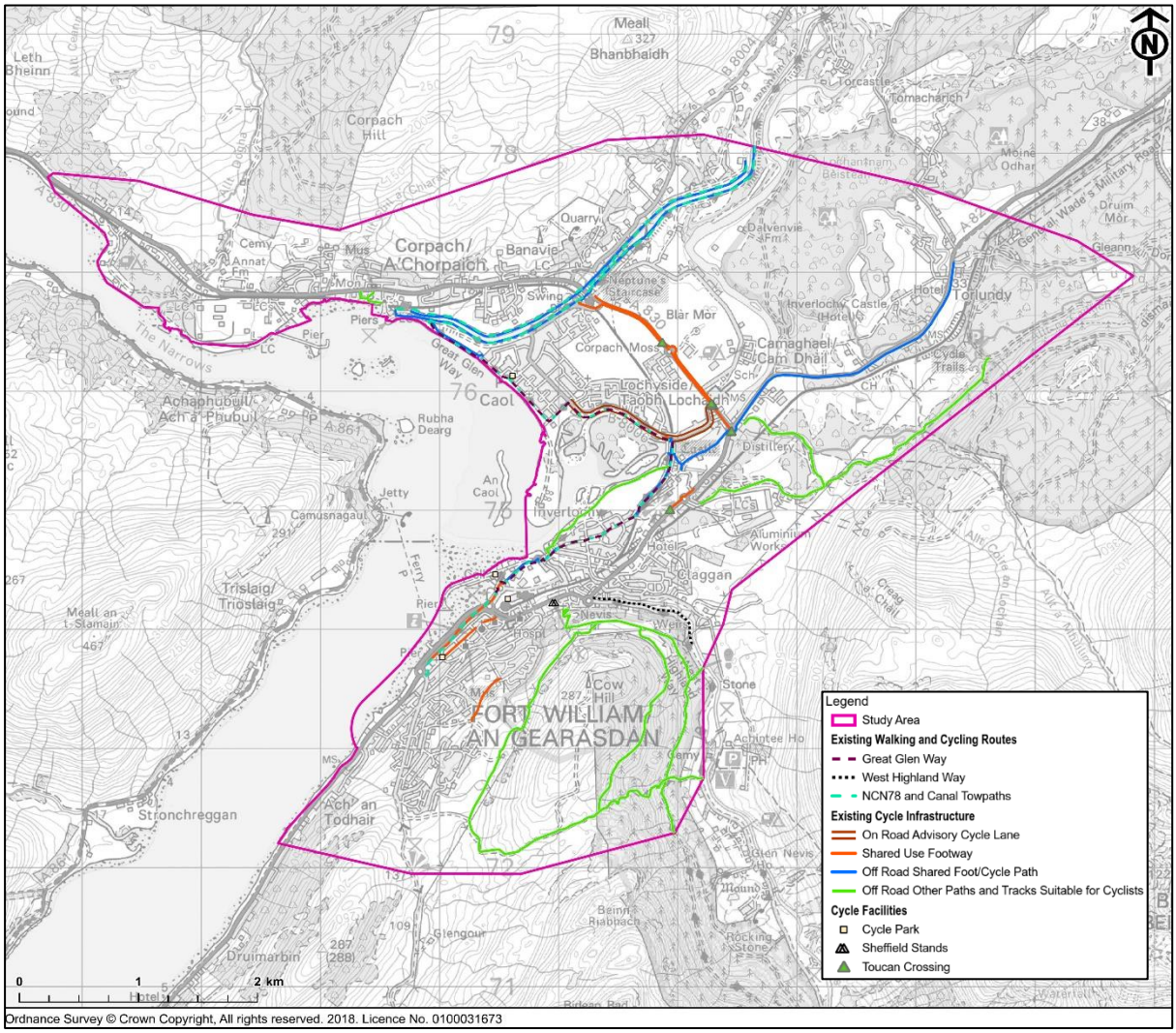


Figure 3-12 - Existing Provision for Cycling

3.3.1.1 NCN78

The primary cycle route within Fort William is National Cycle Network Route 78 (NCN78) – 'The Caledonia Way'. This is a long-distance route that connects Campbeltown and Inverness. The route is described below, with the numbers in brackets referring to the photographs of the route shown on the following page.

The southern extent of the route is north-east of the West End roundabout, at the Camusnagaul ferry landing (1). From this point it runs north-east along a shared-use path adjacent to the A82 and continues in this direction along An Aird Road to the An Aird Roundabout (2). At this point the route transitions onto a shared use path, which runs north-eastwards to Wades Road (3). Through Inverlochy the route runs on-road along Wades Road and Lochiel Road (4) to the shared path through the Black Parks (5).

The route then crosses the River Lochy at the Soldiers Bridge (6) and runs on-road along the B8006 Kilmallie Road, Glenmallie Road, Erracht Terrace and Erracht Drive (7) before transitioning back onto a shared path that runs along the waterfront to Corpach (8). At Corpach the route runs along the canal towpath (9) north-eastwards and continues to Inverness.

There is an aspiration locally and within HiTrans and Sustrans to create a similar route west from Fort William connecting communities to Glenfinnan and beyond to Mallaig and Skye.

Figure 3-13 - A82, north of West End Roundabout [1]

Figure 3-14 - An Aird Roundabout [2]

Figure 3-15 - Shared Use Path between An Aird Roundabout and Wades Road [3]

Figure 3-16 - Lochiel Road [4]

Figure 3-17 - Black Parks [5]

Figure 3-18 - the Soldiers Bridge [6]

Figure 3-19 - Erracht Drive [7]

Figure 3-20 - Shared Use Path between Caol and Corpach [8]

Figure 3-21 - Canal Towpaths [9]

3.3.1.2 Canal Towpaths

The canal towpaths, which run alongside the Caledonian Canal, form part of NCN78, as mentioned in the previous paragraphs. These paths are wide with unsealed surfaces, and along most of their lengths they are not lit. Within the area of interest there are paths on both sides of the Caledonian Canal.

3.3.1.3 Shared Use Footways / Paths

As previously mentioned in section 3.2, there are several footways or paths that are signed as being shared use. Most of these paths are narrow in nature but typically have sealed surfaces. Some paths are currently lit, whilst others are not.

Some examples are shown in the following figures.

Figure 3-22 - Shared Use Footway, A82

Figure 3-23 - Shared Use Path, Plantation Path

Figure 3-24 - Shared Use Path, Caol to Corpach

Figure 3-25 - Shared Use Footway, A830

3.3.1.4 Inverlochy to Torlundy

A shared use path is provided between the Soldiers Bridge and Torlundy, passing Old Inverlochy Castle, travelling along the River Lochy and then following the alignment of the A82. Between the Soldiers Bridge and the Lochybridge Roundabout (A82 / A830 junction) the path is remote and shared use. At Lochybridge Roundabout the route crosses the A82 via a Toucan crossing across the northbound approach. The route initially runs along the A82 in the form of a shared use footway, before diverging from the road and running parallel. The route converges with the road just south of Torlundy.

3.3.1.5 Toucan Crossings

There are several Toucan crossings in the area, including:

- On North Road at North Road / Fort William Retail Park;
- On the A82 at Lochybridge Roundabout;
- At the A830 / B8006 junction; and
- On the A830, north-west of the Blar Mhor Industrial Estate.

3.3.1.6 Off-road Mountain Bike Routes

The off-road routes that are suitable for cycling include the Cow Hill Circuit, the Nevis Range routes.

Cow Hill Circuit

The Cow Hill Circuit is a circular route around Cow Hill, a hill to the south of Fort William town centre and east of Upper Achintore. The circuit has links to the roads that surround it, including to Heathercroft Drive, Kennedy Road, Glen Nevis Road, and to the rear of Lochaber Leisure Centre. The circuit comprises unsurfaced trails, some of which have relatively large gradients.

Nevis Range Routes

There are off-road paths suitable for mountain biking that connects the A82 and the Nevis Range, including from Lochaber Smelter and the Ben Nevis Distillery. Again, these paths are unsurfaced trails that can have relatively large gradients.

The Nevis Range Mountain Experience at Aonach Mor, 6 miles from Fort Williams town centre offers a wide range of mountain biking facilities from family friendly trails to world cup standard downhill trails.

The Nevis Range routes can be accessed from Fort William via the shared use path connecting Fort William and Torlundy.

3.4 Existing Cycle Parking

Existing locations of cycle parking were identified during the audit and were cross-checked against publicly available data online.

The cycle parking that was identified is presented in Table 3-3.

Table 3-3 - Locations of Cycle Parking

Location	Co-ordinates	Detail	Photo
Monzie Square at High Street, Fort William	-5.112089, 56.817496	3 Sheffield stands	
High Street at Fraser Square, Fort William	-5.109869, 56.818818	8 Sheffield stands	
Supermarket on High Street, Fort William	-5.109244, 56.819175	6 Sheffield stands	

Location	Co-ordinates	Detail	Photo
Outdoor Sports Shop / The Parade, Fort William	-5.1071822, 56.819814	12 Sheffield stands	
Fort William Travel Centre, Fort William	-5.106629, 56.820605	5 Sheffield stands and 4 lockers	
At local centre in Caol	-5.106312, 56.837952	-	-
M&S, North Road / Fort William Retail Park	-5.081744, 56.828986	8 Sheffield stands with cover	
Morrison's, Fort William	-5.105574, 56.821154	8 Sheffield stands	-
South-western extents of High Street, Fort William	-5.114190, 56.816543	4 Sheffield stands	
Lochaber College, Fort William	-5.107430, 56.822945	~20 spaces with cover	

Location	Co-ordinates	Detail	Photo
Aldi, Fort William	-5.084178, 56.827971	Sheffield stands	-
Lochaber Leisure Centre, Fort William	-5.099228, 56.821014	~8 spaces	
Viewforth Car Park, Fort William	-5.1091619, 56.818347	5 Sheffield stands	-
Montrose Avenue, Inverlochy	-5.0949762, 56.825749	6 Sheffield stands (2 x 3 no.)	

It is recommended that appropriate cycle parking is provided at the following locations, if there is not currently any provision:

- Retail units;
- Hospitals and health centres;
- Student accommodation and hotels;
- Educational institutions;
- Sports facilities; and
- Transport stations and interchanges.

3.5 Fort William Mountain Bike Tourism

The lower slopes of Aonach Mor have had mountain bike trails since 1994. In 2000 the trail was extended to the Top Station providing gondola access to the trail. This led to Fort William hosting its first version of what is now the UCI Downhill MTB World Cup in 2002. This event in Fort William has become a staple of the Downhill World Cup series with 7 other championships venues across Europe and North America annually. In 2018, more than 22000 people watched the event at Nevis Range. The event delivered almost £3.5 million of economic impact to Lochaber and Scotland. Since 2002, the overall economic impact has exceeded £40 million[3]. In partnership with the Forestry Commission, the mountain biking facilities have been developed to also include a cross country, 4 cross, pump track and a number of trails of various difficulties. An active and enthusiastic mountain biking community has been established in the area. A number of events are held out of the venue annually such as 10 under the Ben, Scottish Enduro Series and Relentless 24 to name a few.

In 2023 Scotland will host the UCI Cycling World Championships. The event will bring together 13 UCI World Championships for different cycling disciplines in one event for the first time. This will include Fort William hosting the Downhill discipline.

[3] http://fortwilliamworldcup.co.uk/fort-william-awarded-mountain-bike-world-cups-for-2019-and-2020/

3.6 Traffic Flow

Data from Transport Scotland's National Traffic Data System[4] (NTDS) shows daily average traffic flows for each year from 2015 to 2018 for four traffic counters in the study area; A82 Lochy Bridge North, A82 Lochy Bridge South, A82 Fort William Swimming Pool and A830 Blar Mhor Industrial Estate. It should be noted that the dataset is incomplete for a number of months over the 4-year period but nevertheless provides a useful insight. Findings are presented in Table 3-4 below.

Table 3-4 - National Traffic Data System Annual Traffic Flows

	ATC01035 (A82 Lochy Bridge North)	**ATC01034** (A82 Lochy bridge South)	**ATC01048** (A82 Fort William Swimming Pool)	**ATC01070** (A830 Blar Mhor Industrial Estate)
2015	7,665	16,108	18,504	8687
2016	7,609	14,870	17,929	8426
2017	8,423	14,616	17,704	8755
2018	6,750	-	13,287	8362

The table above shows the following:

- Traffic flows are heaviest on the A82 south of the Lochy Bridge Roundabout.
- Traffic flows on the A830 are around half of those on the A82.
- Traffic flows increases as you move south on the A82.

3.7 Accident Data

The DfT publishes all STATS 195 accident record datasets. Accidents are as recorded by relevant police forces across the UK and are categorised according to severity: Slight, Serious or Fatal.

In the five years from 2013 to 2017 35 accidents have been recorded6. Of the 35, there were 8 traffic accidents involving 9 pedestrians, one of which was classified as serious. There were also 4 accidents involving cyclists, one of which occurred on the A82 and resulted in a fatality.

The majority of the pedestrian accidents occurred on the A82 at key crossing points, including between the train station and the High Street.

[4] https://ntds.trafficscotland.org
[5] https://data.gov.uk/dataset/cb7ae6f0-4be6-4935-9277-47e5ce24a11f/road-safety-data
[6] Stats19 Data

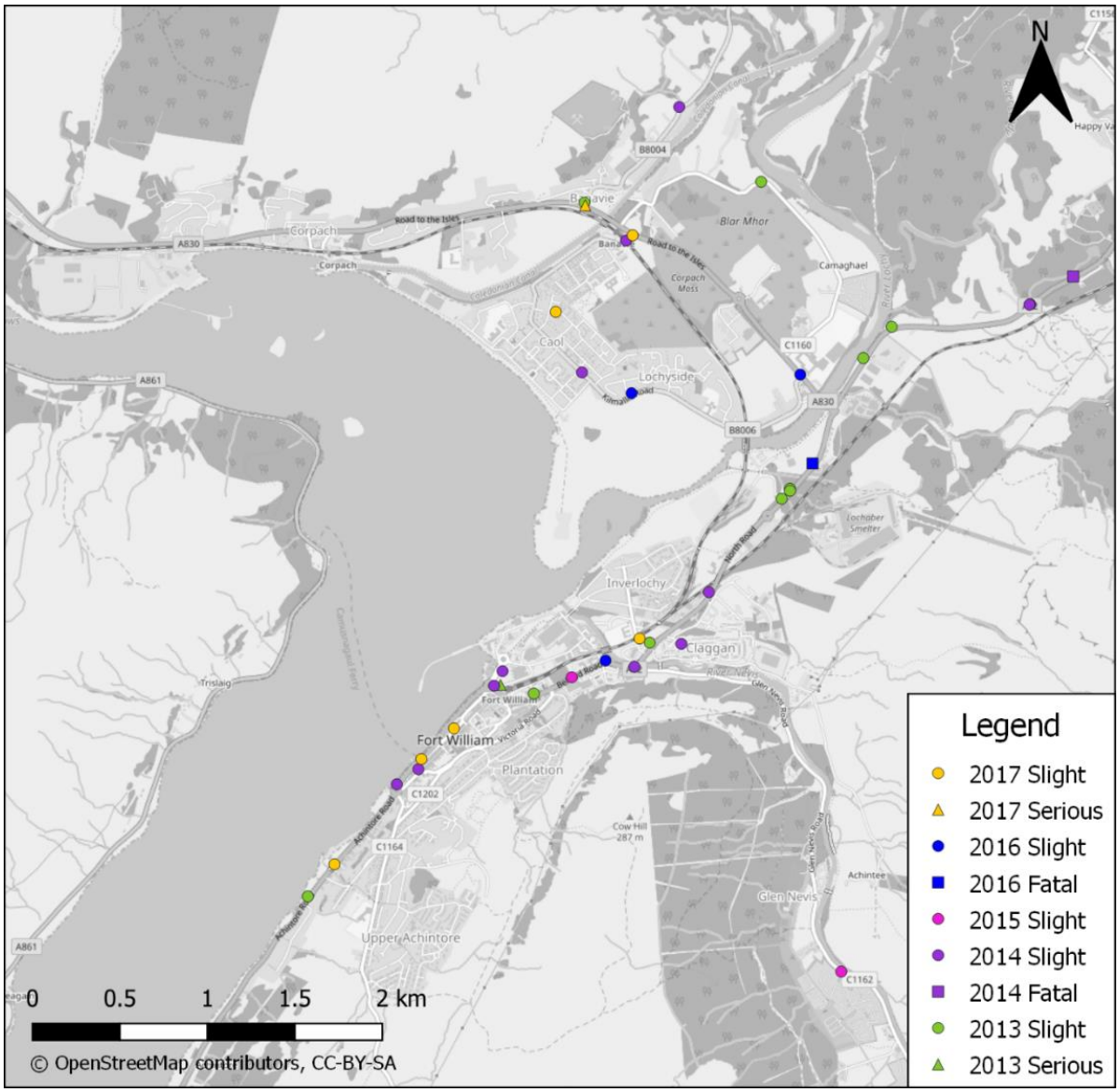


Figure 3-26 - Location of STATS19 Accidents

Figure 3-26 illustrates the location of all recorded accidents in the Study Area during the five-year period 2013-17.

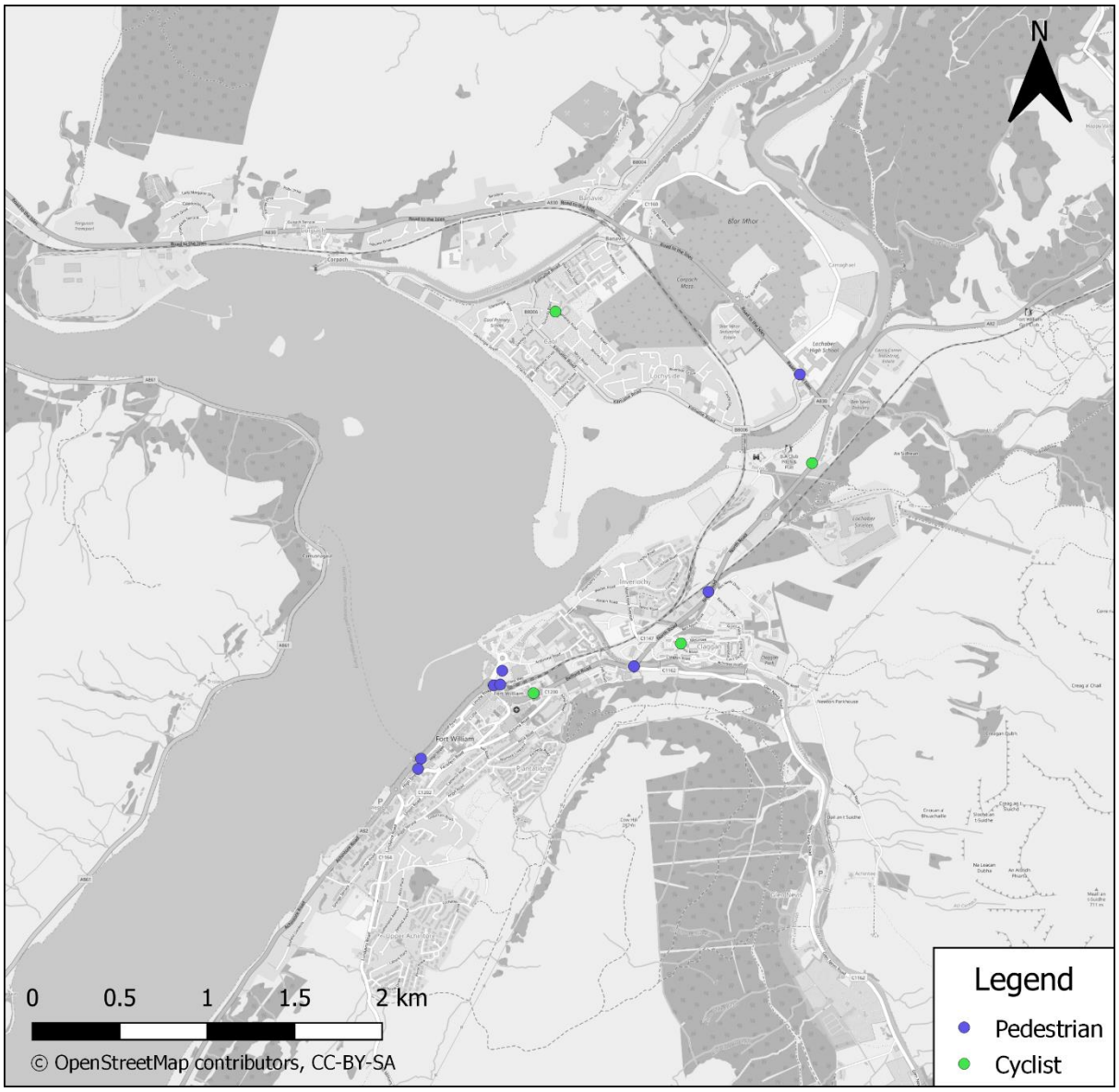


Figure 3-27 - Location of STATS19 Pedestrian and Cyclist Accidents

Figure 3-27 shows the highest number of accidents within the study area occurred on the A82, with fewer accidents occurring on the A830 and local roads.

3.8 Public Transport

Fort William has two bus hubs in the town centre; on MacFarlane Way and Middle Street serving both local and regional bus services.

Three Railway stations are situated in the study area; Fort William, Banavie and Corpach. Fort William Railway Station is the start/end point for trains travelling to Glasgow and Mallaig. Banavie and Corpach stations are on the line that serves Mallaig and Fort William.

Figure 3-28 shows how the A82 severs the link between the bus hubs and Fort William railway station and key destinations in the town centre. Pedestrian access is restricted to an underpass that connects MacFarlane Way and the High Street. Cyclists are asked to dismount for this section.

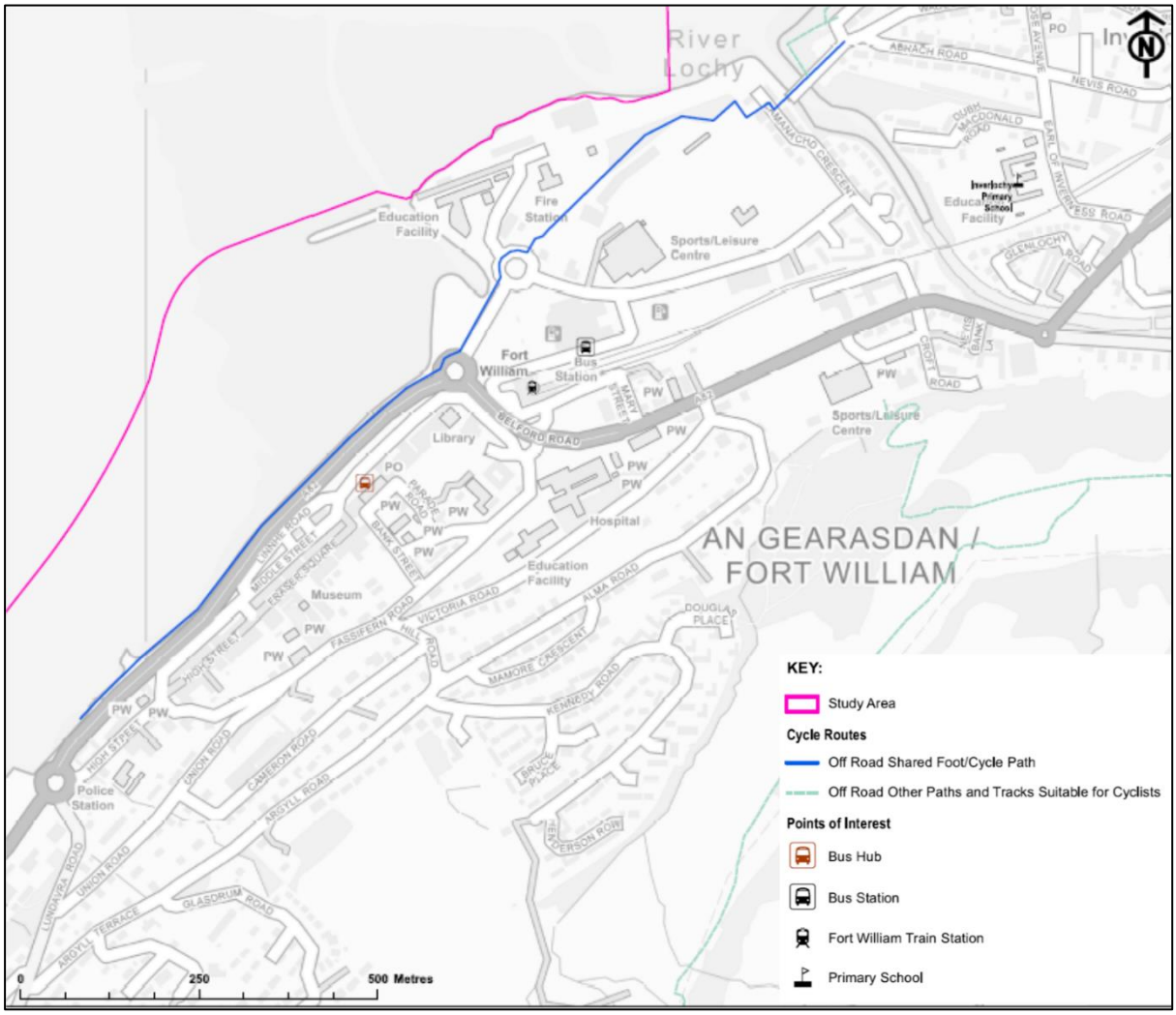


Figure 3-28 - Public Transport Hubs

3.9 The Highland Council Policy Documents

Document (Title, Year, Source)	Summary	Problems in Fort William area and any evidence	Opportunities for Fort William area and any evidence	Any relevant policy drivers or priorities from document?	Any proposed transport interventions from the document?	Any useful data?
Key Transport Strategies / Documents						
Draft HITRANS Regional Transport Strategy (2017, HITRANS) and Main Issues Report (HITRANS, 2016)	• RTS refresh includes details of committed transport projects in the region. It provides a summary of a Delivery Plan, an overview of how things have changed since the 2008 RTS and details the Strategy, which sets out the vision and objectives. • Main Issues Report summarises policy and other changes since the publication of the original Regional Transport Strategy in 2008. It also sets out HITRANS vision and objectives and details their delivery plan.			• Advancement of a programme of investment in key regional and trunk road pinch points, including on the A82 at Loch Lomond, Fort William • Supporting delivery of major sustainable projects that help realise the Cycling Action Plan for Scotland and National Walking Strategy outcomes. These include the active travel and public transport 'North Bridge' at the new Inverness Campus, Soldiers' Bridge in Fort William and the improvement and expansion of both local and national cycle networks in and around all of the region's main settlements.	• Improvements for pedestrians and cyclists on the Soldiers Bridge in Fort William. This is an important connection on NCN 78. There are also a number of higher-level priorities which may impact on Fort William • Implementation of Regional Active Travel Strategy and Active Travel Town Masterplans and Personalised Travel Planning and Behavioural Change.	• Active travel to school is higher than any other region in Scotland.
Highland Council Local Transport Strategy 2010/11 – 2013/14 (The Highland Council, 2010)	• Guided by the overarching aims/ objectives of the NTS and constituting the daughter document to the RTS, the LTS sets out Highland-wide transport aims and objectives. • It includes a number of core policies and programmes geared to achieving the aims/objectives.	Predominantly local authority level problem identification		• The Local Transport Strategy (LTS) sets out the vision to '…establish an integrated transport network which supports safe and sustainable environments in which people can live, work and travel'. The LTS also sets out the following 9 objectives: • Economy: Provide a transport network to enable sustainable economic growth, noting the very different conditions between urban and rural locations and addressing the remoteness factor facing Highland trips to the rest of the UK; • Social Inclusion: Facilitate travel to enable economic/social involvement and improve access/travel choices to essential services for those without access to a private car;	• To improve the accessibility to non-car modes. • Ensure developments provide for sustainable travel and achieve no net detriment on the transport network	

Document (Title, Year, Source)	Summary	Problems in Fort William area and any evidence	Opportunities for Fort William area and any evidence	Any relevant policy drivers or priorities from document?	Any proposed transport interventions from the document?	Any useful data?
				• Environment: Manage/reduce the impacts of transport on the natural and built environment; • Health: Increase levels of cycling and walking to promote health improvement and modal shift; • Road Safety: Continue to improve road safety, addressing locations where road accidents are above average levels; • Personal Safety: Address issues of perceived safety and personal security particularly where they are a barrier to walking, cycling and public transport; • Policy Integration: Identify policy overlap across Council services, and with other public bodies (e.g. NHS), maximise benefits and minimise contradiction; • Investment Integration: Identify benefits and opportunities of combined transport procurement for all Council services; and • Traffic Reduction: Where appropriate consider targets for reducing traffic, although noting the variation in conditions and requirements between rural and urban areas		
Fort William Strategic Transport Strategy (HITRANS, 2018)	• The strategy has established evidence of transport problems and considers the • appropriate approach to the future development of the transport network in Fort William.	• There is a real desire by residents to walk and cycle more for everyday journeys. The alignment of the A82 causes severance of the Town Centre from the rail and bus stations and from the waterfront. This was frequently raised during the engagement process. Gaps or shortcomings in the cycle network were highlighted by local people, including a need for better links between Caol and Fort William town centre and the	• Caol and Lochyside flood management scheme including better active travel links. • High level of active travel trips to some primary schools in area • Travel to work data suggests high proportion of short trips and most of area is within a 30-minute cycling threshold	• Sets out the objective: To deliver a health-promoting, sustainable and fair transport network that promotes equal access to opportunity. • Within the options for change: • Active travel infrastructure package, to fill gaps in the walking and cycling network to ensure a comprehensive and joined up network exists to support walking and cycling for everyday journeys. Within the long list of options: • Improve the active travel link from bus/rail station to town centre. Explore road space reallocation on A82 between bus/rail station and town		

Document (Title, Year, Source)	Summary	Problems in Fort William area and any evidence	Opportunities for Fort William area and any evidence	Any relevant policy drivers or priorities from document?	Any proposed transport interventions from the document?	Any useful data?
		alignment of the National Cycle Network route 78. • Lack of awareness of existing active travel facilities was highlighted in respect of visitors and locals, in part due to a lack of signage. This lack of awareness, and gaps in onward connectivity i.e. with the Town Centre, may potentially make travelling by bicycle a less attractive option.		centre if any alternative route is in place in the future. • Implementation of a bike share scheme, including e-bikes • Increase number and improve quality of sheltered and secure cycle parking at key locations • Ensure there is sufficient space for bikes on trains • Increase the number of pedestrian crossings at east end of A82/A830, the canal and Corpach • Increase the number of pedestrian crossings at east end of A82/A830, the canal and Corpach • Construct a cycleway between Corran and Fort William • Route Signage Strategy • Establish Fort William Active Travel Action Group • Fort William Spine Route active travel improvements including improved connections between Caol and Fort William Town Centre • Caol Links active travel improvements • Lochaber College Link • Outer Orbital Route active travel improvements • Revisit layout of A82 at waterfront area in Fort William to reduce severance from town centre • Cycle route along the A82 & A830 through the study area, or at least a review of junctions to enhance priority at key points on road for people on bikes.		
Development						
West Highlands and Islands Local Development Plan (WestPlan) (The Highland Council, 2017)	The document is one of three plans which guide future development in the Highlands. This Plan focuses on where development should and should not occur in the West Highland and Islands area	• There is population growth in the West Highlands area, with net in-migration not births exceeding deaths. • There's a higher reliance on the primary, tourism	There are multiple developments opportunities in Fort William. The largest developments include: • Capacity for 130 houses at Annat Farm;	• There is a placemaking priority in the town, including the need to encourage consolidation within the settlement and for new commercial expansion to only be supported in central locations. • There is a policy to ensure development is delivered, including in Fort William.	Potential transport improvements in/affecting the Fort William include: • Public transport and active travel improvements.	• The sparsity of the area's population is twice the Highland average and 17 times

Document (Title, Year, Source)	Summary	Problems in Fort William area and any evidence	Opportunities for Fort William area and any evidence	Any relevant policy drivers or priorities from document?	Any proposed transport interventions from the document?	Any useful data?
including Transport Background Paper	over the next twenty years. The Plan has four key themes; growing communities, employment, connectivity & transport and environment & heritage.	and construction employment sectors in the area. • Travelling to, within and from the Plan area (including Fort William) is challenging because of the physical constraints such as mountains and lochs. • There is a need to support further growth but to make the urban area and the community more cohesive.	• Capacity for 125 houses at Lundavra Road • Mixed use at Blar Mhor, including capacity for 130 houses. • Mixed use at Upper Achintore (North), including capacity for 220 houses. • 35 ha of land for business/tourism related purposes at Fort William Waterfront. • 70.3 ha of land for industry purposes at Annat, Former Paper Mill and Adjoining Land. • 68.0 ha of land for industry at Aluminium Smelter and Adjoining Land. Focusing the majority of developments on existing settlements helps to reduce the need for additional transport improvements.	This development should be generally consistent with indicative capacities specified in the Plan (see further details under 'Opportunities' column). • Fort William town centre is protected by the Town Centre First policy. The policy stipulates that if the Council considers that a proposal may result in ad adverse impact on the vitality and viability of the town centre, the developer will be required to produce a retail or town centre impact assessment. • As part of the 'Growing Settlements' policy, the Plan helps to deliver employment, improves connectivity and transport	• Potential new road alignments safeguarded in plan for link road to Caol and realignment of A82	more than the Scotland average. • There are high levels of multiple deprivation for Fort William. • Unaffordable house prices across the area, with average mortgages greater than 6 times average local incomes.
Other						
Fort William Waterfront Masterplan (The Highland Council, 2009)	A report outlining the design proposals for 'Enhancing Fort William's Waterfront'. There are two master plans within the document, an Optimum Masterplan Proposal and a Secondary Masterplan. The Optimum plan is based on funding through a joint venture whilst the Secondary plan shows the opportunities without joint venture funding.	• Key sites such as existing green spaces and the waterfront are • currently 'cut off' from the town centre • Pedestrian links are compromised due to the dominance of the A82. • Making walking and cycling more attractive can encourage reduced use of cars for short journeys • Fort William is dominated by car parking	The report sets out in general terms how these problems would be addressed. Much of the report relates to the built form and its visual appearance, but there is a strong emphasis on how access needs to be improved for pedestrians and cyclists, including improved at grade crossings on the A82, especially from the train station to the High Street.			

Document (Title, Year, Source)	Summary	Problems in Fort William area and any evidence	Opportunities for Fort William area and any evidence	Any relevant policy drivers or priorities from document?	Any proposed transport interventions from the document?	Any useful data?
		• Middle Street could be improved to encourage more street activity • The train station and West End roundabout are key gateways where the visual quality of the areas could be improved.				
Fort William Town Centre Action Plan (2015, The Highland Council)	The Plan provides a steer for projects which could be delivered should funding opportunities arise, or where planning applications might help to make them a reality. Problems and opportunities have been identified which can deliver regeneration in Fort William town centre.	• Finding opportunities to implement proposals are limited. Proposals include improvements to sustainable transport infrastructure. • There is a need for safer, more attractive pedestrian access in the town centre; for example, between the Railway/Bus Station and town centre. • There are issues around on-street parking and traffic regulation enforcement. • A public consultation event confirmed that summer traffic congestion discourages local residents from using the town centre. • 20% of 85 shops on Fort William High Street are lying empty.	• Multiple opportunities to revitalise Fort William are identified. These are noted as priorities in the column to the right. • Sustrans continues to have the long term aim to increase opportunities for active travel along the A82.	Multiple priorities are identified in the Plan: • Pedestrian environment between the Fort and the High Street requires improving, which would create safer and more attractive pedestrian access. • Improving the public realm of the High Street was identified as a priority, with a particular need to bring empty shops back to use. • Improving gateway roundabouts and signage for drivers. • Promotion of better walking and cycling links between the town centre and the waterfront. • Development of new uses for redundant space and buildings in the town centre. • Public consultation identified a desire to create more good quality greenspace in the town centre. • Make better use of MacRae's Lane. This area has the potential to provide pop up space and workshops.	There are multiple proposals in the Plan. Proposed/priority transport related interventions identified include: • Pedestrian and cyclist infrastructure improvements across the town centre. • Review and improvements to traffic management on the High Street.	• 20% of 85 shops on Fort William High Street are lying empty. • Fort William has 18 hotels and circa 74 B&B's and Guest Houses.
FW2040: A Masterplan and Delivery Programme for Fort William and Lochaber (The Highland Council, 2019)	The plan forms a key part of the West Highlands and Islands Local Development Plan Action Programme. The plan delivers a shared vision for the future of Fort William and Lochaber. The plan follows four key themes: A Great Place to Live, A Connected Place, A		New housing can reinforce existing character areas and form a chain of distinct communities around the loch. Well served by facilities and easily connected to each other, these can be robust places connected to both water and land-based amenity.	• Town centre to waterfront opportunity to maximise proximity to town centre, re-imagine a Lochside promenade with water facing public space and activities • River crossing opportunities to diversify transport connections between North-South. • Referring to the Active travel network: Network should also enhance environment, sense of place and		

Document (Title, Year, Source)	Summary	Problems in Fort William area and any evidence	Opportunities for Fort William area and any evidence	Any relevant policy drivers or priorities from document?	Any proposed transport interventions from the document?	Any useful data?
	Place Facing Water and A Place with Collective Ambition		Explore opportunities to develop a truly connected place with a 21st Century approach to transport Improve connections between communities, industry, landscape, water, visitor Destinations Embrace new technologies and methods that limit reliance on carbon-based fuels Fort William as a well-connected gateway and destination for the wider region. A summary of the comments received highlighted the following: • A place with a better network of facilities for cyclists: bike storage within all developments and on public transport, changing and drying facilities for cyclists. • A place with a better active travel network: new/improved routes: through enhanced green spaces and corridors with attractive outlooks; across mouth of River Lochy; across Lochy at Muirshearlich; along Puggy Line (between Fort William and Nevis Range); across Lochy from Inverlochy Castle Estate to Blar Mor; to alloy wheel plant; to Glen Nevis; to provide safe pedestrian crossing points of A830 at Banavie and Corpach; from Ballachulish to Fort	accessibility for all users – plug gaps in existing provision – Safer Routes to School.		

Document (Title, Year, Source)	Summary	Problems in Fort William area and any evidence	Opportunities for Fort William area and any evidence	Any relevant policy drivers or priorities from document?	Any proposed transport interventions from the document?	Any useful data?
			William to provide a safe cycle route; to/from High School – also routes: suitable for all users; segregated; of a good quality surface; with better facilities (Great Glen Way) without mobility barriers; and, not compromised by flood and road schemes.			

3.10 Development

The Highland Council has committed to a number of developments. These include the Blar Mhor mixed-use masterplan, Caol Waterfront Flood Scheme and the British Liberty Aluminium Smelter expansion. These committed developments will see a shift of some of the key services out of the town centre to the north with implications for travel demand.

The Smelter expansion hopes to see the creation of 400 new jobs by 2020 and the Blar Mhor masterplan includes:

- Up to 250 residential units;
- A hospital;
- Science, Technology, Engineering and Maths (STEM) Centre;
- Community Uses;

Figure 3-29 shows the active travel infrastructure that is included in the three committed developments. This infrastructure is limited to the confines of the developments buts links to the existing network. The Caol Waterfront Flood Scheme includes the installation of a shared-use path running along the banks of River Lochy and along the shore of Loch Linnhe.

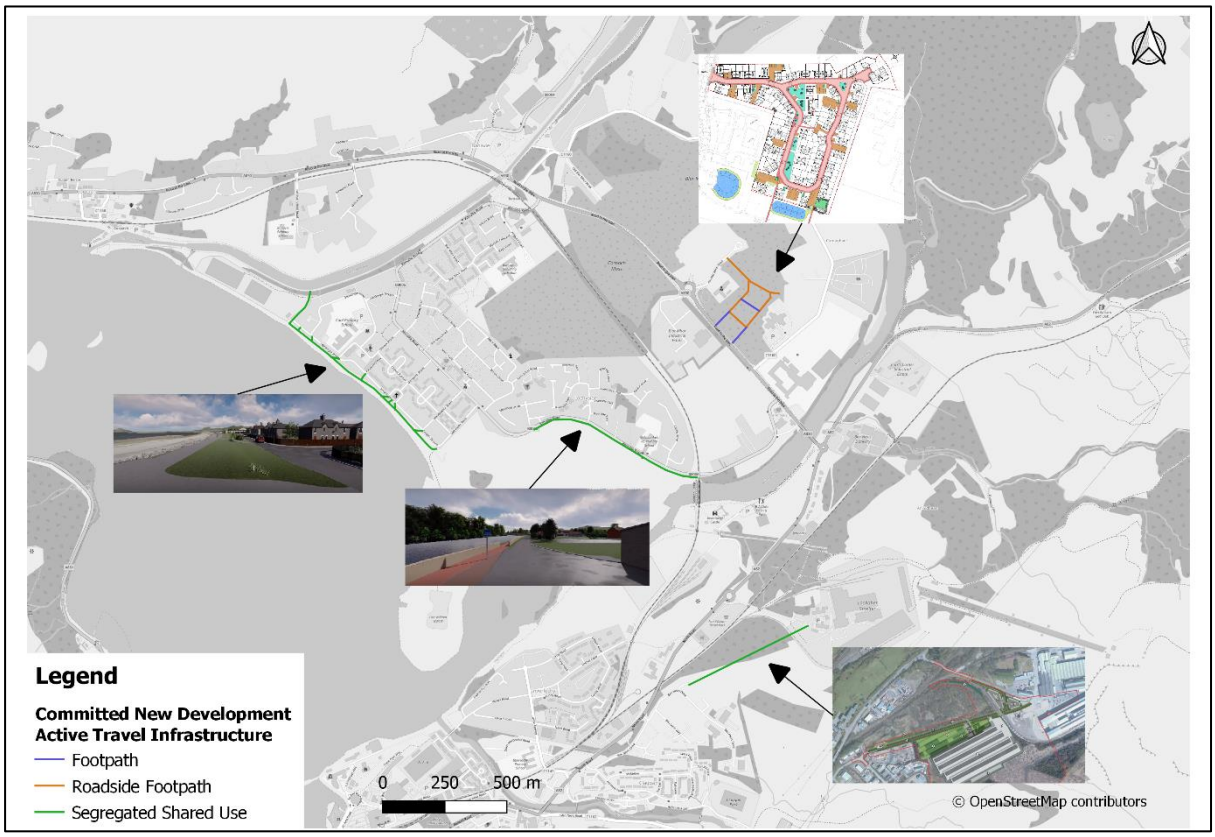


Figure 3-29 - Active Travel Network within Committed Developments

Plans have also been submitted, but are under consideration, for a residential development of up to 325 dwellings in Upper Achintore. Figure 3-30 shows the active travel infrastructure which would accompany that development.

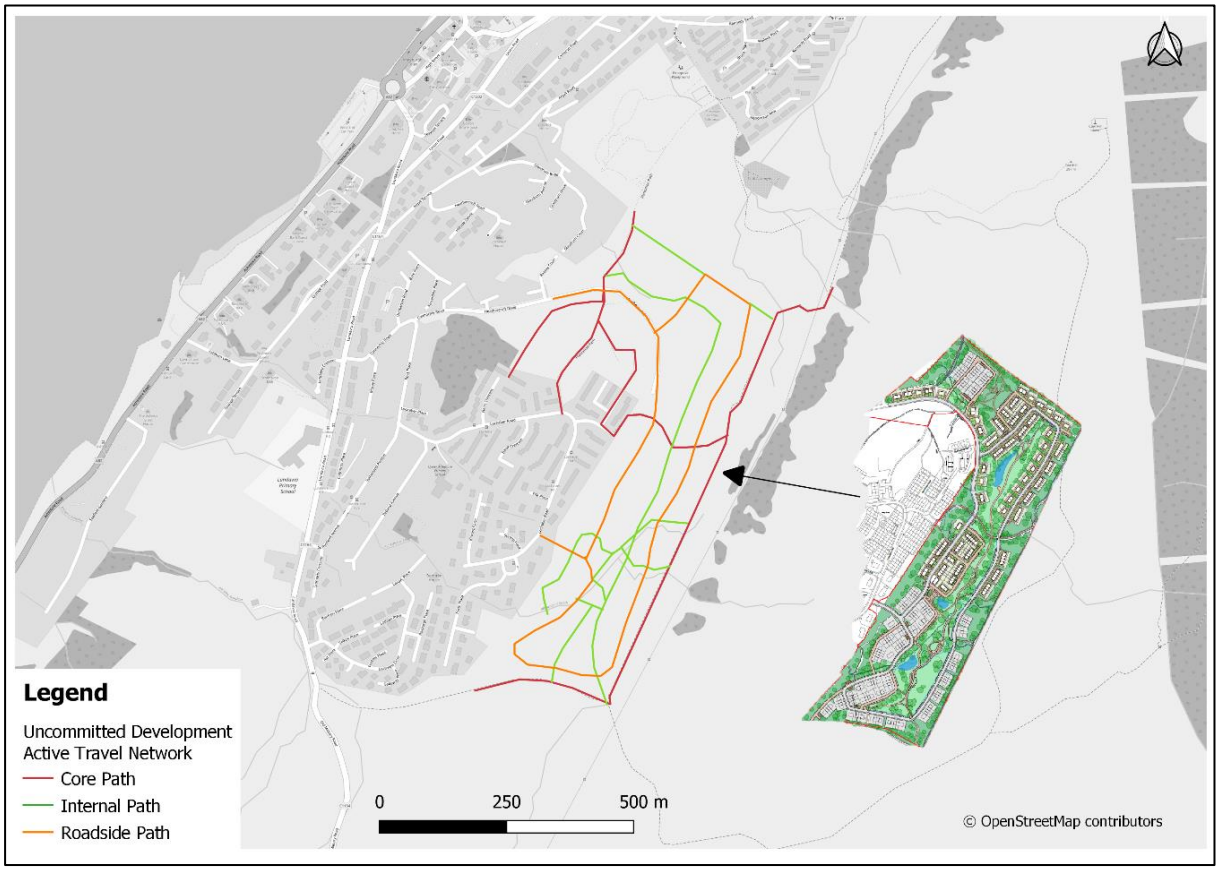


Figure 3-30 - Active Travel Network within Uncommitted Developments

A committee report on the outcome of the proposed West Highland and Islands Local Development Plan, Lochaber Area in April 2018 has presented a 2040 'vision' for Fort William in terms of development and assets[7], Figure 3-31. This plan provides the wider context to how the above developments fit into the long-term vision for Fort William.

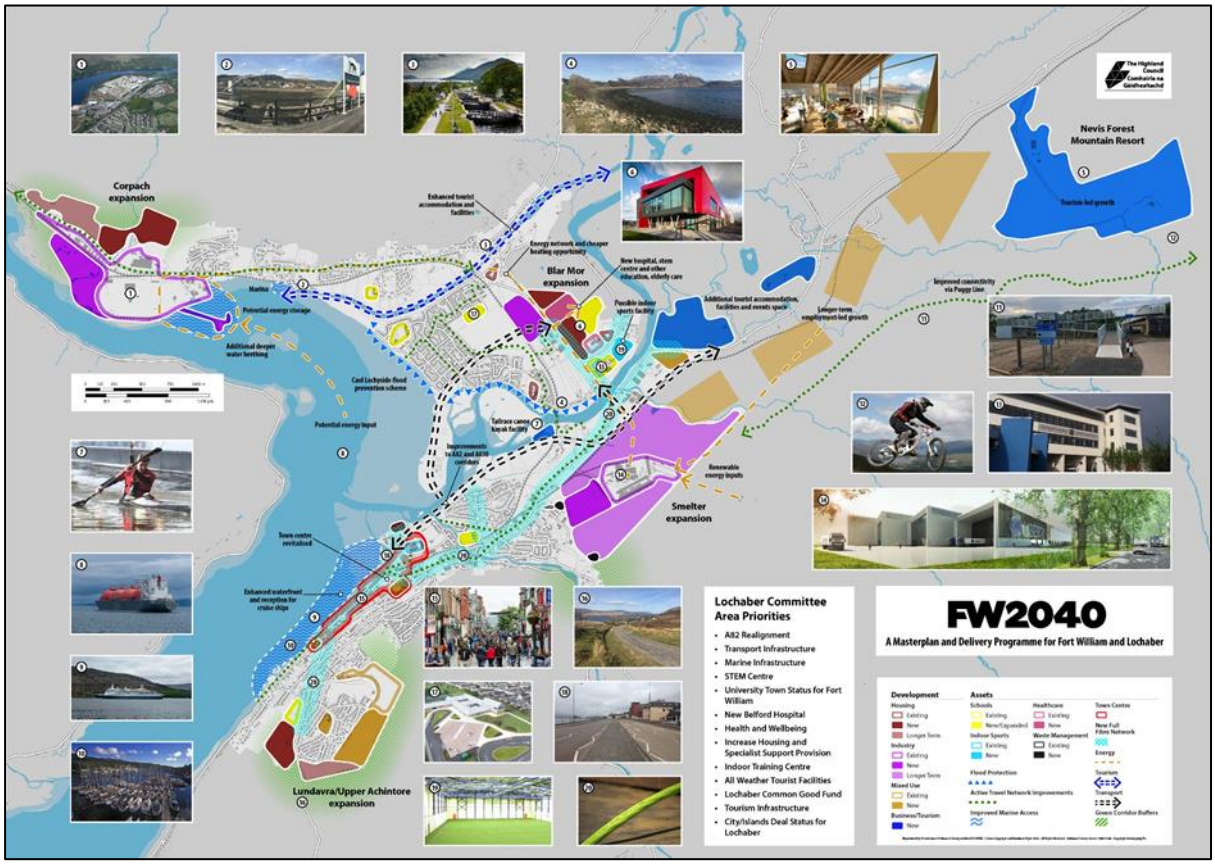


Figure 3-31 - Fort William 2040 Delivery Programme

3.11 Summary

This section has outlined existing walking and cycling facilities and infrastructure in the study area and has provided an overview of baseline transport conditions, including traffic flow and accident data, public transport, a policy review and how policies influence transport decisions and an overview of development allocations.

- The proportion of people in the study area cycling or walking to work or study is higher than the Highland and national average.
- Distance travelled to work demonstrates that 62.6% of people work within 5km of their home, which is considerably higher than the national average.
- There are multiple categories of active travel infrastructure in the study area, which can be broadly categorised as follows: Footways and footpaths suitable for people travelling on-foot; Paths suitable for people travelling on foot or by mountain bike; Shared use footways / paths; Advisory cycle lanes; and Controlled and uncontrolled crossings.
- The Great Glen Way and the West Highland Way are two long distance walking routes that start / end in Fort William.
- NCN 78 (The Caledonia Way) is the primary cycle route within Fort William, connecting Campbeltown and Inverness.
- There is cycle parking at 14 locations across the study area. These are predominantly Sheffield Stands, some of which are covered.

[7] https://www.highland.gov.uk/meetings/meeting/3954/lochaber_committee

- Road traffic flows are heaviest on the A82 south of the Lochy Bridge Roundabout and increases as you move south on the A82.
- In the five years from 2013 to 2017 35 accidents have been recorded in the study area. Of the 35, there were 8 traffic accidents involving 9 pedestrians, one of which was classified as serious. There were also 4 accidents involving cyclists, one of which occurred on the A82 and resulted in a fatality.
- There are a number of larger scale developments, including the Blar Mhor mixed-use masterplan, Caol Waterfront Flood Scheme and the British Liberty Aluminium Smelter expansion, all including active travel infrastructure. Travel demand may grow in the north of the area as a result.
- Regional and Local policy; WestPlan and FW2040 have a strong focus for increasing active travel and improving active travel infrastructure in Fort William.

4. Potential Fort William Area Active Travel Network

The active travel audit identified potential walking and cycling routes that could link residential areas to the main trip generators and attractors to form a strategic network for the area. This was informed by the information presented in Section 3, as well as the 2010 audit and a review of infrastructure best practice.

4.1 Infrastructure Examples

Prior to undertaking the site investigations, a review of infrastructure best practice was undertaken.

Figure 4-1 to Figure 4-9 illustrates different street types and potential solutions, from different locations across Scotland and the United Kingdom, whilst Figure 4-10 to Figure 4-20 illustrates different types of cycling and walking infrastructure. Please note that any dimensions shown are indicative.

4.1.1.1 Street Types and Potential Solutions

Figure 4-1 - Cycle Path

Figure 4-2 - Quiet Street / Home Zone, Fraserburgh

Figure 4-3 - Segregated Cycleway – One-way, Edinburgh

Figure 4-4 - Shared Use Footway / Cycleway, No Segregation

Figure 4-5 - Streetscape / Shared Surface Principles, Dingwall

Figure 4-6 - Segregated Cycleway – Two-way, Glasgow

Figure 4-7 - Shared Use Footway/Cycleway with Segregation, York

Figure 4-8 - Quiet Street, London

Figure 4-9 - Dual Carriageway Converted to Single Carriageway with Cycleway, Newcastle

4.1.1.2 Types of Infrastructure

Figure 4-10 - Toucan Crossing

Figure 4-11 - Pedestrian and Cycle Crossing

Figure 4-12 - Advanced Stop Line

Figure 4-13 - Integration between Cycleway and Carriageway

Figure 4-14 - Two-Stage Right Turn

Figure 4-15 - Full Segregation

Figure 4-16 - Light Segregation

Figure 4-17 - Cycle Access Through Road Closure

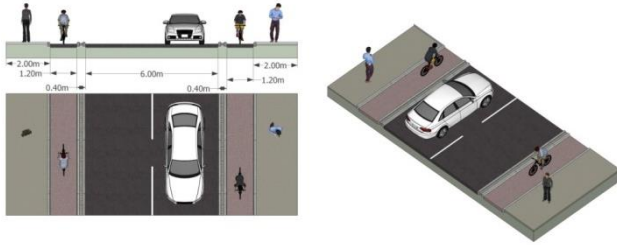


Figure 4-18 - One-way Segregated Cycleway on Both Sides of Carriageway

Figure 4-19 - Two-way Segregated Cycleway on One Side of Carriageway

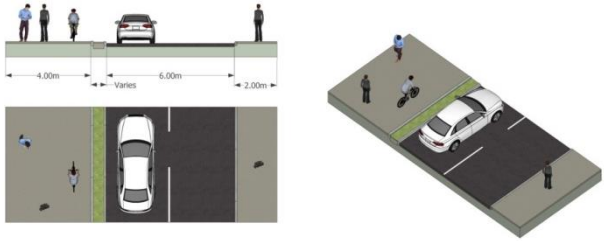


Figure 4-20 - Shared Use Footway

4.2 2010 Audit

The Fort William Active Travel Audit carried out by Halcrow in 2010 proposed an active travel network for Fort William that comprised 7 routes / recommendations. The objectives of this audit are outlined in section 4.2.1, while the proposed active travel network is outlined in section 4.2.2.

4.2.1 Objectives

The following objectives were developed as part of the 2010 audit:

Objective 1: Develop a high-quality spine route for walking and cycling through the Fort William area

Objective 2: Create an Active Travel Task Force to spearhead the development of walking and cycling routes and secure funding from as many sources as possible

Objective 3: Work with local businesses to improve trip end facilities to encourage commuter walking and cycling

Objective 4: Improve pedestrian and cycle links between retail area/public transport interchange and town centre

These objectives have been used again for this refresh, and they broadly align with the purpose of the active travel network discussed at the stakeholder workshop. It should be noted effort has also been made to consider access to educational facilities in the network development also.

4.2.2 Proposed Active Travel Network

The Masterplan that was proposed during the 2010 audit contained 7 routes that were recommended to be implemented in order to develop a direct and coherent network in Fort William. The 7 routes that were recommended are listed below:

- Fort William Spine Route;
- Torlundy Spur;
- Caol Links;
- Outer Orbital Route;
- College Link;
- Town Centre Links (pedestrian only); and
- Puggy Line Link.

Various recommendations and interventions were associated with the 7 routes that were proposed. The 7 routes are shown graphically in Figure 4-21.

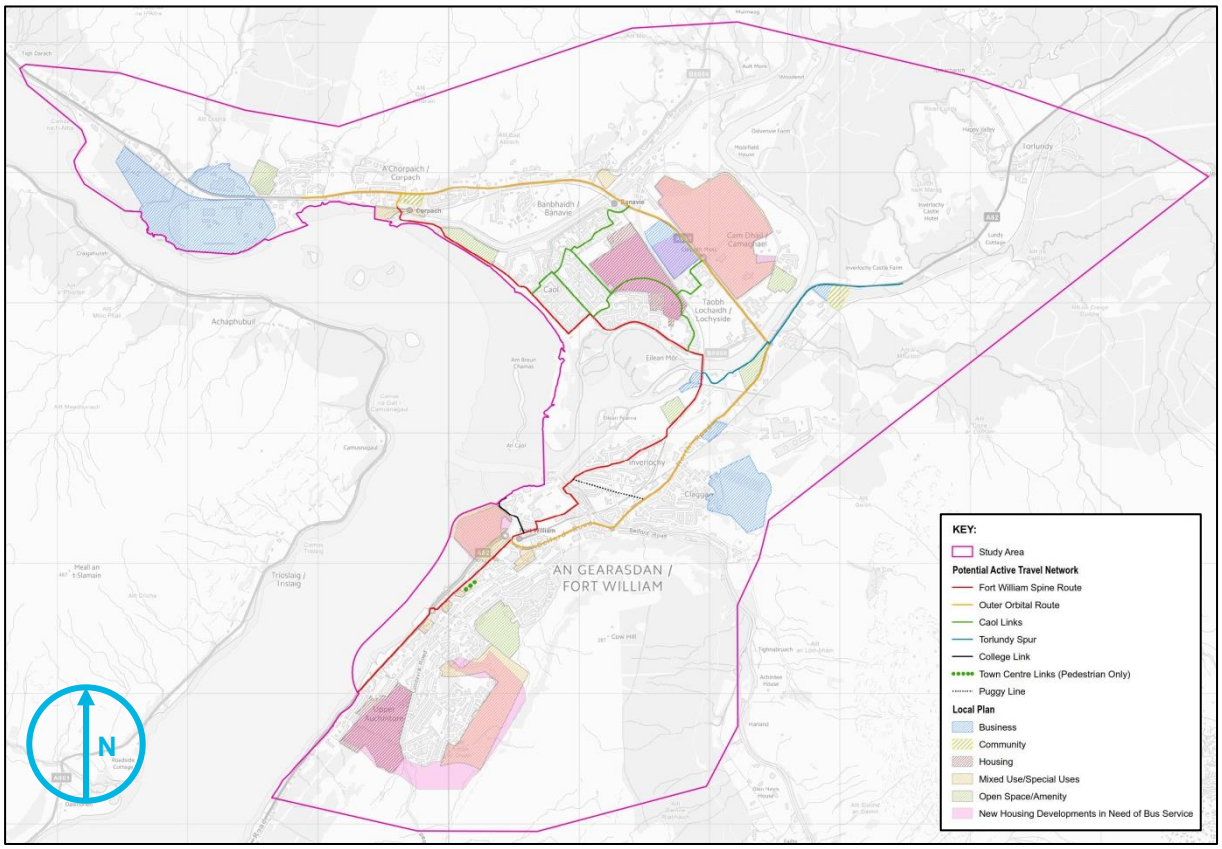


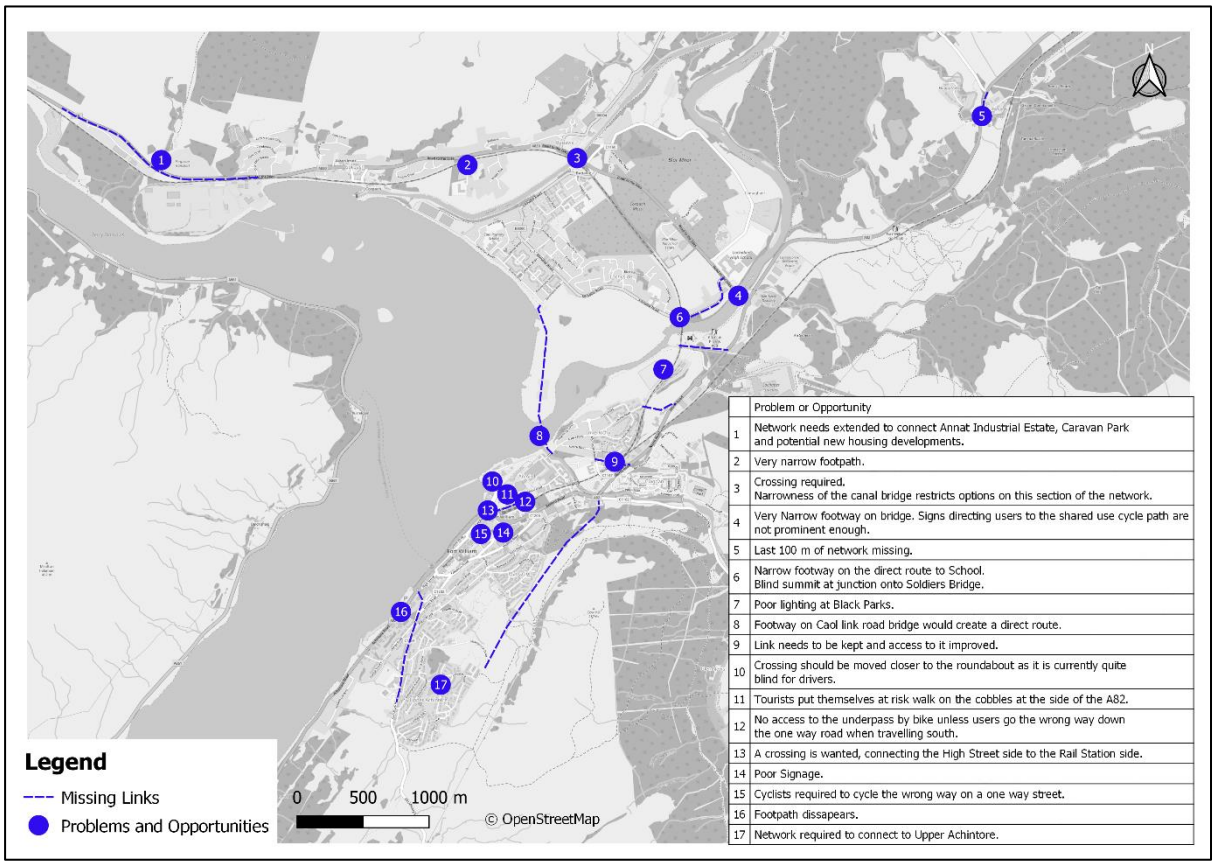
Figure 4-21 - 2010 Masterplan Routes

The Masterplan proposed as part of this study is discussed in the following section (4.3).

4.3 Refresh of Fort William Masterplan (2019 Audit)

As previously mentioned in section 2.1, a stakeholder workshop was held on Thursday 23 May 2019 in Fort William. During this workshop attendees were asked about what routes should be included in the Masterplan. There was consensus that the routes listed in section 4.2.2 and shown in Figure 4-21 should be those that are taken forward, while various additions and alterations were proposed.

The opportunities and issues that were raised at the workshop are shown graphically in Figure 4-22.



	Problem or Opportunity
1	Network needs extended to connect Annat Industrial Estate, Caravan Park and potential new housing developments.
2	Very narrow footpath.
3	Crossing required. Narrowness of the canal bridge restricts options on this section of the network.
4	Very Narrow footway on bridge. Signs directing users to the shared use cycle path are not prominent enough.
5	Last 100 m of network missing.
6	Narrow footway on the direct route to School. Blind summit at junction onto Soldiers Bridge.
7	Poor lighting at Black Parks.
8	Footway on Caol link road bridge would create a direct route.
9	Link needs to be kept and access to it improved.
10	Crossing should be moved closer to the roundabout as it is currently quite blind for drivers.
11	Tourists put themselves at risk walk on the cobbles at the side of the A82.
12	No access to the underpass by bike unless users go the wrong way down the one way road when travelling south.
13	A crossing is wanted, connecting the High Street side to the Rail Station side.
14	Poor Signage.
15	Cyclists required to cycle the wrong way on a one way street.
16	Footpath dissapears.
17	Network required to connect to Upper Achintore.

Figure 4-22 - Missing Links, Problems and Opportunities Identified During Workshop

Whilst on site the seven proposed routes from the previous audit, the existing infrastructure, and the opportunities and issues raised at the workshop were audited, whilst various other roads and locations within the study area, and potential links were investigated. The results of the online Placecheck tool for Fort William were also used. The tool was online from mid-February 2018 to mid-March 2018, as part of the engagement of the Fort William Strategic Transport Study (Pre-Appraisal). Respondents were invited to highlight what they liked and disliked on transport services, infrastructure and places in general. A map of the comments' location is shown in **Figure 4-23**.

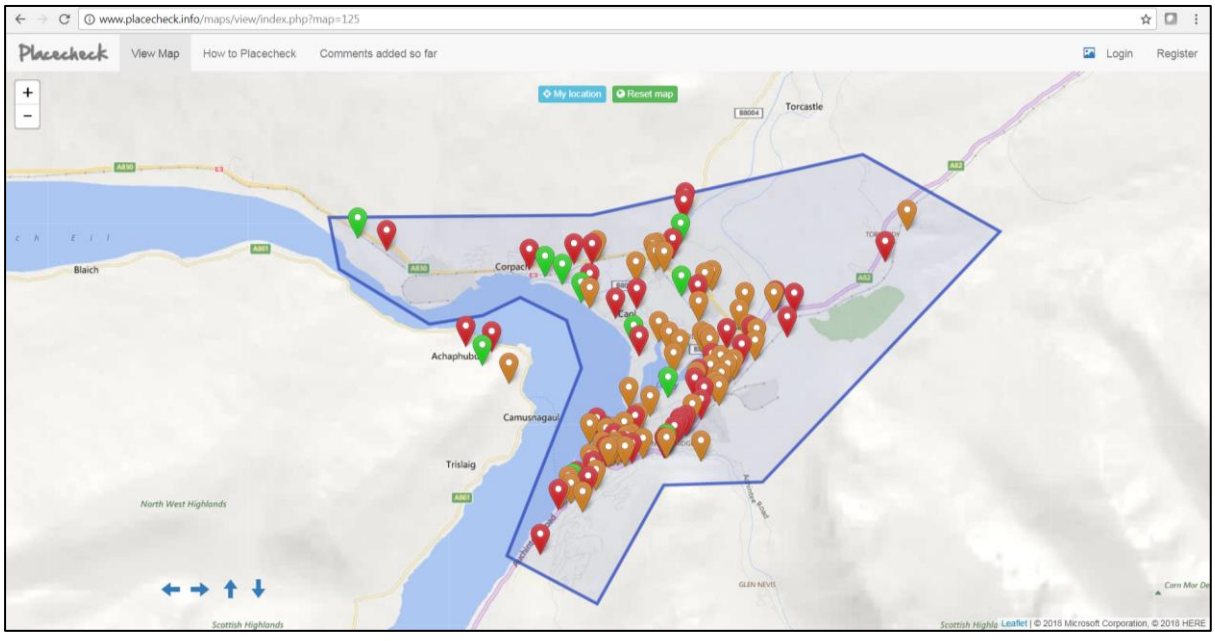


Figure 4-23 - Screenshot from Placecheck Tool for Fort William

The outcome of the audits and review of the existing infrastructure, existing issues, trip generators / attractors and the development area form the proposed Masterplan shown in Figure 4-24.

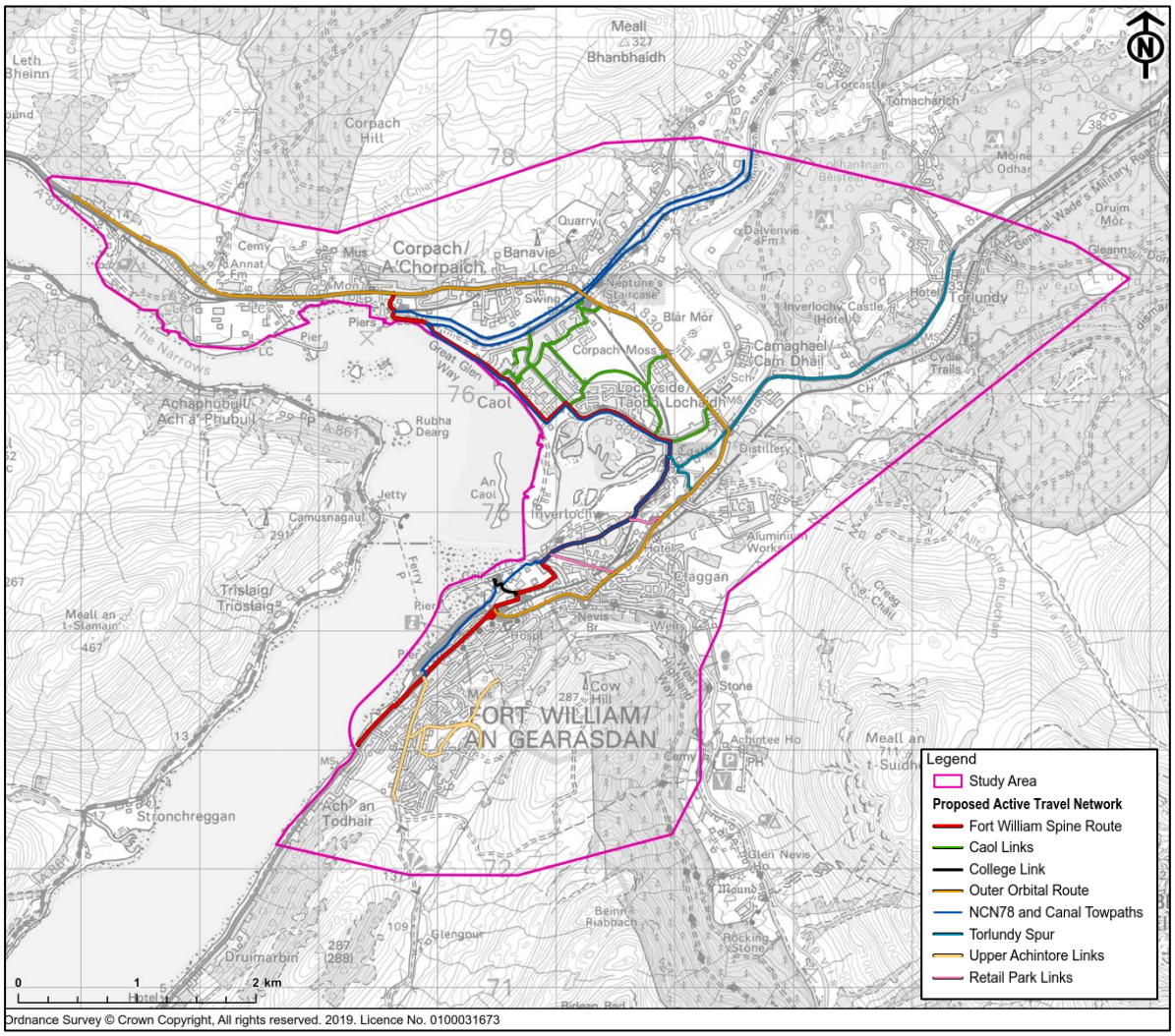


Figure 4-24 - Proposed Masterplan

This would involve the creation and branding of seven new routes:

- Fort William Spine Route;
- Outer Orbital Route;
- Retail Park Links;
- College Link;
- Caol Links;
- Torlundy Spur; and
- Upper Achintore Links.

Each of these routes is discussed further in sections 4.3.1 to 4.3.7. As can be seen in Figure 4-24, the Masterplan would also incorporate NCN 78 and the towpaths along the Caledonian Canal. These are not discussed further in the report, as they are viewed as existing route alignments that require minimal upgrade, although various issues, opportunities and constraints associated with these routes were captured using ArcGIS Collector during the site audits.

It should be noted that Sustrans provided the following comment on NCN 78:

> *"There are some stretches of the NCN in this area that don't meet Sustrans' Paths for Everyone commitment for safe and accessible cycling infrastructure that we can promote to users of all abilities, such as the advisory cycle lanes on the B8006 Kilmallie Road. We may propose to reroute NCN Route 78 wherever good quality traffic-free infrastructure is delivered in an area that it runs through or is adjacent to (for example, any upgrades delivered as part of the Fort William Spine Route)."*

4.3.1 Fort William Spine Route

The Fort William Spine Route would connect the centre of Fort William, Inverlochy, Caol and Corpach, providing a strategic route from which various other links could branch off. The route context, alignment, design specification and cost estimate are presented below.

4.3.1.1 Proposed Route Alignment

The proposed route alignment of the Fort William Spine Route is shown in Figure 4-25.

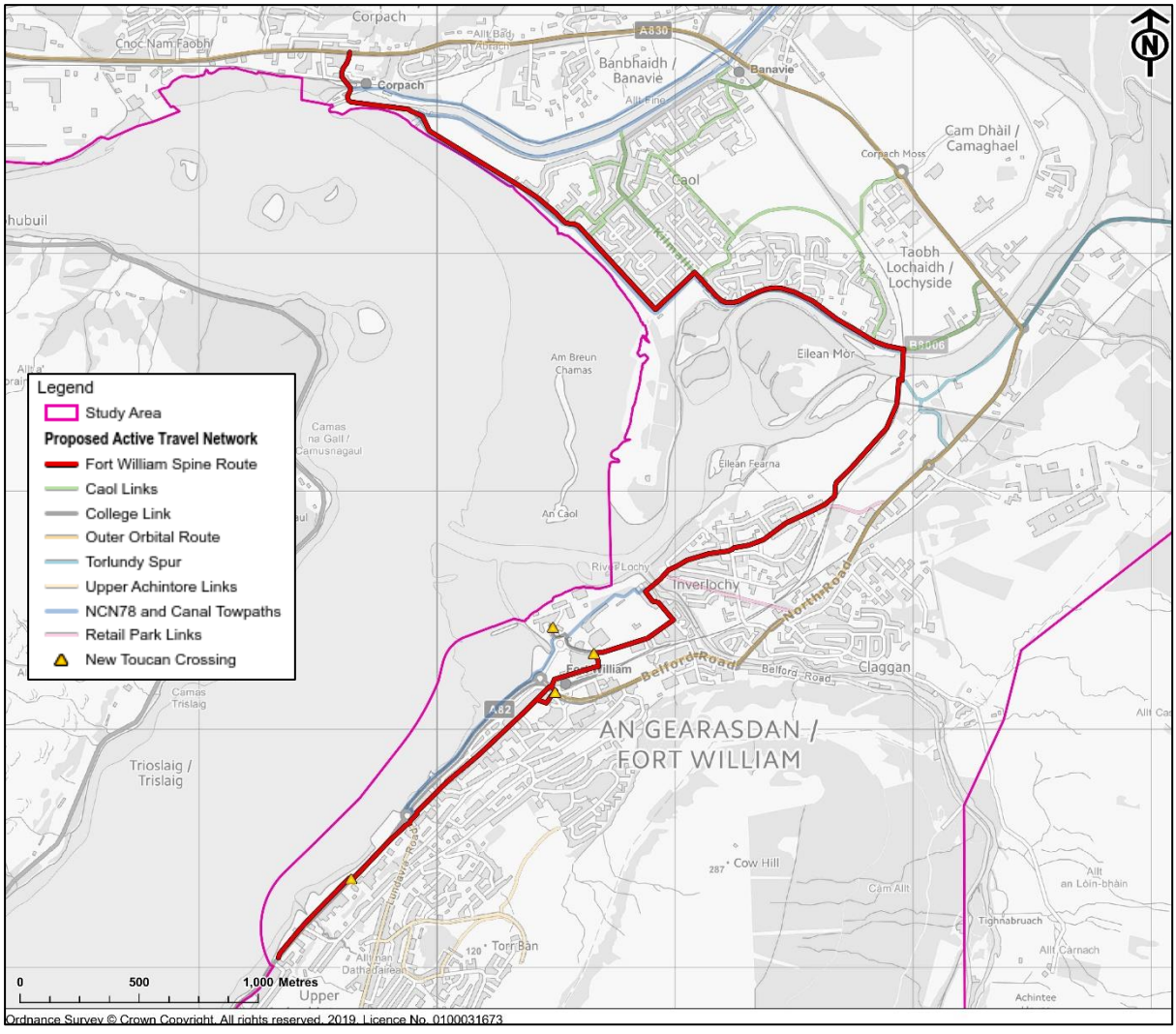


Figure 4-25 - Fort William Spine Route Alignment

Between the A82 Belford Road and the Caledonian Canal the route would follow the alignment of NCN78, along MacFarlane Way, Camanachd Crescent, Wades Road, Montrose Avenue, Lochiel Road, B8006 Kilmallie Road, Glenmallie Road, Erracht Terrace, Erracht Drive, and along the shared use path that links Erracht Drive and the Caledonian Canal. South-west of Belford Road, the route would run along Parade Street / Bank Street, High Street, and the A82 Achintore Road.

The route would pass several trip attractors in the area of interest, including Fort William High Street, The Fort William Travel Centre, Caol Primary School and Corpach railway station, as well as providing improved links to the surrounding area and routes.

During the site investigation various issues, opportunities and constraints were identified. The most important of these are summarised in Appendix A.

4.3.1.2 Route Context

South-western extents to West End Roundabout

The traffic volumes along this section of road were observed to be high and vehicles were observed travelling at what appeared to be high speeds. The speed limit is 30mph along most of this section, although this increases to 40mph to the north-east of Morvich B&B.

Towards the south-west of the section there is only a footway on the north-west side of the road, but this is quite narrow and at points the effective width is narrowed by encroaching vegetation. The width of the footway(s) varies quite a lot, but they are generally wider on the approach to the West End Roundabout.

Figure 4-26 - South-western extents to West End Roundabout [1]

Figure 4-27 - South-western extents to West End Roundabout [2]

West End Roundabout to High Street

Traffic volumes along this section appear to be much lower than on the A82. The road is single carriageway and is subject to a speed limit of 30mph. There are footways on both sides of the road and there is a system of street lighting in place. There are areas designated for parking and bus stops along the length of the street. The environment is a mix of residential and retail.

Figure 4-28 - West End Roundabout to High Street [1]

Figure 4-29 - West End Roundabout to High Street [2]

High Street to MacFarlane Way

The High Street is one-way south-westbound and there is no exception signed for cyclists, although there are 'Share with Care' signs facing both south-west and north-eastbound. It appears to operate almost as a shared surface, as pedestrians use the full width of the street, it is all at the same level and there is no upstand on the footways. The designated footways do have a different surface, being surfaced with paving stones rather than setts. There are continuous footways across some of the side streets, and it is likely that vehicles feel like visitors in the space.

The north-east extent of the pedestrianised section of the High Street is at the junction with Bank Street, where the street reverts to a more standard layout. The carriageway is one-way south-westbound at this point and there is no exception for cyclists to cycle contraflow. There are footways on both sides of the road, and there is a taxi stance on the north-east side of the road.

Cyclists are signed to dismount on the approaches to the ramps leading to the underpass. The ramps are narrow and the underpass is well used. Cyclists were observed cycling through the underpass and on the ramps. The ramps are steep and the gradients would be unlikely to meet Inclusive Mobility guidance.

Figure 4-30 - High Street to MacFarlane Way [1]

Figure 4-31 - High Street to MacFarlane Way [2]

MacFarlane Way

MacFarlane Way is one-way north-eastbound, so cyclists travelling south-westbound have to travel contrary to the direction of traffic. The directional signage indicates that this is the route that cyclists should follow but there is no exclusion for cyclists on the signage. There is a taxi rank, and bus stops and stands on the north-west side of the road. There is a large supermarket located to the north of

MacFarlane Way, while the Fort William Travel Centre and the West Highland Line railway lines are positioned to the south.

Figure 4-32 - MacFarlane Way [1]

Figure 4-33 - MacFarlane Way [2]

Camanachd Crescent

Camanachd Crescent connects MacFarlane Way and the An Aird Roundabout with the River Nevis and Inverlochy. It appears to be relatively quiet, with the north-eastern extents of the road appearing to be particularly quiet and having a home zone-type feel. At the point where the road changes to different surfacing, a pinch point is provided to calm traffic and highlight the change in nature of the road. The properties on either side of the road at its south-western extents are typically retail or leisure facilities. The road is typically around 7.3 metres wide, with the footways being around 2 metres wide. At the northern end of Camanachd Crescent there are bollards that prevent vehicular access to Wades Road and the bridge over the River Nevis.

Figure 4-34 - Camanachd Crescent [1]

Figure 4-35 - Camanachd Crescent [2]

Inverlochy

The route through Inverlochy seems to be well signed and relatively well used. Many of the streets have parking on one side, which effectively reduces them to a single lane and means that vehicles have to pull-in and wait for a gap in the opposing traffic before proceeding. There are generally footways provided on both sides of the roads, and they have systems of street lighting in place. Many of the junctions were observed to have wide radii.

Figure 4-36 - Inverlochy [1]

Figure 4-37 - Inverlochy [2]

Link from Lochiel Road to The Soldiers Bridge

Between Lochiel Road and the Soldiers Bridge, the route takes users through the Black Parks. The surface of the concrete ramp from Lochiel Road is uneven and not pleasant to cycle on. The road through Black Parks is not lit and has an uneven surface, and during the site investigations there was standing water on the surface of the road.

Figure 4-38 - Link from Lochiel Road to the Soldiers Bridge [1]

Figure 4-39 - Link from Lochiel Road to the Soldiers Bridge [2]

The Soldiers Bridge

The Soldiers Bridge connects the road through Black Parks and Kilmallie Road, over the River Lochy. The ramps and bridge are around 1.35 metres wide, meaning that a cyclist and a pedestrian cannot comfortably pass one another. No signs telling cyclists to dismount were observed during the site investigations and the bridge is not lit.

Figure 4-40 - The Soldiers Bridge

Kilmallie Road

During the site investigation it was noted that traffic speeds appeared to be quite high, and there is only a footway on one side of the road for much of the section between the Soldiers Bridge and Caol. There is evidence that there are or have been advisory cycle lanes on both sides of the carriageway, although it's unclear if they are faded or if there has been a decision to remove them through lack of maintenance.

The carriageway is typically around 5.8 metres wide, with the northern footway being around 1.5 metres wide. There are a series of side roads to the north of the road that junction with Kilmallie Road via priority junctions. The road is lit and there are currently few properties that have frontages onto the road. The speed limit of the road is 30mph.

At the crossing point connecting the Kilmallie Road northern footway and the ramp to the Soldiers Bridge visibility is constrained, particularly to the east by the bridge over the West Highland railway line. At this point the road markings and signage indicate that south-eastbound cyclists should transition onto the footway and use the crossing point to access the Soldiers Bridge.

Figure 4-41 - Kilmallie Road [1]

Figure 4-42 - Kilmallie Road [2]

Glenmallie Road and Erracht Drive

There is existing traffic calming on both Glenmallie Road and Erracht Drive in the form of build outs and pinch points, and it was observed that traffic volumes and speeds seemed low. There is a large area of green space between the carriageway and the shore. Both roads are lit and there is a footway provided on the north-east and north-west sides of Glenmallie Road and Erracht Drive respectively.

Figure 4-43 - Glenmallie Road and Erracht Drive [1]

Figure 4-44 - Glenmallie Road and Erracht Drive [2]

Off-Road Path Section

An off-road shared use path connects Erracht Drive and the eastern Caledonian Canal towpath. It is currently narrow (around 1.5 metres wide) and unlit. There is an existing narrow bridge over the water course that connects the canal and loch, which is around 1.3 metres wide.

Figure 4-45 - Off-road Section [1]

Figure 4-46 - Off-road Section [2]

Caledonian Canal Section

The Caledonian Canal towpath is wide but is not lit and does not have a sealed surface. There is a bridge over the canal that is around 1.3 metres wide, with cyclists being instructed to dismount.

Figure 4-47 - Canal Section [1]

Figure 4-48 - Canal Section [2]

Corpach Section

An existing un-named road connects the A830 and the Caledonian Canal. During the site investigation it was observed to be quiet, although it is relatively steep. It is residential in nature, has a system of street lighting, and has footways on both sides of the road. It is also subject to a speed limit of 30mph.

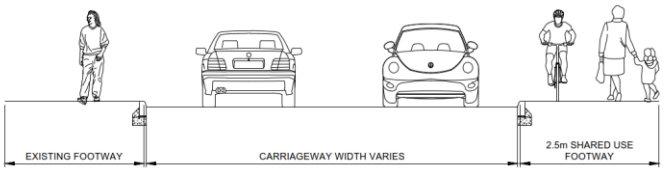
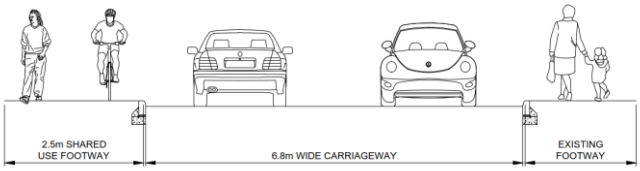
Figure 4-49 - Corpach Section [1]

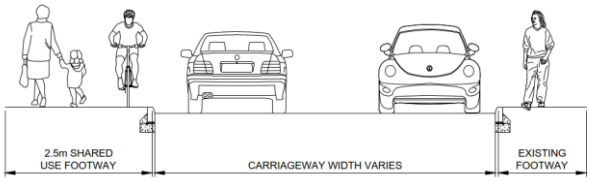
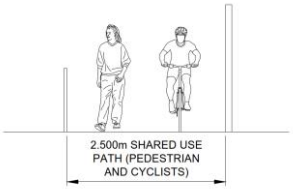
Figure 4-50 - Corpach Section [2]

4.3.1.3 Design Specification

An indicative design specification is presented in Table 4-1. It should be noted that this has been produced for the purposes of costing, and each section should be subject to an assessment of its feasibility.

Table 4-1 - Fort William Spine Route Design Specification

Section	Level of Intervention	Detail	Cross Section (Indicative)
South-western extents to West End Roundabout	Shared use footway	2.5m wide shared use footway	 SECTION 1
West End Roundabout to High Street	Quiet streets	Road markings, traffic calming where appropriate	
High Street to MacFarlane Way	Quiet streets (with contraflow where applicable)	Road markings, traffic calming where appropriate	
MacFarlane Way	Quiet streets (with contraflow)	Road markings, traffic calming where appropriate	
Camanachd Crescent	Shared use footway (west section) Quiet streets (north, east section)	2.5m wide shared use footway Road markings, traffic calming where appropriate	 SECTION 2
Inverlochy	Quiet streets	Road markings, traffic calming where appropriate	

Section	Level of Intervention	Detail	Cross Section (Indicative)
Black Parks & the Soldiers Bridge	Shared path / bridge	Upgrade to the road through Black Parks and a new 3m wide bridge across the River Lochy[1]	
Kilmallie Road	Shared use footway	2.5m wide shared use footway, as per planning application	 SECTION 4
Glenmallie Road and Erracht Drive	Shared use footway	3m wide shared use footway, as per planning application	
Off-road section	Shared use path (localised widening)	2.5m wide, shared use path (widened from the existing 1.5m wide path)	 SECTION 6
Canal section	Existing	-	
Corpach section	Quiet streets	Road markings, traffic calming where appropriate	

Notes

1) AECOM are currently undertaking a separate study into improving active travel provision in the Black Parks. It is recommended that reference is made to that study when considering the provision of infrastructure.

4.3.1.4 Cost Estimate

Costings have been produced for the route and are shown in Table 4-2 below. Low, medium and high costs are presented, which reflect the fact that various levels of intervention could be considered.

Note these costs represent a very high-level estimate based on the information available at this early stage of the project and include assumptions made by the design team, which are listed below the table.

Table 4-2 - Fort William Spine Route Indicative Costs

Route	Section	Level of Intervention	Extents (m)	Description	Quantity	Unit	Typical Cost Low	Typical Cost Median	Typical Cost High	Total Cost Low	Total Cost Median	Total Cost High
Fort William Spine Route	South-western extents to West End Roundabout	Shared use footway (one side)	925	Assumed widening of 1m into verge	925	m	£75.00	£210.00	£345.00	£69,375.00	£194,250.00	£319,125.00
	A82 Belford Road	New crossing	-	Toucan crossing	1	no.	£62,000.00	£62,000.00	£62,000.00	£62,000.00	£62,000.00	£62,000.00
	West End Roundabout to High Street	Quiet streets	150	On-road treatments	150	m	£10.00	£55.00	£100.00	£1,500.00	£8,250.00	£15,000.00
	High Street to MacFarlane Way	Quiet streets (with contraflow where applicable)	740	On-road treatments	740	m	£10.00	£55.00	£100.00	£7,400.00	£40,700.00	£74,000.00
	A82 Belford Road	New crossing	-	Staggered Toucan crossing	1	no.	£93,000.00	£93,000.00	£93,000.00	£93,000.00	£93,000.00	£93,000.00
	A82 Belford Road	Tie in points to new crossing	60	Assumed new footway construction (2.5m wide)	60	m	£191.65	£191.65	£191.65	£11,499.00	£11,499.00	£11,499.00
	MacFarlane Way	Quiet streets (with contraflow)	215	On-road treatments	215	m	£10.00	£55.00	£100.00	£2,150.00	£11,825.00	£21,500.00
	Carmanachd Crescent western section)	Shared use footway (one side)	260	Assumed widening of 1m into carriageway	260	m	£75.00	£210.00	£345.00	£19,500.00	£54,600.00	£89,700.00
	Carmanachd Crescent (eastern / northern section)	Quiet streets	290	On-road treatments	290	m	£10.00	£55.00	£100.00	£2,900.00	£15,950.00	£29,000.00

Route	Section	Level of Intervention	Extents (m)	Description	Quantity	Unit	Typical Cost Low	Typical Cost Median	Typical Cost High	Total Cost Low	Total Cost Median	Total Cost High
	Carmanachd Crescent (eastern / northern section)	Raised table	290	Raised tables at key junctions	1	no.	£8,500.00	£8,500.00	£8,500.00	£8,500.00	£8,500.00	£8,500.00
	Inverlochy	Quiet streets	835	On-road treatments	835	m	£10.00	£55.00	£100.00	£8,350.00	£45,925.00	£83,500.00
	Inverlochy	Raised tables	835	Raised tables at key junctions	4	no.	£8,500.00	£8,500.00	£8,500.00	£34,000.00	£34,000.00	£34,000.00
	Black Parks	Shared path / road[1]	640	General streets works (includes 20% risk allowance)						£80,000.00	£80,000.00	£80,000.00
	Black Parks	Shared path / road[1]	640	Lighting						£50,000.00	£50,000.00	£50,000.00
	The Soldiers Bridge	Existing	210	Lighting	210	m	£66.67	£66.67	£66.67	£14,000.70	£14,000.70	£14,000.70
	The Soldiers Bridge	New bridge[2]	-	New bridge with an assumed 115m span and an assumed width of 3m (345sqm). Rates taken from Spon's 2019 (structural steel bridge with 20m span between piers / abutments)	345	m^2	£2,600.00	£3,300.00	£4,000.00	-	-	-
	Kilmallie Road	Shared use footway[3]	980									
	Glenmallie Road and Erracht Drive	Shared use footway[3]	1015									
	Off-road section	Shared use path (localised widening)	595	Assumed widening of 1m in verge	595	m	£75.00	£210.00	£345.00	£44,625.00	£124,950.00	£205,275.00
	Off-road section	Shared use path (localised widening)	595	Lighting	595	no.	£66.67	£66.67	£66.67	£39,668.65	£39,668.65	£39,668.65
	Canal section	Existing	275	Lighting	275	no.	£66.67	£66.67	£66.67	£18,334.25	£18,334.25	£18,334.25
	Corpach section	Quiet streets	195	On-road treatments	195	m	£10.00	£55.00	£100.00	£1,950.00	£10,725.00	£19,500.00

Route	Section	Level of Intervention	Extents (m)	Description	Quantity	Unit	Typical Cost Low	Typical Cost Median	Typical Cost High	Total Cost Low	Total Cost Median	Total Cost High
		Sub-Total (Without OB)								£568,752.60	£918,177.60	£1,267,602.60
		Optimism Bias 44%								£250,251.14	£403,998.14	£557,745.14
		New Bridge Structure (Incl. 66% OB)								£1,489,020.00	£1,889,910.00	£2,290,800.00
		Total								£2,308,023.74	**£3,212,085.74**	£4,116,147.74

Notes

1 The costs for these items should be taken from the separate AECOM study into active travel provision in the Black Parks. The cost provided is based on communication received from the Black Parks project team on 4 September 2019.

2 The cost for this item is provided above the total, as this is subject to an optimism bias of 66%. Due to length of structure, a special structure may be required.

3 No costs for these items have been provided, as it is understood that they are to be delivered as part of a development / separate project.

The rates in the table above have been taken from a number of sources, including:

- Transport for Greater Manchester's 'Greater Manchester Cycling Design Guidance & Standards';
- Recent project experience and benchmark data; and
- Spon's Civil Engineering and Highway Works Price Book 2019.

Optimism Bias provided in line with Transport Scotland, Scottish Transport Appraisal Guidance (STAG) Technical Database guidance based on early concept stage of study and nature of uncertainty and likely variance.

Please refer to Appendix B, which contains full details on the rates, assumptions and exclusions.

4.3.2 Outer Orbital Route

The proposed route extends from the Old Fort / Fort William Travel Centre in the south to the north-west of the study area via the A82 and the A830, through Inverlochy, Banavie, and Corpach. For the purposes of this summary, the route has been split into five distinct sections:

- A82 Belford Road from Old Fort / Fort William Travel Centre to River Nevis Bridge;
- A82 North Road River Nevis Bridge to Fort William Retail Park;
- A82 Fort William Retail Park to Lochybridge;
- A830 Lochybridge to Banavie Rail Station; and
- A830 West of Banavie Rail Station.

The route context, alignment, design specification and cost estimate are presented below.

4.3.2.1 Proposed Route Alignment

The proposed route alignment is shown in Figure 4-51.

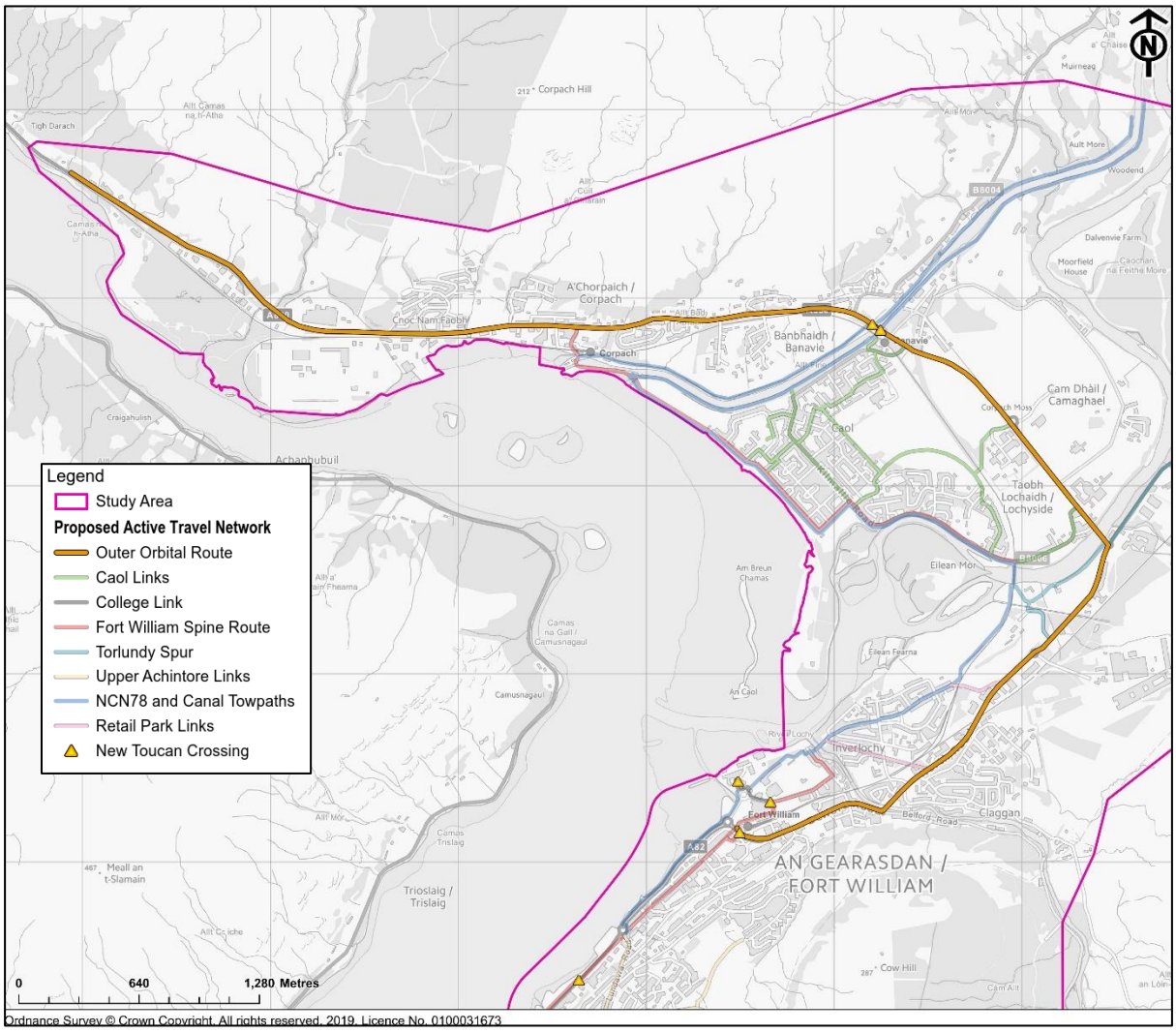


Figure 4-51 - Outer Orbital Route Alignment

From the junction of the A82 and An Aird Road, the route would run alongside the A82 to the junction of the A82 and the A830. From this point north-westwards, the route would follow the alignment of the A830 to the Linnhe holiday park.

The route would provide a connection to and between several trip attractors in the area, including the Fort William Travel Centre, the retail parks along the A82, Lochaber High School, Lochaber Health Centre, Blar Mhor Industrial Estate, Banavie railway station, Banavie Primary School, Neptune's

Staircase, Corpach railway station, and Treasures of the Earth. It would also provide a connection between the various communities in the area, as well as to the other routes proposed as part of the Masterplan.

During the site investigation various issues, opportunities and constraints were identified. The most important of these are summarised in Appendix A.

4.3.2.2 Route Context

A82 Belford Road from Old Fort / Fort William Travel Centre to River Nevis Bridge

There is no immediate active travel provision on the A82 Belford Road on the section between the A82 / An Aird Road roundabout and the junction with Middle Street. At this point the A82 is an urban dual carriageway with a raised central reserve. Guardrail is provided on both sides of the road to deter vehicles from attempting to cross it. Middle Street is a single carriageway road lying to the south of the A82 and running approximately parallel to it, which connects the A82 with Station Square. A footway is provided on the south side of Middle Street, linking the underpass under the A82 (connecting the town centre with the station) and areas to the south and east.

It is noted that at this location Belford Road itself acts as a barrier, preventing easy walking and cycling movements between the north (Fort William Travel Centre and retail sites) and the south (town centre and Upper Achintore).

From the Belford Road / Middle Street junction, heading north, footways are present on both sides of the route. The road is a dual carriageway at this location with a raised central reserve that facilitates crossing movements.

From Belford Hospital heading north, the road narrows into a single carriageway. It is noted that traffic volumes are very high at this location, with large numbers of tourist traffic and HGVs.

Towards the River Nevis, footways continue on both sides of the route, although these are of varying width, ranging from approximately 1.5 metres to 2.5 metres on either side. There is an existing built environment on either side of the corridor, with residential and commercial frontages, as well as property boundaries limiting the potential options available. Cyclists were observed using the footways as shared use even though they are not signed as such.

The bridge over the River Nevis is a specific constraint, with a very narrow footway of approximately 1.4 metres on either side of the main carriageway, which is also narrow.

Figure 4-52 - A82 Belford Road from Old Fort / Fort William Railway Station to River Nevis Bridge [1]

Figure 4-53 - A82 Belford Road from Old Fort / Fort William Railway Station to River Nevis Bridge [2]

Figure 4-54 - A82 Belford Road from Old Fort / Fort William Railway Station to River Nevis Bridge [3]

Figure 4-55 - A82 Belford Road from Old Fort / Fort William Railway Station to River Nevis Bridge [4]

A82 North Road from River Nevis Bridge to Fort William Retail Park

Along North Road, north of the River Nevis, the road carriageway widens north of the bridge, with 3 lanes available (a lane in each direction with a central lane used intermittently as turning lanes / central reservations).

Beyond the junction with Earl of Inverness Road the area to the west of the route is marked by ongoing development, with a number of recent retail sites such as a coffee shop drive-through and a fast food outlet that is currently under construction.

This section of the Outer Orbital Route is the potential eastern entrance of the Puggy Line route, discussed further in Section 4.3.3. However, at this location and further north, the road environment widens and there may be potential to form a high standard shared use route. It is noted that this would likely require removal of existing foliage and possible engineering works to deal with potential gradients.

Existing footways continue along both sides of the route until the junction with Ardnevis Road, at which point there is a break in the footway on the eastern side until immediately north of the Ben Nevis Services Garage.

It is noted that the bridge over the railway line is another potential pinch point, with footways narrowing at this location to approximately 1.5 metres and 1.2 metres on the western and eastern sides of the carriageway respectively. A disused bridge appears to run parallel with the existing road bridge on the western side of the route at this location. A feasibility study / site investigation would be required to decide if this could form a potential off-carriageway active travel route along this stretch of the route.

The active travel provision around the retail park is to a high standard, with wide 3 metre shared use paths along both sides of the carriageway adjacent to the Fort William Retail Park until the A82 / Fort William Retail Park access / Lochaber Smelter access roundabout. North of the roundabout, the shared use path continues until the access road towards Old Inverlochy Castle, where cyclists are currently recommended to re-join the carriageway.

Figure 4-56 - A82 North Road from River Nevis Bridge to Fort William Retail Park [1]

Figure 4-57 - A82 North Road from River Nevis Bridge to Fort William Retail Park [2]

Figure 4-58 - A82 North Road from River Nevis Bridge to Fort William Retail Park [3]

Figure 4-59 - A82 North Road from River Nevis Bridge to Fort William Retail Park [4]

Figure 4-60 - A82 North Road from River Nevis Bridge to Fort William Retail Park [5]

A82 from Fort William Retail Park to Lochybridge

Continuing along the A8, north of the access road to Old Inverlochy Castle, the footway continues on the western side only. There is a pinch point located at a bridge over a water body immediately north of the existing Esso garage on the A82. After this point, the built environment opens up, with existing green space to the west. It is noted that the existing footway is relatively narrow, at approximately 1.6 metres.

The green space on the western periphery of the carriageway would allow for a potential high-quality shared use footway on the western side of the route, which could eventually connect with the off-road shared use path along the banks of the River Lochy (from the castle), as well as connecting to the longer distance shared use route towards Torlundy to the north.

The speed limit in this section is 30mph.

Figure 4-61 - A82 From Fort William Retail Park to Lochybridge [1]

Figure 4-62 - A82 From Fort William Retail Park to Lochybridge [2]

A830 River Lochy Bridge to Banavie Rail Station

Lochybridge is an initial pinch point that would impact any potential options along this route. The bridge currently has footways on both sides of the carriageway that are fairly narrow, at approximately 1.5 metres each. The bridge marks the easternmost point of the A830 which continues to Mallaig – as such the route is well trafficked with a large number of tourist vehicles and HGVs. Lochaber High School is located immediately north-east of the A830, opposite the eastern junction with the B8006 Kilmallie Road.

The footways on either side of the road are determined as shared use and are of a reasonable standard, at approximately 2 metres wide. For much of this section, the footways are separated from the main road with a grass verge that acts as an additional barrier to traffic on the main carriageway.

The speed limit on this section of road is 30mph, increasing to 40mph to the north-west of the junction of the A830 and the Blar Mhor Industrial Estate access road (a roundabout).

It is noted that there is green space both north and south of the carriageway that could be used to improve the active travel options along this section. There are, however, developments planned for this area, which may impact the options available. It is recommended that any new development is required to give due consideration to active travel provision along this section of the route.

It is further noted that this section of the route (immediately to the east of the roundabout connecting with Blar Mhor Industrial Estate) provides a northern tie in with the Caol Links routes discussed further in Section 4.3.5.

Figure 4-63 - A830 Lochybridge to Banavie Rail Station

Figure 4-64 - A830 Lochybridge to Banavie Rail Station

Figure 4-65 - A830 Lochybridge to Banavie Rail Station

A830 West of Banavie Railway Station

The route to the west of Banavie railway station passes through Banavie and Corpach, terminating at the access to the Linnhe Holiday Park. The route runs along the A830 for its full extents.

For some of the route there is no footway (between the access to Linnhe Holiday Park and the access to the Annat Industrial Estate), whilst for others there is only a footway on the south side (between the access to the Annat Industrial Estate and west of the access to BSW Timber). The speed limit is national speed limit to the west of the access to BSW Timber, and the difference in speed between a cyclist and a motorised vehicle would be very high. Within Corpach the speed limit is 30mph, and elsewhere on the A830 the speed limit is generally 40mph.

The road is mostly lit and passes through a rural or semi-urban environment, except for the section of the route through Corpach, which is more built-up and there are generally active frontages on both side of the road. Outwith Corpach the route has very few active frontages.

During the site investigation it was observed that there appeared to be a desire line worn into the verge on the south side of the road where there was no footway. Additionally, it was noted that where footways are provided on both sides of the road, they tend to be a bit wider and cyclists were observed using them as shared footways even though they are not determined as such.

Figure 4-66 - A830 West of Banavie Rail Station [1]

Figure 4-67 - A830 West of Banavie Rail Station [2]

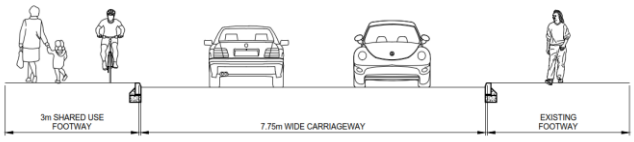
Figure 4-68 - A830 West of Banavie Rail Station [3]

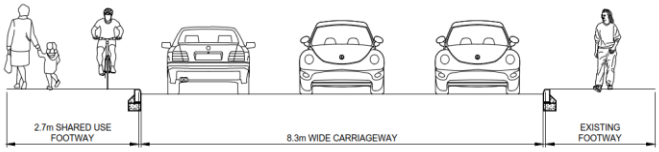
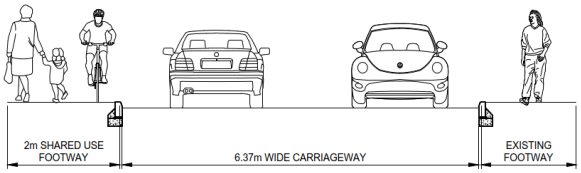
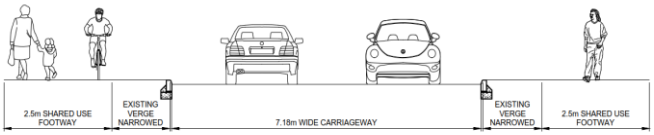
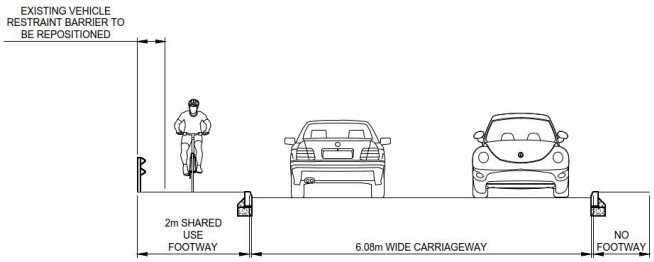
Figure 4-69 - A830 West of Banavie Rail Station [4]

4.3.2.3 Design Specification

An indicative design specification is presented in Table 4-3. It should be noted that this has been produced for the purposes of costing, and each section should be subject to an assessment of its feasibility.

Table 4-3 - Fort William Outer Orbital Route Design Specification

Section	Level of Intervention	Detail	Cross Section
A82 Belford Road from Old Fort to River Nevis Bridge	Shared use footway on one side of carriageway if achievable given special constraints Consider signage strategy promoting alternative routes such as Spine Route / Puggy Line	2.5-3m shared use footway on one side of the carriageway with good crossing facilities throughout	 SECTION 1

Section	Level of Intervention	Detail	Cross Section
A82 North Road River Nevis Bridge to Fort William Retail Park	Shared use footway on one side of carriageway (preferable west side)	2.5-3m shared use footway on one side of the carriageway with good crossing facilities throughout	 SECTION 2
A82 Fort William Retail Park to Lochybridge	Shared use footway on one side of carriageway (preferable west side)	2-3m shared use footway on one side of the carriageway with good crossing facilities throughout	 SECTION 3
A830 Lochybridge to Banavie Railway Station	Shared use footways on both sides of carriageway	2.5m shared use footways along both sides of carriageway with high quality links to north / south routes where necessary	 SECTION 4
A830 West of Banavie Railway Station	Shared use footway on one side of carriageway (preferable south side)	2m shared use footway on one side of the carriageway with good crossing facilities throughout	 SECTION 5

4.3.2.4 Cost Estimate

Costings have been produced for the route and are shown in Table 4-4 below. Low, medium and high costs are presented, which reflect the fact that various levels of intervention could be considered.

Note these costs represent a very high-level estimate based on the information available at this early stage of the project and include assumptions made by the design team, which are listed below the table.

Table 4-4 - Outer Orbital Route Indicative Costs

Route	Section	Level of Intervention	Extents (m)	Description	Quantity	Unit	Typical Cost Low	Typical Cost Median	Typical Cost High	Total Cost Low	Total Cost Median	Total Cost High
Outer Orbital Route	A82 Belford Road from Old Fort to River Nevis Bridge	Shared use footway (one side)	870	Assumed minimal widening required	870	m	£75.00	£210.00	£345.00	£65,250.00	£182,700.00	£300,150.00
	A82 North Road River Nevis Bridge to Fort William Retail Park	Shared use footway (one side)	1190	Assumed widening of approx. 0.25m required (to approx. 2.75m). Assumed into carriageway	1190	m	£75.00	£210.00	£345.00	£89,250.00	£249,900.00	£410,550.00
	A82 Fort William Retail Park to River Lochy Bridge	Shared use footway (one side)	710	Assumed widening of approx. 0.25m required (to approx. 2m). Assumed to rear	710	m	£75.00	£210.00	£345.00	£53,250.00	£149,100.00	£244,950.00
	A830 River Lochy Bridge to Banavie Rail Station	Shared use footway (both sides)	3370	Assumed widening of approx. 0.5m required (to approx. 2.5m). Assumed into carriageway and verge	3370	m	£150.00	£500.00	£690.00	£505,500.00	£1,685,000.00	£2,325,300.00
	A830 West of Banavie Rail Station	Shared use footway (one side)	3505	Assumed widening of approx. 0.25m required (to approx. 2m). Assumed into carriageway and verge	3505	m	£75.00	£210.00	£345.00	£262,875.00	£736,050.00	£1,209,225.00
	A830 West of Banavie Rail Station	Shared use footway (one side)	625	New footway construction (assumed 2m)	625	m	£153.32	£153.32	£153.32	£95,825.00	£95,825.00	£95,825.00

Route	Section	Level of Intervention	Extents (m)	Description	Quantity	Unit	Typical Cost Low	Typical Cost Median	Typical Cost High	Total Cost Low	Total Cost Median	Total Cost High
	Toucan crossing across northern arm of A82 / Fort William Retail Park access / Lochaber Smelter roundabout	Toucan crossing	-	Toucan crossing	1	no.	£62,000.00	£62,000.00	£62,000.00	£62,000.00	£62,000.00	£62,000.00
	2 no. Toucan crossings across A830, either side of swing bridge over Caledonian Canal	Toucan crossing	-	Toucan crossings	2	no.	£62,000.00	£62,000.00	£62,000.00	£124,000.00	£124,000.00	£124,000.00
		Sub-Total (Without OB)								£1,257,950.00	£3,284,575.00	£4,772,000.00
		Optimism Bias 44%								£553,498.00	£1,445,213.00	£2,099,680.00
		Total								£1,811,448.00	**£4,729,788.00**	£6,871,680.00

The rates in the table above have been taken from a number of sources, including:

- Transport for Greater Manchester's 'Greater Manchester Cycling Design Guidance & Standards';
- Recent project experience and benchmark data; and
- Spon's Civil Engineering and Highway Works Price Book 2019.

Optimism Bias provided in line with Transport Scotland, Scottish Transport Appraisal Guidance (STAG) Technical Database guidance based on early concept stage of study and nature of uncertainty and likely variance.

Please refer to Appendix B, which contains full details on the rates, assumptions and exclusions.

4.3.3 Retail Park Links

The Retail Park Links would provide two connections to the A82 from the Fort William Spine Route (described in section 4.3.1). The tie-in points on the A82 would be the retail park on North Road and the Fort William Retail Park.

The route context, alignment, design specification and cost estimate are presented below.

4.3.3.1 Proposed Route Alignment

The proposed route alignment is shown in Figure 4-70.

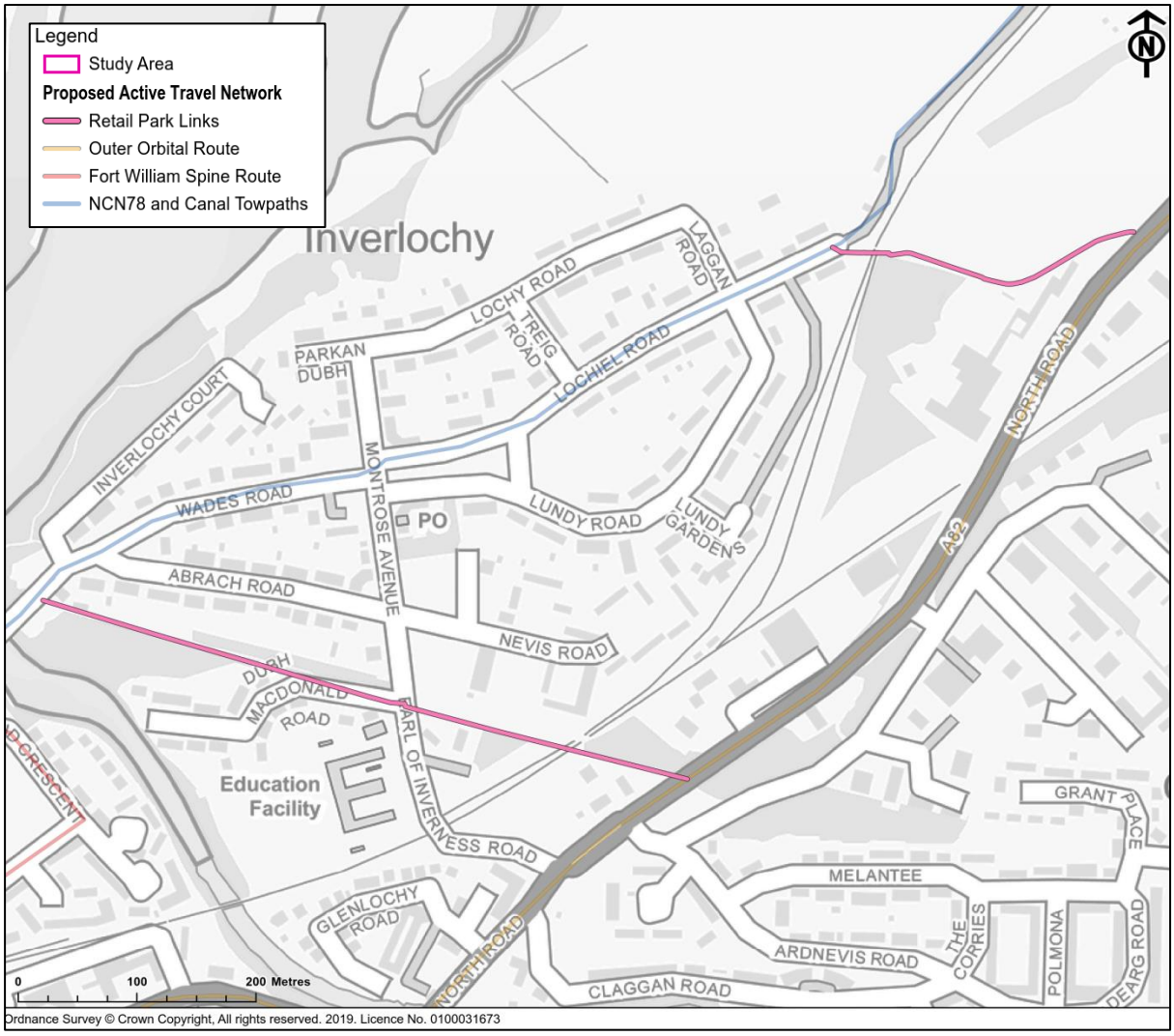


Figure 4-70 - Retail Park Links Route Alignment

The proposed route involves various local routes to and from the A82 near the new retail park. The routes under consideration are:

- Montrose Avenue to A82 ("Puggy Line"); and
- Lochiel Road to A82 (over West Highland railway line).

During the site investigation various issues, opportunities and constraints were identified. The most important of these are summarised in Appendix A.

4.3.3.2 Route Context

Wades Road to A82 ("Puggy Line")

The western extents of the "Puggy Line" is Wades Road in Inverlochy, immediately north-east of the bridge over the River Nevis. Between Wades Road and the ramp down to Dubh MacDonald Road, the

route is an unsurfaced, unlit, narrow path, with vegetation on either side of the path. During the site investigation it was observed that the path edging was protruding from the kerb, which could act as a trip hazard.

At Dubh MacDonald Road, the path ramps down and connects into the northern footway. The ramp is relatively steep, and it is considered unlikely that the gradient and length of the ramp would currently meet the guidance of Inclusive Mobility. The path is overlooked by houses to the north, although these are set back from the path. It appears that the route would connect across the Earl of Inverness Road / Montrose Avenue, but there is not currently any facility to do so. Furthermore, to the east of the Earl of Inverness Road / Montrose Avenue the route was inaccessible, and the exact alignment was unclear due to overgrown vegetation.

During the active travel audit the eastern extents of the route were inaccessible due to the construction of a fast food restaurant. However, it was observed that access over the West Highland railway line is via an existing footbridge. The route would connect into the retail park (located just off the A82) and the Outer Orbital Route.

Montrose Avenue is traffic calmed by speed cushions and road narrowing features, while Dubh MacDonald Road is a quiet, residential-type street that is also traffic calmed.

A key next step would be to check if access is to be retained in the development proposal and investigate the engineering works required. To provide a continuous route, the feasibility of providing a bridge across the Earl of Inverness Road / Montrose Avenue could be investigated.

Figure 4-71 - Montrose Avenue to A82 (“Puggy Line”) [1]

Figure 4-72 - Montrose Avenue to A82 (“Puggy Line”) [2]

Lochiel Road to A82 (over railway line)

This link would connect the Fort William Spine Route and the Outer Orbital Route (described in sections 4.3.1 and 4.3.2 respectively), as well as providing a connection between Inverlochy and the Fort William Retail Park.

Considering the link from west to east, the route would commence at the north-eastern extents of Lochiel Road, where the path ramps down to the Black Parks. The route would head north-eastwards and cross over the West Highland Line, via the old railway footbridge. Cyclists currently must dismount and carry their bikes over the bridge, so the feasibility of providing a new bridge should be investigated.

The path on the east side of the railway line is lit but is unsurfaced and narrow, and likely only suitable for hybrids or mountain bikes in its current state. It is relatively remote, as it is only overlooked where it passes the hotel off the A82. At the eastern end there is a gate which connects to the western footway on the A82. It is unclear why this gate is provided.

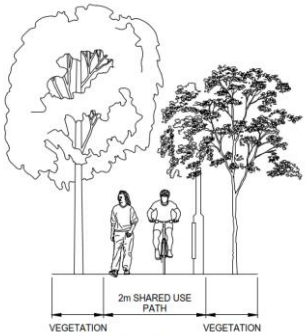
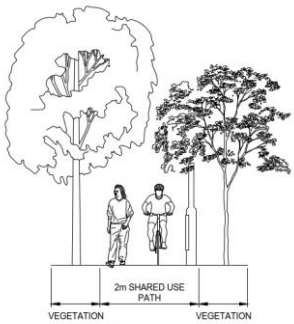
Figure 4-73 - Lochiel Road to A82 (over railway line) [1]

Figure 4-74 - Lochiel Road to A82 (over railway line) [2]

4.3.3.3 Design Specification

An indicative design specification is presented in Table 4-5. It should be noted that this has been produced for the purposes of costing, and each section should be subject to an assessment of its feasibility.

Table 4-5 - Retail Park Links Design Specification

Section	Level of Intervention	Detail	Cross Section
Montrose Avenue to A82	Shared Use Path	Construct a new shared use path along route	 SECTION 1
Lochiel Road to A82 (over railway line)	Shared Use Path	Improve bridge over railway line for cycle traffic and improve surfacing of path to be suitable for all users	 SECTION 2

4.3.3.4 Cost Estimate

Costings have been produced for the route and are shown in Table 4-6 below. Low, medium and high costs are presented, which reflect the fact that various levels of intervention could be considered.

Note these costs represent a very high-level estimate based on the information available at this early stage of the project and include assumptions made by the design team, which are listed below the table.

Table 4-6 - Retail Park Links Indicative Costs

Route	Section	Level of Intervention	Extents (m)	Description	Quantity	Unit	Typical Cost Low	Typical Cost Median	Typical Cost High	Total Cost Low	Total Cost Median	Total Cost High
Retail Park Links	Puggy Line: Wades Road to Montrose Avenue	Shared use path	310	Upgrade of existing informal path to a 2m wide shared use path	310	m	£153.32	£153.32	£153.32	£47,529.20	£47,529.20	£47,529.20
	Puggy Line: New bridge over Montrose Avenue[1]	New bridge	-	New bridge with an assumed 20m span and an assumed width of 2m (40sqm)	40	m2	£2,600.00	£3,300.00	£4,000.00	-	-	-
	Puggy Line: Montrose Avenue to A82	Shared use path	245	New path construction (2m wide and shared use)	245	m	£153.32	£153.32	£153.32	£37,563.40	£37,563.40	£37,563.40
	Lochiel Road to A82	Shared use path	270	Upgrade of existing informal path to a 2m wide shared use path	270	m	£153.32	£153.32	£153.32	£41,396.40	£41,396.40	£41,396.40
	Lochiel Road to A82: New bridge over West Highland Line[2]	New bridge										
	Sub-Total (Without OB)									£126,489.00	£126,489.00	£126,489.00
	Optimism Bias 44%									£55,655.16	£55,655.16	£55,655.16
	New Bridge Structure over Montrose Avenue (Incl. 66% OB)									£172,640.00	£219,120.00	£265,600.00
	New Bridge Structure over West Highland Line (Incl. 66% OB)2									£300,000.00	£400,000.00	£500,000.00
	Total									£654,784.16	**£801,264.16**	£947,744.16

Notes

[1] The cost for this item is provided above the total, as this is subject to an optimism bias of 66%.

[2] The cost for this item should be taken from the separate AECOM study into active travel provision in the Black Parks. The cost provided is based on communication received from the Black Parks project team on 4 September 2019.

The rates in the table above have been taken from a number of sources, including:

- Transport for Greater Manchester's 'Greater Manchester Cycling Design Guidance & Standards';
- Recent project experience and benchmark data; and
- Spon's Civil Engineering and Highway Works Price Book 2019.

Optimism Bias provided in line with Transport Scotland, Scottish Transport Appraisal Guidance (STAG) Technical Database guidance based on early concept stage of study and nature of uncertainty and likely variance.

Please refer to Appendix B, which contains full details on the rates, assumptions and exclusions.

4.3.4 College Link

The college link would be a spur off the main Fort William Spine Route, which would link the Fort William Travel Centre, NCN78 and Great Glen Way, and West Highland College with the Fort William Spine Route. The route context, alignment, design specification and cost estimate are presented below.

4.3.4.1 Proposed Route Alignment

The proposed route alignment of the College Link is shown in Figure 4-75.

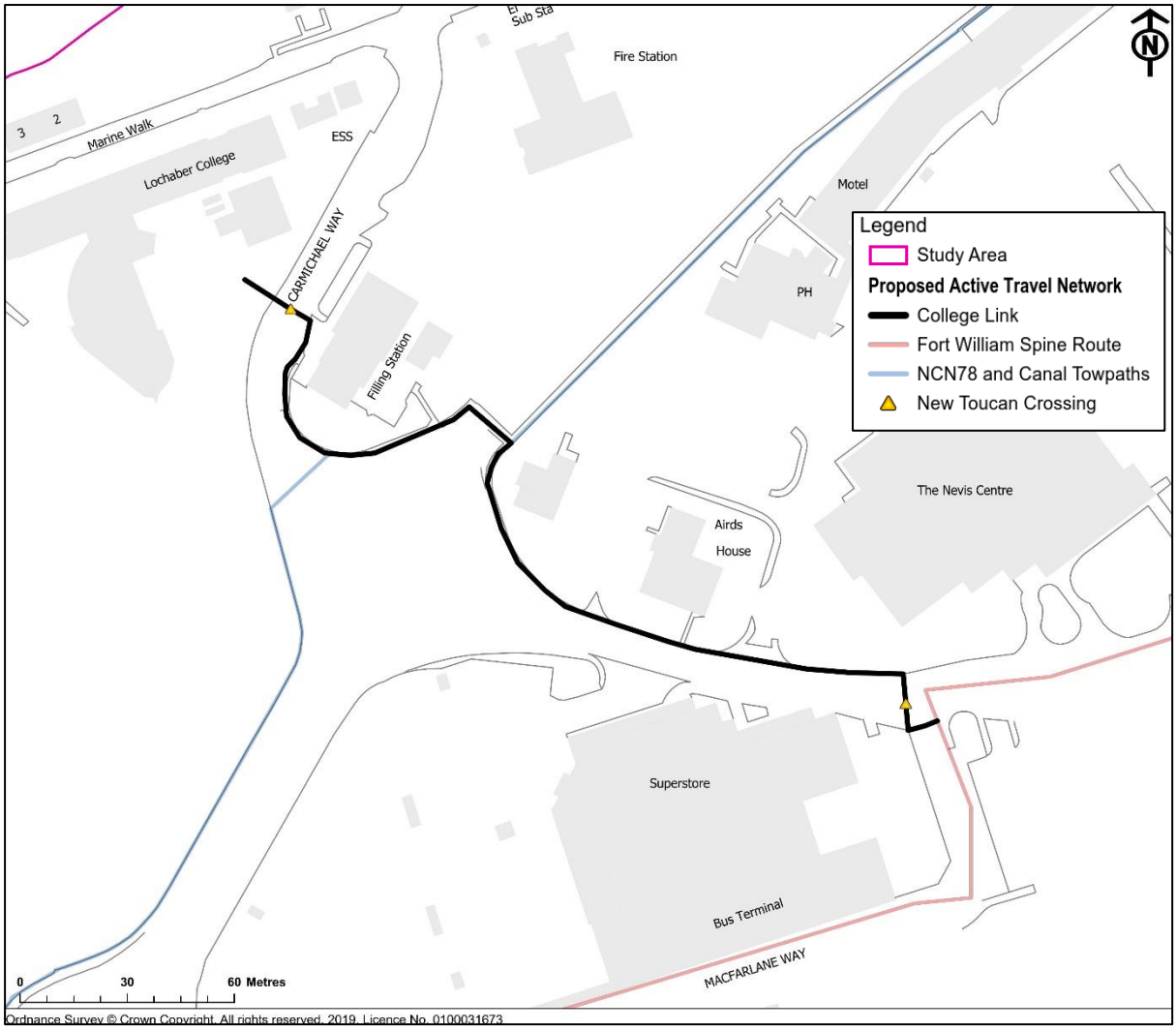


Figure 4-75 - College Link Alignment

The route would connect the Fort William Spine Route and West Highland College via Camanachd Crescent and Carmichael Way, providing a key link to and from the College.

During the site investigation various issues, opportunities and constraints were identified. The most important of these are summarised in Appendix A.

4.3.4.2 Route Context

The route is situated to the north-east of Fort William town centre, in a retail / industrial environment. Fort William Travel Centre, a large supermarket, several restaurants, and West Highland College are all located in the immediate vicinity of the route.

MacFarlane Way

MacFarlane Way is a one-way street that connects the A82 Belford Road and Camanachd Crescent. The road is wide but there is a taxi stance and a bus stand on the north-west side of the road. It is lit and footways are provided on both side of the road for most of its length. A large supermarket lies

immediately north of MacFarlane Way, whilst the Fort William Travel Centre and West Highland railway lines lie immediately south.

Figure 4-76 - MacFarlane Way [1]

Figure 4-77 - MacFarlane Way [2]

Supermarket

A large supermarket is positioned between MacFarlane Way and Camanachd Crescent. It has a large car park that is accessed from Camanachd Crescent, while it appears to be serviced from an access off MacFarlane Way.

Figure 4-78 - Supermarket [1]

Figure 4-79 - Supermarket [2]

An Aird Road

An Aird Road is a dual carriageway that links An Aird Roundabout and the A82 / An Aird Road roundabout. It is lit and has a footway on the west side only for most of its length. Where no footway is provided on the east side, anti-pedestrian surfacing is provided immediately east of the carriageway. It should be noted that the anti-pedestrian surfacing starts abruptly, and no crossing is provided to allow pedestrians to cross to the footway on the opposite side of the road. This could result in pedestrians walking southwards having to walk back to the An Aird Road / Carmichael Way / Camanachd Crescent roundabout to cross the road or having to attempt to cross the dual carriageway at this point.

It is unclear if it needs to remain as a dual carriageway road long-term, as the other approaches to An Aird Roundabout are single carriageway approaches and during the site investigations this appeared to be an over-provision for the volume of traffic currently using the road.

It should be noted that there the crossing provision across An Aird Road to the south of the An Aird Road / Carmichael Way / Camanachd Crescent roundabout comprises dropped kerbs on the splitter island and the footways on either side of the road. No uncontrolled or controlled crossing is provided. Long-term, the provision of a controlled crossing at this location could be considered. However, this

would likely require widening of the central reserve to provide a refuge, while de-dualling of the carriageway could also be considered should the current layout be proved to be an over-provision.

Figure 4-80 - An Aird Road [1]

Figure 4-81 - An Aird Road [2]

Camanachd Crescent

Camanachd Crescent is a single carriageway road that connects An Aird Roundabout and the residential areas to the north-east. In this area it is primarily retail and leisure establishments / facilities that have frontages onto the road. It is lit and footways are provided on both sides of the road. A zebra crossing is provided on the eastern approach to the An Aird Roundabout.

Figure 4-82 - Camanachd Crescent [1]

Figure 4-83 - Camanachd Crescent [2]

Carmichael Way

Carmichael Way is a quiet road that connects An Aird Roundabout and the businesses and educational establishments that lie to the north of this point. It is single carriageway, has footways on both sides of the road and is lit. There is a petrol station on the south-east side of the road, and there is also a Scottish Fire and Rescue Service station.

One of the issues that was raised during the Stakeholder Workshop was that it is felt that the uncontrolled crossing across Carmichael Way is located too far from the roundabout, and that this poses a safety issue. The current location of the crossing is at the southern extents of the West Highland College car park, as shown in Figure 4-86, while Figure 4-87 shows the view from the eastern footway southwards towards the An Aird Roundabout. Pedestrians crossing from the eastern footway could be partially hidden by the vegetation on the inside of the bend, while the crossing is off the desire line (being located approximately 27 metres from the roundabout).

It is considered likely that pedestrians would rather cross one side of the carriageway at a time, using the roundabout splitter island. However, pedestrians crossing the road from south-west to north-east using the splitter island may be obscured by the bend in the road and the vegetation to the rear of the

footway. There is a risk that formalising the crossing could encourage more pedestrians to cross at this location, at a point where there is insufficient visibility between non-motorised users and motorists. Removal of some of the vegetation to the north and east of Carmichael Way could alleviate some of the visibility issues.

Figure 4-84 - Carmichael Way [1]

Figure 4-85 - Carmichael Way [2]

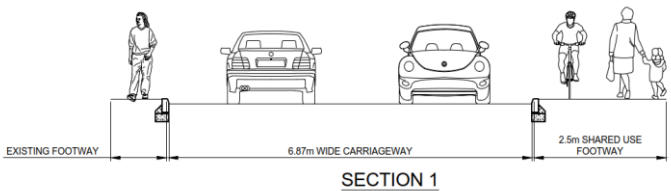
Figure 4-86 - Carmichael Way [3]

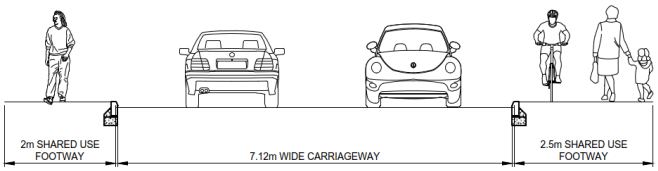
Figure 4-87 - Carmichael Way [4]

4.3.4.3 Design Specification

An indicative design specification is presented in Table 4-7. It should be noted that this has been produced for the purposes of costing, and each section should be subject to an assessment of its feasibility.

Table 4-7 - College Link Design Specification

Section	Level of Intervention	Detail	Cross Section
Camanachd Crescent, MacFarlane Way to Carmichael Way	Shared use footway	2.5m wide shared use footway	 SECTION 1

Section	Level of Intervention	Detail	Cross Section
Carmichael Way	Shared use footway	2.5m wide shared use footway on east side. 2m wide shared use footway on west side (existing)	 SECTION 2

It should be noted that two new Toucan crossings have been proposed, positioned on Carmichael Way at Lochaber College and on Camanachd Crescent at MacFarlane Way. New or improved crossings on An Aird Road and on Carmichael Way at the roundabout have not been included in the designs, although long-term it is recommended that the feasibility of these improvements is assessed.

4.3.4.4 Cost Estimate

Costings have been produced for the route and are shown in Table 4-8 below. Low, medium and high costs are presented, which reflect the fact that various levels of intervention could be considered.

Note these costs represent a very high-level estimate based on the information available at this early stage of the project and include assumptions made by the design team, which are listed below the table.

Table 4-8 - College Link Indicative Costs

Route	Section	Level of Intervention	Extents (m)	Description	Quantity	Unit	Typical Cost Low	Typical Cost Median	Typical Cost High	Total Cost Low	Total Cost Median	Total Cost High
College Link	Camanachd Crescent, MacFarlane Way to Carmichael Way	Shared use footway (one side)	220	Assumed widening of approx. 0.75m (to 2.5m)	220	m	£75.00	£210.00	£345.00	£16,500.00	£46,200.00	£75,900.00
	Carmichael Way	Shared use footway (both sides)	60	Assumed widening of approx. 0.5m (to 2.5m) on east side and minimal widening on west side (existing shared use footway)	60	m	£150.00	£500.00	£690.00	£9,000.00	£30,000.00	£41,400.00
	Camanachd Crescent and Carmichael Way	New Toucan crossings	-	New Toucan crossings	2	no.	£62,000.00	£62,000.00	£62,000.00	£124,000.00	£124,000.00	£124,000.00
				Sub-Total (Without OB)						£149,500.00	£200,200.00	£241,300.00
				Optimism Bias 44%						£65,780.00	£88,088.00	£106,172.00
				Total						£215,280.00	**£288,288.00**	£347,472.00

The rates in the table above have been taken from a number of sources, including:

- Transport for Greater Manchester's 'Greater Manchester Cycling Design Guidance & Standards';
- Recent project experience and benchmark data; and
- Spon's Civil Engineering and Highway Works Price Book 2019.

Optimism Bias provided in line with Transport Scotland, Scottish Transport Appraisal Guidance (STAG) Technical Database guidance based on early concept stage of study and nature of uncertainty and likely variance.

Please refer to Appendix B, which contains full details on the rates, assumptions and exclusions.

4.3.5 Caol Links

Caol Links would be a network of active travel routes through Caol, linking to the key destinations and to the adjacent existing and proposed routes, including the Fort William Spine Route, NCN 78 and the Outer Orbital Route.

The route context, alignment, design specification and cost estimate are presented below.

4.3.5.1 Proposed Route Alignment

The proposed alignment of Caol Links is shown in Figure 4-88.

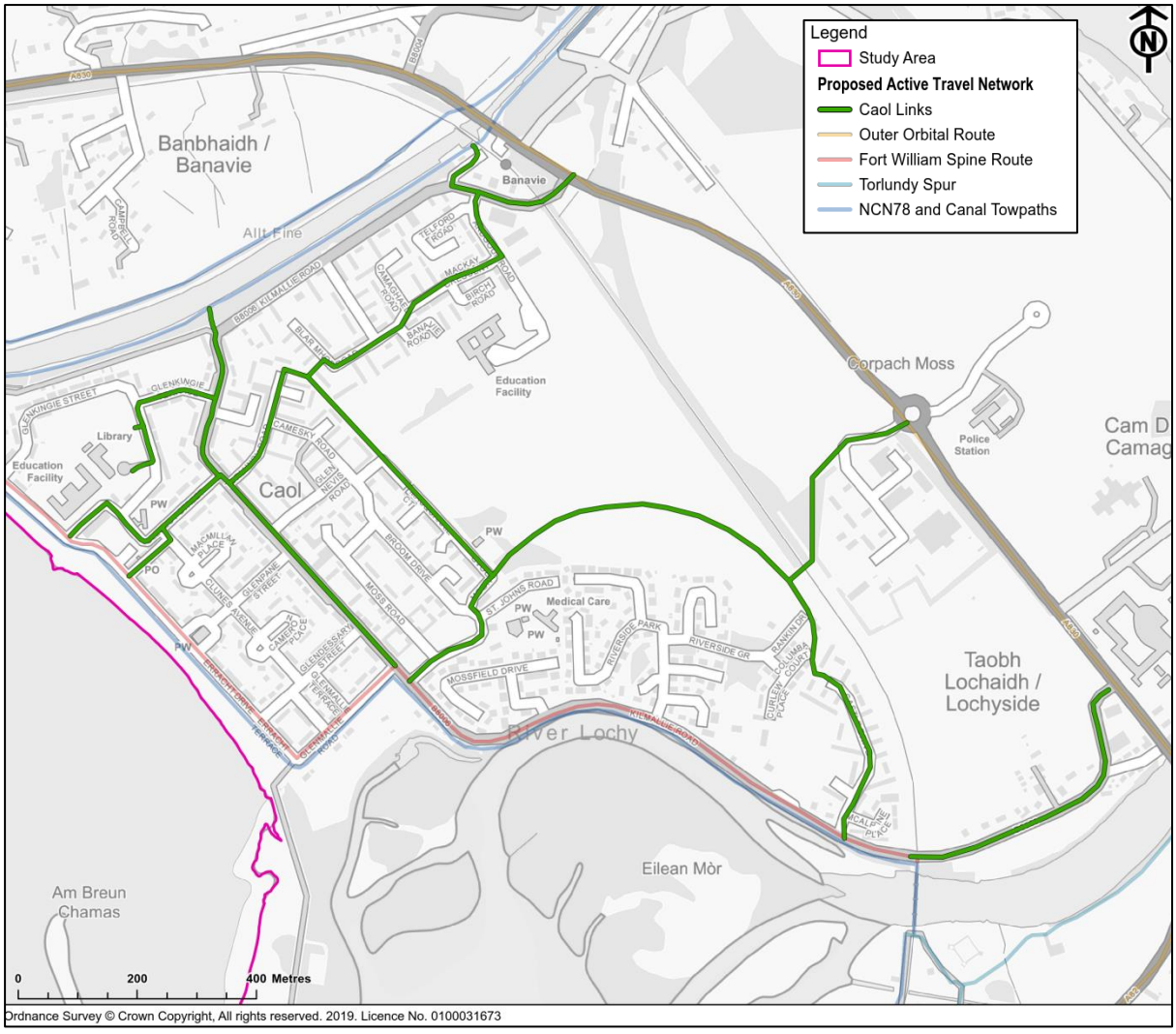


Figure 4-88 - Caol Links Alignment

The route would link to the local centres in Caol, as well as facilitating longer distance journeys via the Fort William Spine Route, Outer Orbital Route and NCN 78.

The links that are proposed would connect the Fort William Spine Route, Outer Orbital Route, NCN 78 and the Great Glen Way with the various trip generators within Caol and Lochyside and beyond. These include the Caledonian Canal, local churches, Caol Primary School, Caol Library, Caol Community Centre, Bun-sgoil Ghàidhlig Loch Abar, Blar Mhor Industrial Estate, Lochaber High School, Banavie railway station and the local centre and shops.

During the site investigation various issues, opportunities and constraints were identified. The most important of these are summarised in Appendix A.

4.3.5.2 Route Context

In general, Caol feels much quieter and residential than many of the other areas within the area of interest. There are good connections to the canal paths from the south-west / north-east section of

Kilmallie Road where the road runs parallel to the Caledonian Canal. During the site investigation it was observed that many of the junctions in Caol are very wide and don't have tactile paving, which would make the area difficult to travel through for someone with impairments.

Kilmallie Road is the main road through Caol, which connects to the A830 at each end. It is a bus route and all of the other streets in Caol are accessed from Kilmallie Road.

Beyond NCN 78, there is little in the way of existing cycle infrastructure. Part of the northern footway on the south-west / north-east section of Kilmallie Road is signed as shared use (the part closest to the junction with the A830), while there are advisory cycle lanes on Kilmallie Road to the east of its junction with Broom Drive, although these are very faded and not visible in sections. During the site investigation it was observed that there are some drainage issues and issues with surfacing on some of the roads in Caol.

B8006 Kilmallie Road

The B8006 Kilmallie Road runs through Caol and connects into the A830 at either end. Between Broom Drive and Glenkingie Terrace the road feels quiet, as there are residential properties on either side of the carriageway and there is a local centre with a shop and bookmakers. Along much of this section there are adjacent parallel minor streets to the south-west and west of the road, which residents appear to use for parking and to access their private driveways.

East of Broom Drive, the road has an uphill gradient and there is a footway on the north side of the road only. Traffic speeds feel higher and there are few property frontages. The road appears to peak at the point where it crosses the West Highland railway line, and the road curves northwards to junction with the A830. The carriageway width along this section is generally quite narrow, being measured as being between 5.3 metres and 5.8 metres wide, while the footway was found to be between 1.8 metres and 2 metres wide.

Between Glenkingie Terrace and the A830, the road runs parallel to the Caledonian Canal. On the north-west side of the road the canal is separated from the road via a grass verge and embankment lined with trees, while residential properties are located along the south-west side. For most of its length a footway is only provided on the south-east side of the road, although at the north-east and south-west extents of this section there are footways provided on both sides of the road. During the site investigation it was observed that there is a worn desire line in the verge along the north-west side of the road, while there were also desire lines observed linking to the canal. The carriageway width was measured as being between 6.2 metres and 6.4 metres along this section, while the south-eastern footway is approximately 1.9 metres wide.

The road is subject to a speed limit of 30mph and lighting is provided along its full length.

Figure 4-89 - B8006 Kilmallie Road [1]

Figure 4-90 - B8006 Kilmallie Road [2]

Figure 4-91 - B8006 Kilmallie Road [3]

Figure 4-92 - B8006 Kilmallie Road [4]

Side Streets

The side streets in Caol are all accessed from the B8006 Kilmallie Road. Most of the streets are subject to a speed limit of 30mph and have footways on both sides of the road, whilst all of them are lit. Many of the trip attractors and generators in Caol are located on the side streets and not on Kilmallie Road, including the churches, primary school, library, community centre, and Gaelic school.

There is limited existing traffic calming in the area, including streets being stopped up (with cycle bypasses) and speed cushions.

Figure 4-93 - Caol Side Streets [1]

Figure 4-94 - Caol Side Streets [2]

Figure 4-95 - Caol Side Streets [3]

Figure 4-96 - Caol Side Streets [4]

Greenspace Bounded by West Highland Railway Line, Fern Court and Moor Road

It is understood that there have been discussions regarding providing a development on the area of greenspace bounded by the West Highland railway line, Fern Court and Moor Road. This is currently greenspace that does appear to have a community or amenity use, beyond for dog walkers and mountain bikers. There is an existing worn path that is not sealed and is not lit, which links Moor Road, Riverside Park and Rankin Drive.

There is also a spur from this path, which connects to the A830 via an underpass under the railway line and an informal, unlit path around the south-west and south-east boundaries of the Blar Mhor Industrial Estate. The underpass under the railway line has very little clearance (~1.6 metre vertical clearance) and is around 2.4 metres wide. At the north-eastern extents of the informal path around the industrial estate there is a gate where it meets the south-western footway of the A830.

To implement a path in this area would require extensive site clearance, and could potentially have an impact on wildlife and habitats, but it would provide a traffic-free link between Caol and Lochyside, the Blar Mhor Industrial Estate, and onwards to the development site proposed on the north side of the A830 (discussed further in section 3.10).

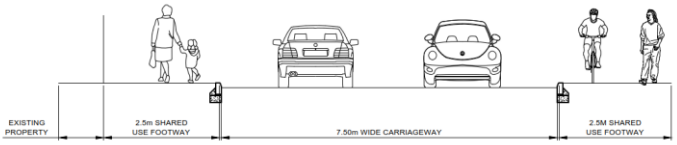
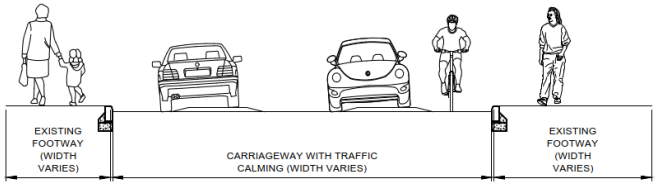
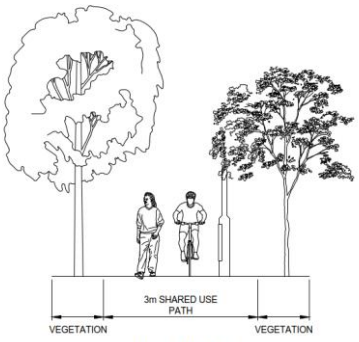
Figure 4-97 - Greenspace Bounded by West Highland Railway Line, Fern Court and Moor Road [1]

Figure 4-98 - Greenspace Bounded by West Highland Railway Line, Fern Court and Moor Road [2]

4.3.5.3 Design Specification

An indicative design specification is presented in Table 4-9. It should be noted that this has been produced for the purposes of costing, and each section should be subject to an assessment of its feasibility.

Table 4-9 - Caol Links Design Specification

Section	Level of Intervention	Detail	Cross Section
B8006 Kilmallie Road, A830 to the Soldiers Bridge	On-road	Road markings, traffic calming where appropriate	 SECTION 1
B8006 Kilmallie Road, Glenmallie Road to Caledonian Canal	On-road	Road markings, traffic calming where appropriate	 SECTION 2
B8006 Kilmallie Road, Caledonian Canal to A830	Shared use footway	2.5m wide shared use footway (both sides)	 SECTION 3
Minor streets (Glenloy Street, Glenkingie Terrace, Glenkingie Street, Torlundy Road, Blar Mhor Road, Mackay Crescent, Ardgour Road, Fern Court, Broom Drive, Moor Road, Castle Drive)	Quiet streets	Road markings, traffic calming where appropriate	 SECTION 4
Link through development	Shared use path	3m wide shared use path	 SECTION 5

4.3.5.4 Cost Estimate

Costings have been produced for the route and are shown in Table 4-10 below. Low, medium and high costs are presented, which reflect the fact that various levels of intervention could be considered.

Note these costs represent a very high-level estimate based on the information available at this early stage of the project and include assumptions made by the design team, which are listed below the table.

Table 4-10 - Caol Links Indicative Costs

Route	Section	Level of Intervention	Extents (m)	Description	Quantity	Unit	Typical Cost Low	Typical Cost Median	Typical Cost High	Total Cost Low	Total Cost Median	Total Cost High
Caol Links	B8006 Kilmallie Road, A830 to The Soldier's Bridge	On-road treatment	515	On-road treatment	515	m	£10.00	£55.00	£100.00	£5,150.00	£28,325.00	£51,500.00
	B8006 Kilmallie Road, Glenmallie Road to Caledonian Canal	On-road treatment	700	On-road treatment	700	m	£10.00	£55.00	£100.00	£7,000.00	£38,500.00	£70,000.00
	B8006 Kilmallie Road, Caledonian Canal to A830	Shared use footway (both sides)	440	Assumed widening of approx. 0.5m (to 2.5m) on both sides	440	m	£150.00	£500.00	£690.00	£66,000.00	£220,000.00	£303,600.00
	Minor streets (Glenloy Street, Glenkingie Terrace, Glenkingie Street, Torlundy Road, Blar Mhor Road, Mackay Crescent, Ardgour Road, Fern Court, Broom Drive, Moor Road, Castle Drive)	On-road treatments	2420	On-road treatments	2420	m	£10.00	£55.00	£100.00	£24,200.00	£133,100.00	£242,000.00
	Link through development	Shared use path / footway	720	New path construction	720	m	£191.65	£191.65	£191.65	£137,988.00	£137,988.00	£137,988.00
	Link to Blar Mhor Retail Park	Shared use path	240	New path construction	240	m	£191.65	£191.65	£191.65	£45,996.00	£45,996.00	£45,996.00
	Blar Mhor Retail Park to A830	Shared use footway (one side)	125	Assumed minimal widening required	125	m	£75.00	£210.00	£345.00	£9,375.00	£26,250.00	£43,125.00

Route	Section	Level of Intervention	Extents (m)	Description	Quantity	Unit	Typical Cost Low	Typical Cost Median	Typical Cost High	Total Cost Low	Total Cost Median	Total Cost High
	Caol	Raised tables	-	Raised tables at key junctions	5	no.	£8,500.00	£8,500.00	£8,500.00	£42,500.00	£42,500.00	£42,500.00
	Underpass	Allowance for upgrade of existing underpass	-	Allowance for upgrade of existing underpass	1	no.	£50,000.00	£50,000.00	£50,000.00	£50,000.00	£50,000.00	£50,000.00
				Sub-Total (Without OB)						£388,209.00	£722,659.00	£986,709.00
				Optimism Bias 44%						£170,811.96	£317,969.96	£434,151.96
				Total						£559,020.96	**£1,040,628.96**	£1,420,860.96

The rates in the table above have been taken from a number of sources, including:

- Transport for Greater Manchester's 'Greater Manchester Cycling Design Guidance & Standards';
- Recent project experience and benchmark data; and
- Spon's Civil Engineering and Highway Works Price Book 2019.

Optimism Bias provided in line with Transport Scotland, Scottish Transport Appraisal Guidance (STAG) Technical Database guidance based on early concept stage of study and nature of uncertainty and likely variance.

Please refer to Appendix B, which contains full details on the rates, assumptions and exclusions.

4.3.6 Torlundy Spur

Torlundy is a small community located to the north east of Fort William, along the A82. There is an existing shared use path between the A82 / A830 Junction and the southern extents of Torlundy, with large parts of the route separated from the main carriageway with planting strips and / or vertical measures. As a result, the existing route feels relatively safe and straightforward to traverse.

Only one section has been considered, as the route is relatively uniform along the entire extent.

The route context, alignment, design specification and cost estimate are presented below.

4.3.6.1 Proposed Route Alignment

The proposed route alignment is shown in Figure 4-99.

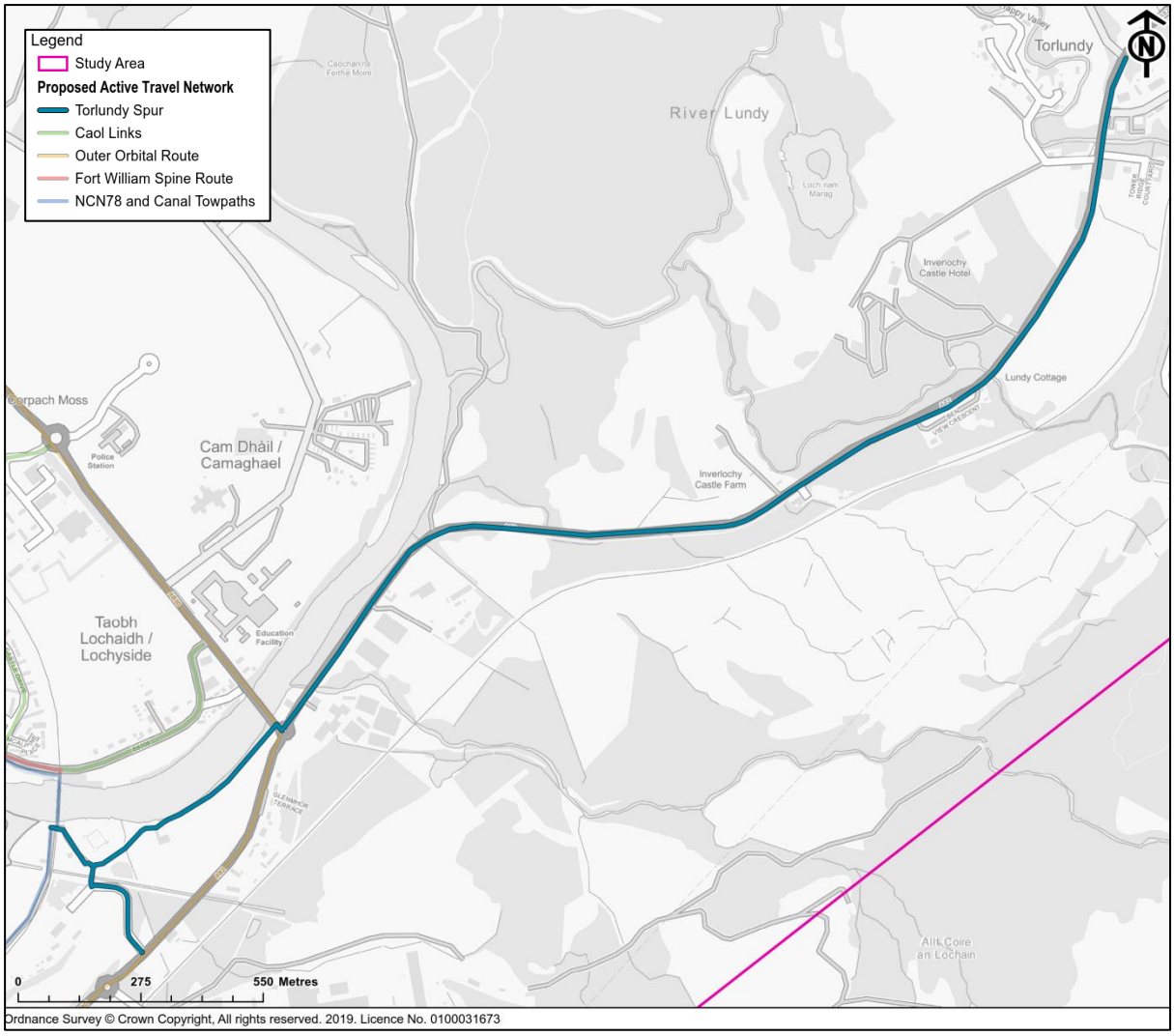


Figure 4-99 - Torlundy Spur Alignment

This alignment would connect Torlundy with the proposed Network, as well as providing connections between the Soldiers Bridge, Inverlochy Castle, Old Inverlochy Castle and the A82.

During the site investigation several issues, opportunities and constraints were identified. The most important of these are summarised in Appendix A.

4.3.6.2 Route Context

The A82 is the main route to Inverness, but north of Torlundy there are no dedicated walking or cycling facilities. Cyclists would be expected to re-join the carriageway, which is subject to a 60mph speed limit to the north of Carr's Corner Industrial Estate.

The existing shared use path is relatively wide, at approximately 2.5 metres wide and is well surfaced. However, the existing route is lacking in lighting along its extents, information and signage on onward connectivity, and well maintained and easy access to potential tourist locations on the opposite side of the carriageway, such as Inverlochy Castle (for which there are no dedicated crossing facilities).

It is noted that during the site visit the bridge over the stream which borders Torlundy to the south was quite overgrown with vegetation encroaching upon the cycle route.

It is further noted that there is a lot of accommodation sites in the vicinity of Torlundy, and this route offers an excellent route for active travel between the sites and the centre of Fort William. However, the route stops at the southern extent of Torlundy, and it is noted that there is potential to expand the route approximately 100m to the north to provide better access to the road running to the north-west (signed as Tomacharich and Camisky). Connecting to this route would provide active travel users with an alternative route to the A82 heading north, eventually connecting back with the A82 immediately south of Spean Bridge.

Figure 4-100 - Torlundy Spur [1] Source: Google

Figure 4-101 - Torlundy Spur [2] Source: Google

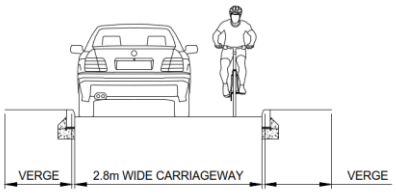
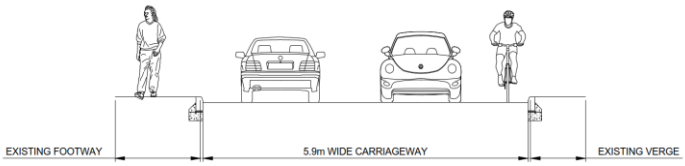
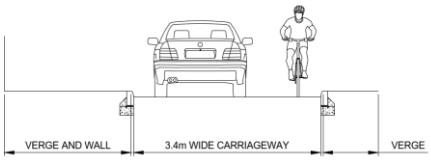
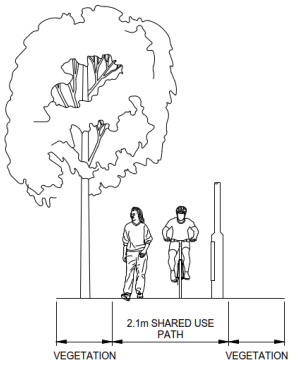
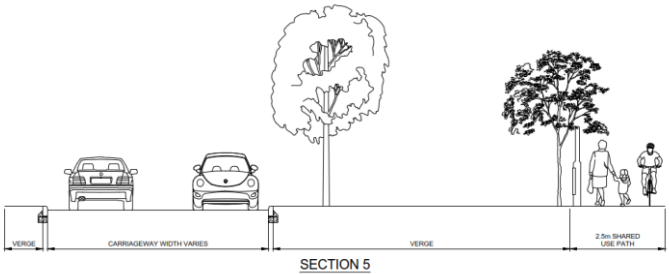
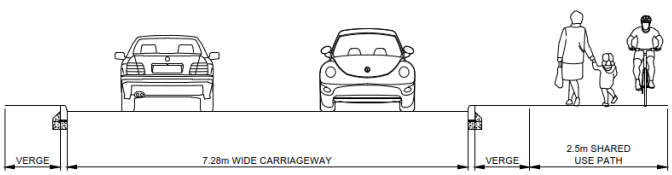
Figure 4-102 - Torlundy Spur [3] Source: Google

Figure 4-103 - Torlundy Spur [4] Source: Google

4.3.6.3 Design Specification

An indicative design specification is presented in Table 4-11. It should be noted that this has been produced for the purposes of costing, and each section should be subject to an assessment of its feasibility.

Table 4-11 - Torlundy Spur Design Specification

Section	Level of Intervention	Detail	Cross Section
Great Glen Way / the Soldiers Bridge to link to A82	Existing	On-road cycling on narrow carriageway	 SECTION 1
Link to A82	Existing	On-road cycling on narrow carriageway	 SECTION 2
Old Inverlochy Castle to junction of A82 / A830	Existing	On-road cycling on narrow carriageway, and existing shared use path	 SECTION 3  SECTION 4
Junction of A82 / A830 to Torlundy	Existing	Existing shared use path	 SECTION 5
Extension of route to access road to Tomacharich and Camisky	Shared use footway	Extension of existing shared use path to junction with access road to Tomacharich and Camisky	 SECTION 6

It should be noted that the directness of the existing route alignment in the vicinity of, and on the approach to, Lochybridge Roundabout has been questioned. Considering the route from north to south, the existing arrangement comprises a shared use path is provided on the west side of the A82 and Lochybridge Roundabout, which crosses the A82 approximately 16 metres south of the Roundabout. The route then connects into the existing facility that connects south-westwards towards Old Inverlochy Castle and the Soldiers Bridge.

It has been suggested that the route would be better crossing the A82 to the north of Lochybridge Roundabout, and then crossing the A830 to the north-west of the roundabout. This would involve non-motorised users having to cross twice, which would increase delays to these users. Furthermore, this would involve non-motorised users having to cross the entrance and / or exit to the petrol station, which increases the risk of conflicts with vehicles, and the existing footways on the A830 are already narrow. It may be difficult to incorporate signal equipment on the existing footways without increasing the risk of conflicts through narrowing the effective width.

Considering these factors, it is recommended that the existing alignment is retained. The existing provision of directional signage has been highlighted as an issue, and it is recommended that this is improved. Signage is discussed further in section 5.2.1.

4.3.6.4 Cost Estimate

Costings have been produced for the route and are shown in Table 4-12 below. Low, medium and high costs are presented, which reflect the fact that various levels of intervention could be considered.

Note these costs represent a very high-level estimate based on the information available at this early stage of the project and include assumptions made by the design team, which are listed below the table.

Table 4-12 - Torlundy Spur Indicative Costs

Route	Section	Level of Intervention	Extents (m)	Description	Quantity	Unit	Typical Cost Low	Typical Cost Median	Typical Cost High	Total Cost Low	Total Cost Median	Total Cost High
Torlundy Spur	Great Glen Way / The Soldier's Bridge to link to A82	Existing	125	-	125	m				£-	£-	£-
	Link to A82	Existing	260	-	260	m				£-	£-	£-
	Old Inverlochy Castle to junction of A82 / A830	Existing	540	-	540	m				£-	£-	£-
	Junction of A82 / A830 to Torlundy	Existing	2255	-	2255	m				£-	£-	£-
	Extension of route to access road to Tomacharich and Camisky	Shared use footway	115	Assumed construction of 2.5m wide footway in eastern verge	115	m	£191.65	£191.65	£191.65	£22,039.75	£22,039.75	£22,039.75
	Sub-Total (Without OB)									£22,039.75	£22,039.75	£22,039.75
	Optimism Bias 44%									£9,697.49	£9,697.49	£9,697.49
	Total									£31,737.24	**£31,737.24**	£31,737.24

The rates in the table above have been taken from a number of sources, including:

- Transport for Greater Manchester's 'Greater Manchester Cycling Design Guidance & Standards';
- Recent project experience and benchmark data; and
- Spon's Civil Engineering and Highway Works Price Book 2019.

Optimism Bias provided in line with Transport Scotland, Scottish Transport Appraisal Guidance (STAG) Technical Database guidance based on early concept stage of study and nature of uncertainty and likely variance.

Please refer to Appendix B, which contains full details on the rates, assumptions and exclusions.

4.3.7 Upper Achintore Links

Upper Achintore is a community located directly south of Fort William Town Centre. The location is built into the side of Cow Hill and as such has numerous topological constraints to consider when assessing and planning cycle infrastructure.

To increase accessibility via walking and cycling into Upper Achintore, the sections of the network that have been considered are:

- Lundrava Road from West End Roundabout to Lundrava Primary School;
- Connochie Road / Heathercroft Drive;
- Plantation Path (via Pine Grove Park) from Kennedy Road to Nairn Crescent via Heathercroft Drive; and
- Ross Place / Lochaber Road

The route context, alignment, design specification and cost estimate are presented below.

4.3.7.1 Proposed Route Alignment

The proposed route alignment is shown in Figure 4-104.

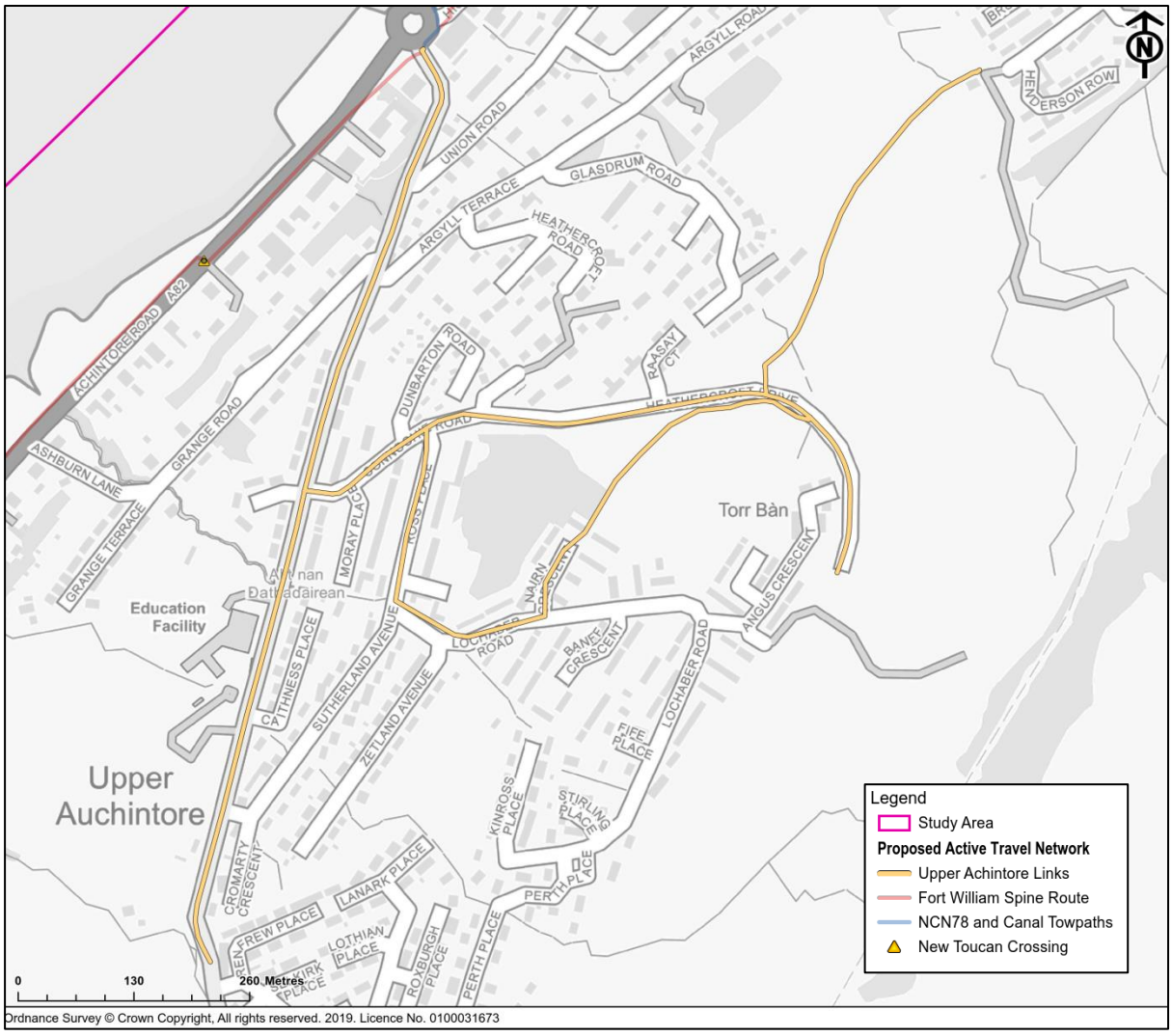


Figure 4-104 - Upper Achintore Links Alignment

The link would connect Upper Achintore with the proposed Fort William Spine Route and NCN78, along Lundavra Road, Connochie Road and the Plantation Path. There is development proposed in the eastern extents of Upper Achintore, while Lundavra Primary School is likely to be a trip attractor.

During the site investigation various issues, opportunities and constraints were identified. The most important of these are summarised in Appendix A.

4.3.7.2 Route Context

Lundrava Road, from West End Roundabout to Lundrava Primary School

Lundrava Road forms the primary vehicular access into Upper Achintore, a long straight route that is generally defined by a relatively continuous uphill gradient along its entire length, from the West End Roundabout to Lundrava Primary School.

The route is bounded by a number of residential properties on both sides, with some fairly steep inclines downhill on the western edge of the carriageway. The area is generally residential in nature with some small commercial properties at certain locations.

There are existing footways along both sides of the carriageway along the route; however, they are fairly narrow, at approximately 1.7m wide. The carriageway itself is generally around 6m wide.

Some consideration could be given to a quiet street type arrangement, to slow down traffic. Traffic calming is a common feature in surrounding streets in Upper Achintore. Further consideration should be given to the potential for shared use paths along at least one side of the existing carriageway, especially given the importance of the route as a connection to Lundrava Primary School, although the feasibility of this would need to be investigated.

Figure 4-105 - Lundrava Road, from West End Roundabout to Lundrava Primary School [1]

Figure 4-106 - Lundrava Road, from West End Roundabout to Lundrava Primary School [2]

Figure 4-107 - Lundrava Road, from West End Roundabout to Lundrava Primary School [3]

Figure 4-108 - Lundrava Road, from West End Roundabout to Lundrava Primary School [4]

Connochie Road / Heathercroft Drive

Connochie Road currently extends perpendicular to Lundrava Road approximately half way along the extent of the latter. Connochie Road diverts to the north after approximately 200m, but the carriageway continues along the same alignment, renamed as Heathercroft Drive.

From the junction with Lundrava Road until the junction with Ross Place, there are footways along both sides of the road. The footway along the northern side is relatively wide, being approximately 2m. There may be scope to extend the width of these footways to connect with the route further east.

From the junction with Ross Place, a relatively wide shared use path extends along the southern side of the route until the location where Connochie Road becomes Heathercroft Drive, at which point the path crosses the road and continues east along the northern edge via crossing facilities with tactile surfacing. There may be scope to enhance the crossing facilities with traffic calming features and improved signage.

This route links Lundrava Road with the Plantation Path, as well as the proposed new development site discussed in section 3.

Figure 4-109 - Connochie Road / Heathercroft Drive [1]

Figure 4-110 - Connochie Road / Heathercroft Drive [2]

Plantation Path (via Pine Grove Park), from Kennedy Road to Nairn Crescent via Heathercroft Drive

The Plantation Path provides a good quality alternative route to Upper Achintore from Kennedy Road in the north to Lochaber Road via Heathercroft Drive and Nairn Crescent.

The existing route is marked as shared use and is approximately 2m wide. At the moment there are surfacing issues on the path, while there may be scope to widen the path to increase its accessibility for all users.

Crossing facilities on Heathercroft Drive are provided slightly to the north of the main desire line, but gradients at this location mean that this would likely be considered acceptable. The section of the route between Neathercroft Drive and Nairn Crescent is approximately 2.5m wide and of a similar condition as the previous section.

It is noted that this route could be extended along the site of the old Upper Achintore Primary, to connect with Lanark Place, Loch View Estate, and the southernmost extents of Lundrava Road, further facilitating community links into Upper Achintore. Further investigation on the feasibility of this extension would be recommended.

Figure 4-111 - Plantation Path [1]

Figure 4-112 - Plantation Path [2]

Ross Place / Lochaber Road

Ross Place and Lochaber Road form an additional connecting loop between the Plantation Path and Connochie Road / Heathercroft Drive.

It is noted that there is a steep gradient up Lochaber Road, similar to that found on Connochie Road and typical for the Upper Achintore Area. There is a currently a footway running along both sides of the road, as well as on street parking bays.

Ross Place is of a similar nature, although the gradient is not quite as steep. There are parking bays along both sides of the carriageway, which is not very wide. The footway surface is uneven and broken up along sections of Ross Place.

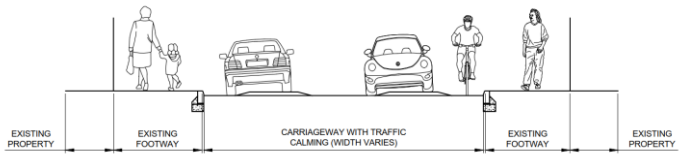
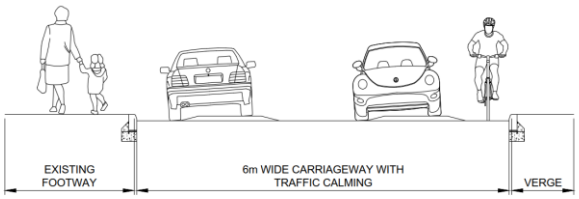
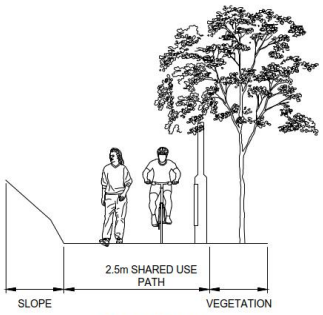
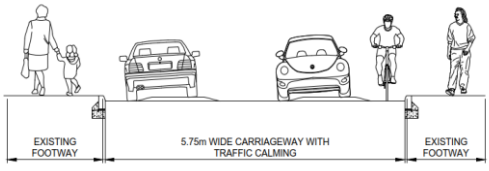
Figure 4-113 - Ross Place / Lochaber Road [1]

Figure 4-114 - Ross Place / Lochaber Road [2]

4.3.7.3 Design Specification

An indicative design specification is presented in Table 4-13. It should be noted that this has been produced for the purposes of costing, and each section should be subject to an assessment of its feasibility.

Table 4-13 - Upper Achintore Indicative Design Specification

Section	Level of Intervention	Detail	Cross Section
Lundrava Road from West End Roundabout to Lundrava Primary School	Quiet streets	Road markings, traffic calming where appropriate	 SECTION 1
Connochie Road / Heathercroft Drive	Quiet streets	Road markings, traffic calming where appropriate	 SECTION 2
Plantation Path (via Pine Grove Park) from Kennedy Road to Nairn Crescent via Heathercroft Drive	Shared use path	2.5m shared use path	 SECTION 3
Ross Place / Lochaber Road	Quiet streets	Road markings, traffic calming where appropriate	 SECTION 4

4.3.7.4 Cost Estimate

Costings have been produced for the route and are shown in Table 4-14 below. Low, medium and high costs are presented, which reflect the fact that various levels of intervention could be considered.

Note these costs represent a very high-level estimate based on the information available at this early stage of the project and include assumptions made by the design team, which are listed below the table.

Table 4-14 - Upper Achintore Links Indicative Costs

Route	Section	Level of Intervention	Extents (m)	Description	Quantity	Unit	Typical Cost Low	Typical Cost Median	Typical Cost High	Total Cost Low	Total Cost Median	Total Cost High
Upper Achintore Links	Lundrava Road from West End Roundabout to Lundrava Primary School	On-road treatments. Raised tables at key junctions	1150	On-road treatments	1150	m	£10.00	£55.00	£100.00	£11,500.00	£63,250.00	£115,000.00
	Connochie Road / Heathercroft Drive	On-road treatments. Raised tables at key junctions	800	On-road treatments	800	m	£10.00	£55.00	£100.00	£8,000.00	£44,000.00	£80,000.00
	Plantation Path (via Pine Grove Park) from Kennedy Road to Nairn Crescent via Heathercroft Drive	Shared use path	750	Assumed widening of approx. 0.5m into vegetation	750	m	£75.00	£210.00	£345.00	£56,250.00	£157,500.00	£258,750.00
	Ross Place / Lochaber Road	On-road treatments. Raised tables at key junctions	660	On-road treatments	660	m	£10.00	£55.00	£100.00	£6,600.00	£36,300.00	£66,000.00
	Upper Achintore	Quiet streets	-	Raised tables at key junctions	8	no.	£8,500.00	£8,500.00	£8,500.00	£68,000.00	£68,000.00	£68,000.00
									Sub-Total (Without OB)	£150,350.00	£369,050.00	£587,750.00
									Optimism Bias 44%	£66,154.00	£162,382.00	£258,610.00
									Total	£216,504.00	**£531,432.00**	£846,360.00

The rates in the table above have been taken from a number of sources, including:

- Transport for Greater Manchester's 'Greater Manchester Cycling Design Guidance & Standards';
- Recent project experience and benchmark data; and
- Spon's Civil Engineering and Highway Works Price Book 2019.

Optimism Bias provided in line with Transport Scotland, Scottish Transport Appraisal Guidance (STAG) Technical Database guidance based on early concept stage of study and nature of uncertainty and likely variance.

Please refer to Appendix B, which contains full details on the rates, assumptions and exclusions.

The action plan outlined in section 5 identifies the key priorities in the development of the routes described above, along with 'softer' initiatives to encourage active travel in the area.

4.4 Engagement Workshop

A member of AECOM's Design Team attended the Fort William 2040 exhibition and workshops on Wednesday 25 September 2019 at the Nevis Centre in Fort William. The purpose of the event was to highlight progress to date on the Fort William 2040 proposals, which included work on the Fort William Active Travel Masterplan.

During the exhibition, AECOM's representative, along with Vikki Trelfer and Neil MacRae from HITRANS, answered questions and had discussions with attendees regarding the Fort William Active Travel Masterplan, as well as giving a short presentation regarding the project. The route designs and costs were available to view, and copies of the report were provided for attendees to read.

Workshop attendees were asked if there were any further links that they thought would be of benefit. The main links that attendees mentioned were as follows:

- Desire to see a spur to Glen Nevis, or other general comments about Glen Nevis; and
- Desire to see a more direct route between Caol / Lochyside and Inverlochy, across the River Lochy.

These links are discussed further in section 4.5.

4.5 Future Extension of the Network

As previously mentioned in section 2.1, during the stakeholder workshop that was held on Thursday 23 May 2019 attendees were asked who the network should be for. The overwhelming response was for improving active travel for locals getting to education, work and key services. The routes described in sections 4.3.1 to 4.3.7 connect the key trip attractors in the area and would provide safe routes to, from and between these trip attractors.

However, following construction and establishment of the network, it could be expanded to connect to nearby settlements, tourist attractions and any new developments that are constructed in the area.

Two potential spurs to the core network that were identified at the Fort William 2040 exhibition and workshops, Glen Nevis and a more direct route between Caol / Lochyside and Inverlochy, are described in sections 4.5.1 and 4.5.2.

4.5.1 Fort William to Glen Nevis Link

Glen Nevis is accessed from Fort William via the C1162 Glen Nevis Road, although there are also footpaths / trails alongside the River Nevis. Glen Nevis Road is a single carriageway road that is subject to the national speed limit unlit east of The Brevins Guesthouse, while west of this point it is subject to a speed limit of 30mph and a system of street lighting is provided. The footway terminates at the Hostelling Scotland Glen Nevis Youth Hostel, and south of this point no footway is provided.

The provision of an active travel route along this road would provide a link between Fort William (via the Outer Orbital Route), the Ben Nevis Visitor Centre, the Glen Nevis Caravan and Camping Park, and the Glen Nevis Youth Hostel, and would provide an alternative mode for tourists to access this area. The potential extents of the route are shown in Figure 4-115.

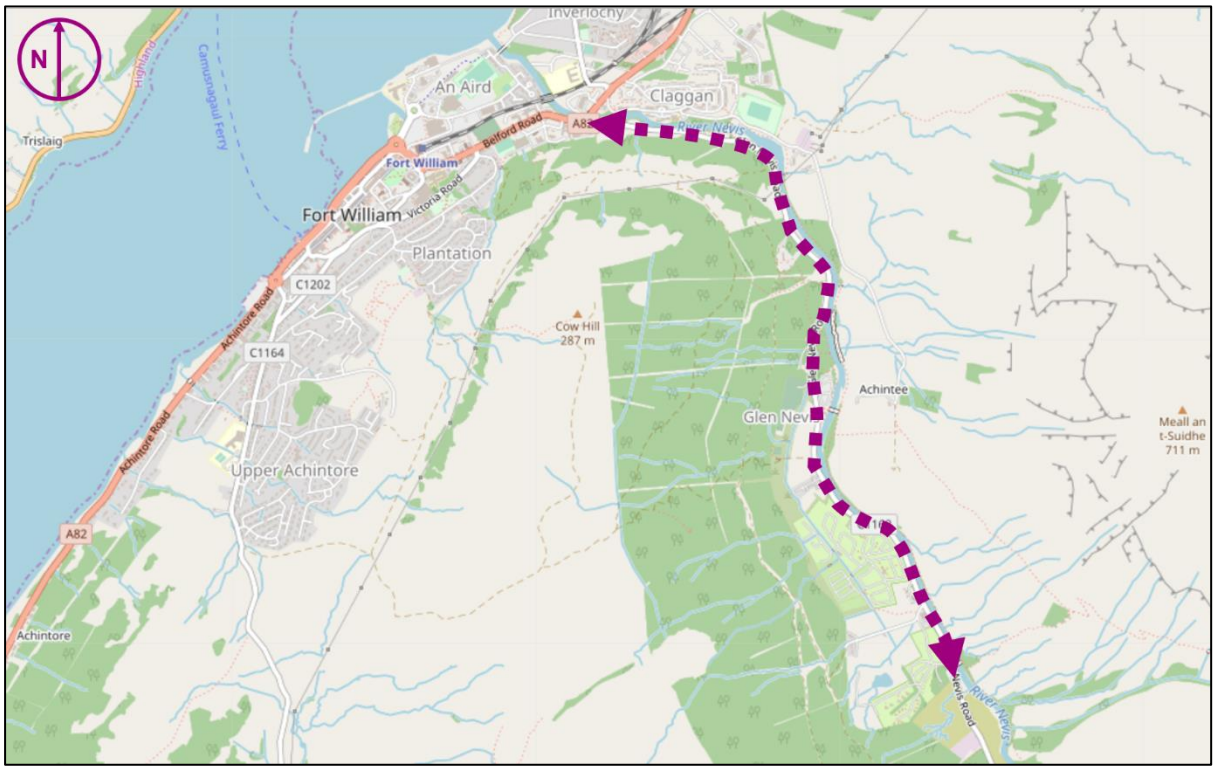


Figure 4-115 - Link to Glen Nevis Potential Extents

Background mapping source: © OpenStreetMap contributors

It is recommended that a study of the feasibility of this route be undertaken, should it be considered a worthwhile addition to the network. If the link were to be considered feasible and of benefit, it is suggested that it could be included in any future extension of the network.

4.5.2 Direct Route between Caol / Lochyside and Inverlochy

A direct route between Caol / Lochyside and Inverlochy across the River Lochy was mentioned at both the Stakeholder workshop that was held on Thursday 23 May 2019 and at the Fort William 2040 exhibition and workshops that were held on Wednesday 25 September 2019. This idea was investigated during the audits associated with the refresh of the Fort William Active Travel Masterplan but was not included in the proposed Active Travel Network. The reason that this was not included is that it is understood that there are existing plans to alleviate congestion in and around Fort William by providing a town centre bypass. One of these alignments is understood to include a new road link between the A82 and the A830 across the River Lochy, at or close to this location.

At the time of writing it is not clear whether this project is to be taken forward and, if it is to be taken forward, which alignment will be selected. It is recommended that any new road design appropriately considers the integration of active travel infrastructure. If no road link is provided across the River Lochy at the approximate location shown in Figure 4-116, this is an extension to the network that could be considered by HITRANS.

Figure 4-116 - Direct Link between Caol / Lochyside and Inverlochy

Background mapping source: © OpenStreetMap contributors

Introduction of a link in this location would likely necessitate a significant amount of site clearance, and the bridge would have to span the River Lochy, which appears to be around 120 metres wide at this location. Appropriate paths would have to be constructed on either side of the river to tie into the existing infrastructure and make the bridge accessible for all users. Furthermore, this link would likely require extensive surveys to establish whether the structure is feasible and to quantify its potential impact on the surrounding environment and wildlife.

A photograph taken from the south-eastern bank of the River Lochy is shown in Figure 4-117.

Figure 4-117 - Photograph from South-eastern Bank of River Lochy

Should this alignment not be taken forward for the proposed link between the A82 and the A830, it is recommended that the feasibility of providing a direct route between Caol / Lochyside and Inverlochy via a bridge over the River Lochy be studied. Should the link be considered feasible, it is suggested that it could be included in any future extension of the network.

5. Prioritised Action Plan

5.1 The Priorities

This prioritised Active Travel Plan sets out the key measures needed to encourage walking and cycling in the Fort William area. As well as incorporating parts of the strategic walking and cycling network, it also includes promotion and 'soft' measures that form part of a package of works to assist in generating modal shift and behaviour change.

The following measures are the key priorities that have been identified for encouraging active travel in and around Fort William:

- Priority 1 – Route Signing Strategy;
- Priority 2 – Establish Fort William Active Travel Action Group;
- Priority 3 – Pedestrian Improvements;
- Priority 4 – Cycle Parking;
- Priority 5 – Fort William Spine Route;
- Priority 6 – Torlundy Spur;
- Priority 7 – Fort William / North Road Retail Park Link;
- Priority 8 – College Link;
- Priority 9 – Caol Links;
- Priority 10 – Upper Achintore Links; and
- Priority 11 – Outer Orbital Route.

The reasons why the measures have been prioritised in this order are presented in Table 5-1. It should be noted that this is the recommendation based on the information available at the time of reporting. This could be modified in future when further information comes to light or as and when funding streams become available.

Table 5-1 - Priority Action Plan - Justification for Order

Priority Number / Order	Description	Reasons / Justifications
1	Route Signing Strategy	There is currently a reasonable provision of routes within the area of interest, but signage is sporadic and not comprehensive. This is considered to be a measure that would require less resources but could have a big impact, for both new and regular users of the infrastructure.
2	Establish Fort William Active Travel Action Group	A constituted partnership could promote active travel in the area and could potentially take ownership of a long-term strategic approach to develop walking and cycling. Furthermore, an independent group can access funding from a range of sources unavailable to the Local Authority, including Smarter Choices Smarter Places Open Fund. Work on the establishment of this group could be started immediately and this is unlikely to require significant resources.
3	Pedestrian Improvements	During the site audits it was observed that there are several issues with the pedestrian infrastructure that could affect the ability of pedestrians to move safely through the study area. It is understood that this has also been raised as an issue by Lochaber Disability Access Panel. Developing a strategy to remedy the issues that were identified, and then remedying the issues (which could be carried out during the construction of routes or during scheduled maintenance works), would significantly improve the

Priority Number / Order	Description	Reasons / Justifications
		accessibility of the areas for people with visual or mobility impairments, and would ensure that the paths and routes in the area of interest are open to all. Each intervention is likely to be significantly cheaper than the construction of new active routes.
4	Cycle Parking	There is currently a reasonable provision cycle parking within the area of interest, although there are locations where people may wish to cycle to or from where no cycle parking is provided. This is a measure that would require limited investment when compared to the construction of new infrastructure, but could make cycling more convenient and secure.
5	Fort William Spine Route	The Spine Route would act as the trunk upon which several of the other routes would branch off from, and it is viewed as the primary priority in terms of development of the routes proposed in the Masterplan. Much of the route is already established and is well used, and it connects to most of the key sites and communities in the study area.
6	Torlundy Spur	This is an existing route that would require minimal improvements. However, these relatively low-cost improvements would greatly enhance the attractiveness and level of comfort of users of the link.
7	Fort William / North Road Retail Park Link	It is not currently possible to travel to the retail parks on the A82 without either: a. cycling along the footways on the A82 (which are not currently determined as shared use); b. cycling on carriageway on the A82 (which is busy and not suitable for all but the most experienced of cyclists); or c. travelling via the link between the Soldiers Bridge and the A82, via Old Inverlochy Castle (which is indirect for people travelling from many directions). The Fort William and North Road retail parks are likely to attract a significant number of trips, and the current provision means that travelling by bike or on foot is not attractive for most people.
9	College Link	There is currently no link to the UHI West Highland College from the Fort William Travel Centre for people travelling by bike. This is a relatively low-cost short link but would likely be highly valued by cyclists travelling to the college or to other destinations on Carmichael Way.
9	Caol Links	Caol and Lochyside are residential areas that are spread over a fairly large area but are currently relatively poorly served in terms of walking and cycling routes. Many of the links would require relatively small interventions but would facilitate access to a number of trip attractors, as well as connections to the other existing and proposed routes around Caol and Lochyside.
10	Upper Achintore Links	Whilst Upper Achintore is an area of significant planned development, there is currently very little in the way of active travel provision. It is recommended that the proposed links be progressed regardless of whether the development is to be taken forward, although ideally, they should be implemented before construction is completed.
11	Outer Orbital Route	The Outer Orbital Route is expected to require longer to implement because of the correspondence and agreements required, as well as because of its length and complexity. Both the A830 and A82 are trunk roads and are therefore the responsibility of Transport Scotland. Any proposals on these

Priority Number / Order	Description	Reasons / Justifications
		roads would require liaison and agreement with Transport Scotland. This route has a number of trip attractors along its length, both for leisure and utility purposes, and, if agreement could be reached with Transport Scotland and the route could be constructed, it would likely be one of the primary and most popular of the routes in the area of interest, alongside the Fort William Spine Route.

Each of these individual priorities are summarised in section 5.2 and form part of the wider Fort William Area Active Travel Network outlined in section 4.

5.2 Priority Recommendations

The route signing strategy, Fort William Travel Action Group, pedestrian improvements and cycle parking are discussed in sections 5.2.1 to 5.2.4. Priorities 5 to 11, the routes that are proposed will comprise the Fort William Masterplan, are discussed in section 5.2.5.

5.2.1 Route Signing Strategy

As shown in Figure 3-1 on page 19, there is currently a reasonable provision of routes within the area of interest. However, the route and wayfinding signage is sporadic and not comprehensive. Whilst NCN78, the Great Glen Way and the West Highland Way have a reasonable provision of route signage, there is limited wayfinding and destination signage overall.

Destination signing, including the destination and the distance to it, can aid wayfinding and highlight the presence of active travel routes. The signage should include strategic and local destinations (such as the next village or town), landmarks, and to other routes in the vicinity. Signage is relatively inexpensive but can drastically improve the experience for users travelling on foot or by bike.

Not all local people will be aware of the routes in the area, particularly those routes that are new or less established. This will also benefit visitors to the area and those passing through, as they will likely rely on destination signage to find their way to the destination that they are travelling to.

The route signage should be supported with regular repeater signs, to ensure that people travelling on foot and by bike are appropriately informed that they are still on the correct route. Appropriate signage should also be provided at key access points to the network, even if these are not located on the new or proposed routes.

To support the destination and route signing, it is essential to ensure that appropriate traffic signs are in place to inform users about how they should travel through the network and to adequately inform the drivers / riders of motorised vehicles. For example, some of the routes would require cyclists to cycle contraflow up one-way streets or to make turns that are prohibited to general traffic. Appropriate signage should be put in place to advise road users at these locations.

5.2.2 Fort William Active Travel Action Group

Fort William is in the fortunate position of already having a positive identity with regards to outdoors activities, especially cycling. Many people who visit or live in the area, do so specifically to take advantage of the facilities for recreational walking and cycling, so much so that Fort William has been able to brand itself as the ‘Outdoor Capital of the UK’. The outstanding reputation of Fort William as a world class centre for mountain biking has brought with it many individuals who are active in promoting cycling, not only for leisure but also for transport.

There is also existing community capacity in the area through the Lochaber Disability Action Group, which advocates for disabled users of the transport network and is lobbying for improvements to dropped kerbs in particular. There is also a Lochaber Transport Forum, and Community Councils are strongly engaged in transport issues in the area.

The existing groups and individuals would be advised to create a constituted partnership to promote active travel which can then take ownership of a long-term strategic approach to develop walking and

cycling in the area. One of the priorities for action for the group should be the development of trip end facilities at major employers in the area and main trip generators and attractors. The group could work with Cycling Scotland to promote the Cycle Friendly Employers Award which can incentivise businesses to improve storage and changing facilities for people who walk and cycle (especially in wet weather) but also help develop an understanding of the fiscal benefits of having a fitter workforce with less onus on carbon heavy transport. A further priority would be work with local schools and potentially support them on Bikeability, pursuing Cycle Friendly School awards and even funding for cycle and scooter parking.

An independent group also has the added advantage of being able to access funding from a range of sources unavailable to the Local Authority. For example, community groups are currently eligible to apply for a number of grants including Smarter Choices Smarter Places Open Fund and other Sustrans funding.

In addition, if such a group were established, it could be considered as a consultee with regards to planning applications to ensure the needs of pedestrians and cyclists are considered from the outset in any new developments. The group can help elevate the profile of vulnerable road users within these developments and ensure the proposed infrastructure is of sufficient quality to encourage modal shift and accessibility for all.

5.2.3 Pedestrian Improvements

During the site audits it was observed that there are several issues with the pedestrian infrastructure in the study area that could affect the ability of pedestrians to move safely through the study area. This is particularly true for users with impairments (either visual or related to mobility). The issues included:

- Footways terminating on one side of the road, and no crossing infrastructure being provided to enable pedestrians to cross the road to continue walking on the opposite footway;
- Issues at the uncontrolled crossing points in the area, including:
  - No tactile paving being provided at the crossing point;
  - Dropped kerbs on opposing footways not being aligned;
  - Tactile paving note extending across the full width of dropped kerb; and
  - Dropped kerbs having a high upstand, and potentially being a trip hazard.
- The tactile paving at Puffin and Zebra crossings being incorrect or not being provided at all;
- No crossing infrastructure being provided to allow pedestrians to cross the road to access bus stops;
- Uncontrolled crossings not being provided at certain locations (e.g. at Wades Road, Lochiel Road and Montrose Avenue);
- Footways being narrow, for example at one point on the A82 the footway is around 0.5 metres wide, which may lead pedestrians to walk on the carriageway;
- Footways and the carriageway being at-grade, but nothing being provided to inform a visually impaired user of this fact and to inform them that they are about to step onto the carriageway (e.g. at the High Street / Fraser Square, and at the High Street / Bank Street);
- Ramps being inappropriately long or having a large gradient (e.g. at Dubh MacDonald Road and the underpass under the A82);
- Junctions being inappropriately wide and with no refuge island for crossing pedestrians (e.g. at the junction of Lochiel Road and Lundy Road);
- Footpaths or shared use paths not being lit, which could affect the personal security of users;
- Vehicles being parked on footways (e.g. on the A830, east of Drumfada Terrace);
- Pedestrian steps in Upper Achintore being too narrow and with encroaching vegetation;
- Footways being rough or uneven; and

- Vegetation encroaching onto footways, reducing their effective width.

The locations where these issues have been identified were captured on site using ArcGIS collector. Many of these issues / opportunities have been shown graphically in Appendix A.

It is recommended that a strategy is developed to remedy the issues that were identified. It is anticipated that some of these issues could be resolved when carrying out construction of the identified routes or during scheduled maintenance works.

5.2.4 Cycle Parking

As described in section 3.4, at least 14 locations of cycle parking were identified in the study area. Good cycle parking can encourage people to travel by bike, reduce bike theft and reduce instances of cyclists leaving their bikes in inappropriate locations.

It is recommended that appropriate cycle parking is provided at the following locations, if there is not currently any provision:

- Retail units;
- Hospitals and health centres;
- Student accommodation and hotels;
- Educational institutions;
- Sports facilities; and
- Transport stations and interchanges.

Any cycle parking should have an appropriate capacity for the anticipated number of users, be situated in convenient locations, should be secure and with passive surveillance, and should have an appropriate provision for all types of bicycles.

Various options are available for the provision of cycle parking, including tubular stands; two-tier stands; lockers; and shelters / compounds. The most appropriate provision will depend on the nature and likely use at each location.

5.2.5 Fort William Masterplan Routes

As outlined in section 4.3, seven routes have been proposed to form the Fort William Masterplan for active travel. These are as follows:

- Fort William Spine Route;
- Torlundy Spur; and
- Retail Park Links;
- College Link;
- Caol Links;
- Upper Achintore Links; and
- Outer Orbital Route.

It is suggested that the routes should be implemented in the order listed above. The justification for the order suggested is provided in the following paragraphs.

5.2.5.1 Fort William Spine Route

The main priority for the development of the Fort William Masterplan should be the improvement of the route between Fort William and Corpach, via Inverlochy, Lochyside and Caol. Much of the route is already established and is well used, particularly by people walking or cycling the Great Glen Way or NCN 78, however it could be improved to make it more accessible to all users. The route travels through the heart of the area of interest and links many of the key origins and destinations in the area.

The Spine Route would act as the trunk upon which several of the other routes would branch from.

5.2.5.2 Torlundy Spur

There is an existing route between Torlundy and the Soldiers Bridge, as described in section 4.3.6. Fairly minimal interventions have been identified, but these would improve the attractiveness and level of comfort of users of the link.

5.2.5.3 Fort William / North Road Retail Park Link

As detailed in section 4.3.3, there are existing high quality shared use footways and Toucan crossings in the vicinity of the Fort William Retail Park, although it is not currently possible to travel to the retail parks on the A82 without either: a) cycling along the footways on the A82 (which are not currently determined as shared use); b) cycling on carriageway on the A82; or c) travelling via the link between the Soldiers Bridge and the A82, via Old Inverlochy Castle, which would be indirect and a significant detour for someone travelling from Upper Achintore or Fort William, for example.

The retail parks are understood to be significant trip attractors and would satisfy key desire lines for people walking and cycling. Implementation of these links would be key, as only the Outer Orbital Route would otherwise satisfy these desire lines, but this would require liaison and agreement with Transport Scotland as it is positioned on two trunk roads (the A82 and A830). It would therefore be expected to require longer to implement because of the correspondence and agreements required, as well as because of its length and complexity.

5.2.5.4 College Link

There is currently no link to the UHI West Highland College from the Fort William Travel Centre. Anyone travelling to the college from the Fort William Travel Centre by bike would either have to travel on-road along MacFarlane Way, Camanachd Crescent and Carmichael Way, or by cycling through the supermarket car park, which would not be suitable for all users and abilities. People on foot can walk through the supermarket car park on the pedestrian route provided.

Providing an off-road link along Camanachd Crescent and Carmichael Way would provide a connection between the Fort William Travel Centre, the Fort William Spine Route, and the college. This is a relatively short link but would likely be highly valued by cyclists travelling to the college.

5.2.5.5 Caol Links

Caol and Lochyside are residential areas that are spread over a fairly large area but are currently relatively poorly served in terms of walking and cycling routes. The links that are proposed would connect the Fort William Spine Route, Outer Orbital Route, NCN 78 and the Great Glen Way with the various trip generators within Caol and Lochyside and beyond. These include the Caledonian Canal, local churches, Caol Primary School, Caol Library, Caol Community Centre, Bun-sgoil Ghàidhlig Loch Abar, Blar Mhor Industrial Estate, Lochaber High School, Banavie railway station and the local centre and shops.

Whilst many of the links would require relatively small interventions, the link to Blar Mhor Industrial Estate and A830 via the greenspace to the north of Fern Court and Moor Road would require a large intervention. If this land were to be developed, funding from the developer could be utilised to implement the link.

5.2.5.6 Upper Achintore Links

There is currently very little in the way of active travel provision in Upper Achintore, particularly from the A82 and High Street. As discussed in section 3.10, a significant development is proposed on the eastern extents of Upper Achintore, which would extend the neighbourhood eastwards towards Cow Hill. Whilst the area is predominantly residential, there is a primary school in the area that would likely serve as a trip generator, whilst those commuting into Fort William or the surrounding area for work could be encouraged to travel by bike should the active travel provision in the area be improved.

The proposed links would seek to upgrade the area for cycling, through improving the Plantation Path (that links Upper Achintore to the residential area to the south-east of Fort William town centre) and making the streets more suitable for on-road cycling. This would also improve access to the active travel provision that is proposed as part of the network.

It is recommended that these links be progressed regardless of whether the development is to be taken forward, although ideally, they should be implemented before construction is completed. This could serve to encourage people to travel on foot or by bike when they move to the area, rather than having to change their behaviour and habits after they have developed.

5.2.5.7 Outer Orbital Route

The Outer Orbital Route runs alongside the A82 and A830, travelling through Fort William, Banavie and Corpach. There are a number of trip attractors on the route, both for leisure and utility purposes. These include Fort William Travel Centre; Belford Hospital; local churches; Lochaber Leisure Centre; the retail parks on the A82; Lochaber High School; Blar Mhor Industrial Estate; Banavie railway station; Treasure of the Earth; Annat Industrial Estate; and Linnhe Holiday Park.

The route from Lochybridge to Banavie railway station already has shared use footways on both sides of the A830, while there are shared use footways adjacent to the Fort William Retail Park. However, there is otherwise little in the way of provision for cyclists and during the site investigations cyclists were observed cycling on the footways.

It should be noted that the A830 and A82 are trunk roads and are therefore the responsibility of Transport Scotland. Any proposals on these roads would require liaison and agreement with Transport Scotland. The Outer Orbital Route would therefore be expected to require longer to implement because of the correspondence and agreements required, as well as because of its length and complexity. However, it is recommended that discussions with Transport Scotland are opened at the earliest opportunity.

5.3 Future Extension of the Network

Following construction and establishment of the network, it could be expanded to connect to nearby settlements, tourist attractions and any new developments that are constructed in the area.

Two potential spurs have already been identified: a link to Glen Nevis; and a direct route between Caol / Lochyside and Inverlochy across the River Lochy. Studies of each of these routes would likely be required to assess their feasibility.

6. Summary

Having been commissioned by HITRANS, AECOM have refreshed the proposed Active Travel Masterplan for Fort William. This has been based on a desktop and policy review; a review of baseline data; engagement with Stakeholder, and site audits / investigations.

The proposed Active Travel Masterplan would involve the creation and branding of seven new routes, plus the existing National Cycle Network Route 78 and the Caledonian Canal towpaths. The seven new routes are outlined below, while the proposed Masterplan is shown graphically in Figure 6-1.

- Fort William Spine Route;
- Outer Orbital Route;
- Retail Park Links;
- College Link;
- Caol Links;
- Torlundy Spur; and
- Upper Achintore Links.

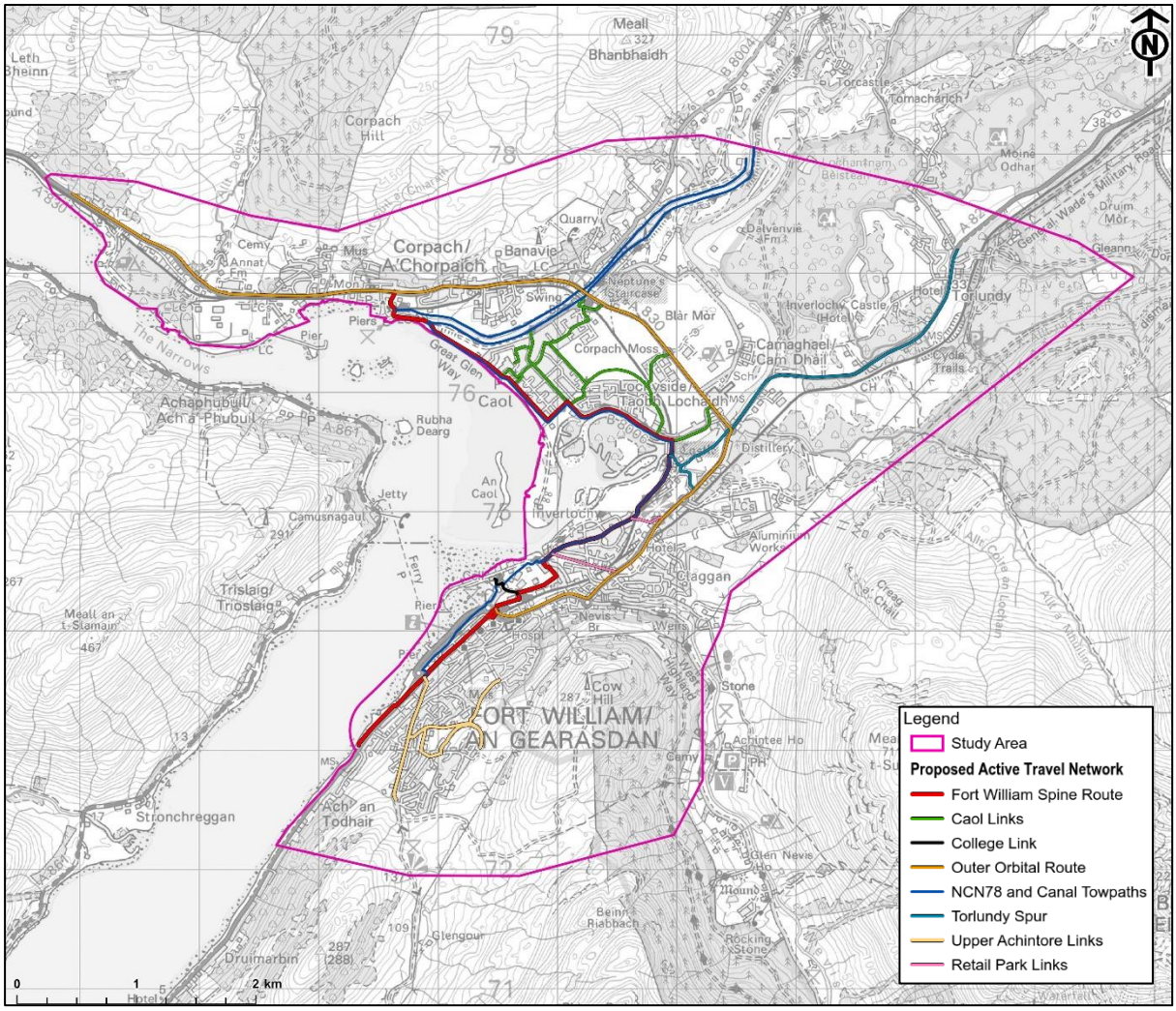


Figure 6-1 - Proposed Masterplan

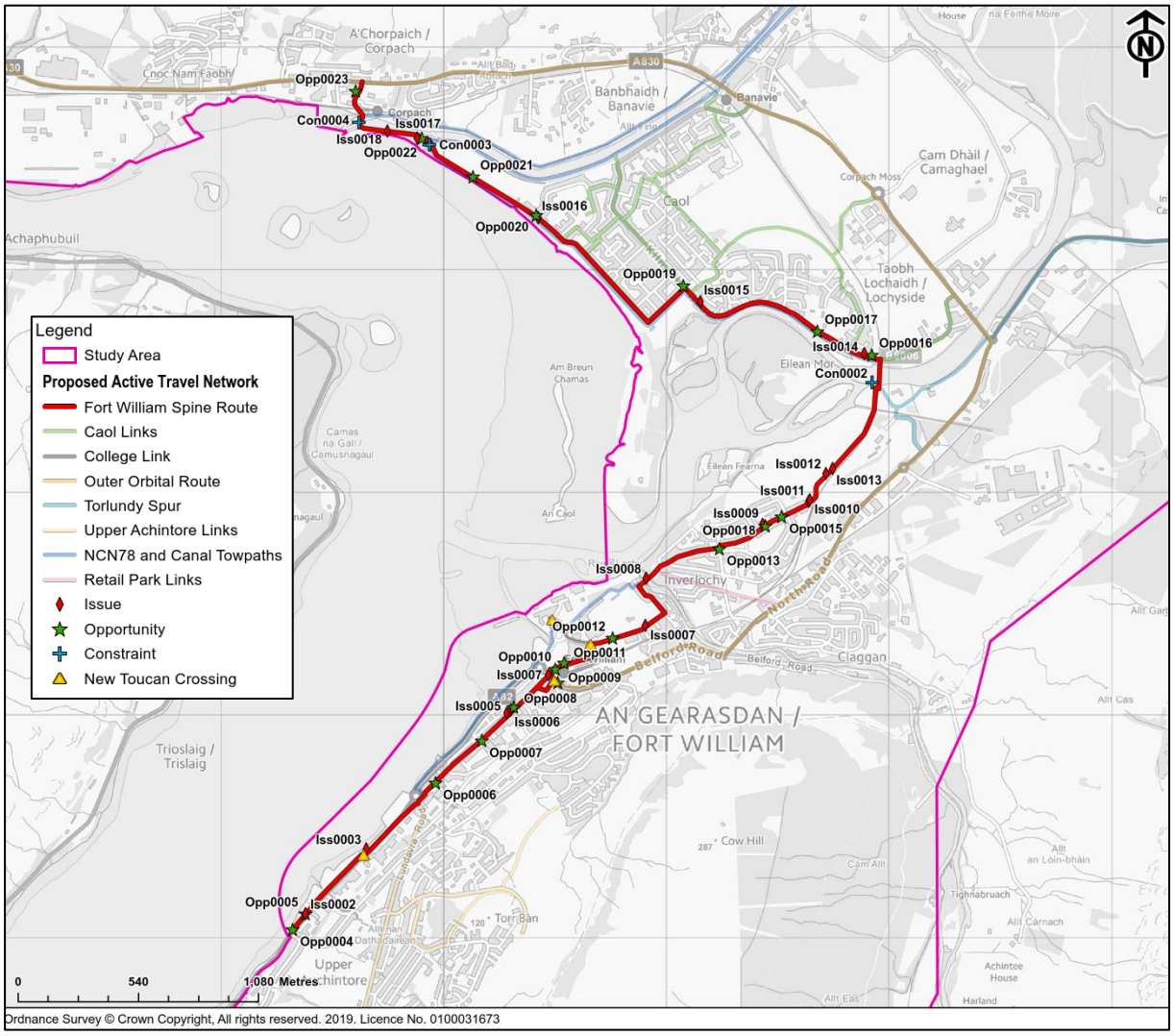
It is recommended that the identified routes should be taken forward and be subject to concept design and / or feasibility studies, where appropriate. In addition to this, several other priorities were identified, including: producing and implementing a route signing strategy; forming a Fort William Active Travel Action Group; making improvements throughout the study area for people travelling on

foot and those with additional mobility support needs; and ensuring that there is an appropriate provision of cycle parking.

Appendix A Fort William Area Active Travel Network – Mapping and Tables of Issues, Opportunities and Constraints

The mapping and tables of issues, opportunities and constraints for each of the 7 identified routes are outlined in the following pages. In each case the locations of the issues, opportunities and constraints presented in the tables are illustrated graphically in the route maps.

Spine Route



Appendix A – Spine Route: Route Mapping

Appendix A – Spine Route: Table of Issues Opportunities and Constraints

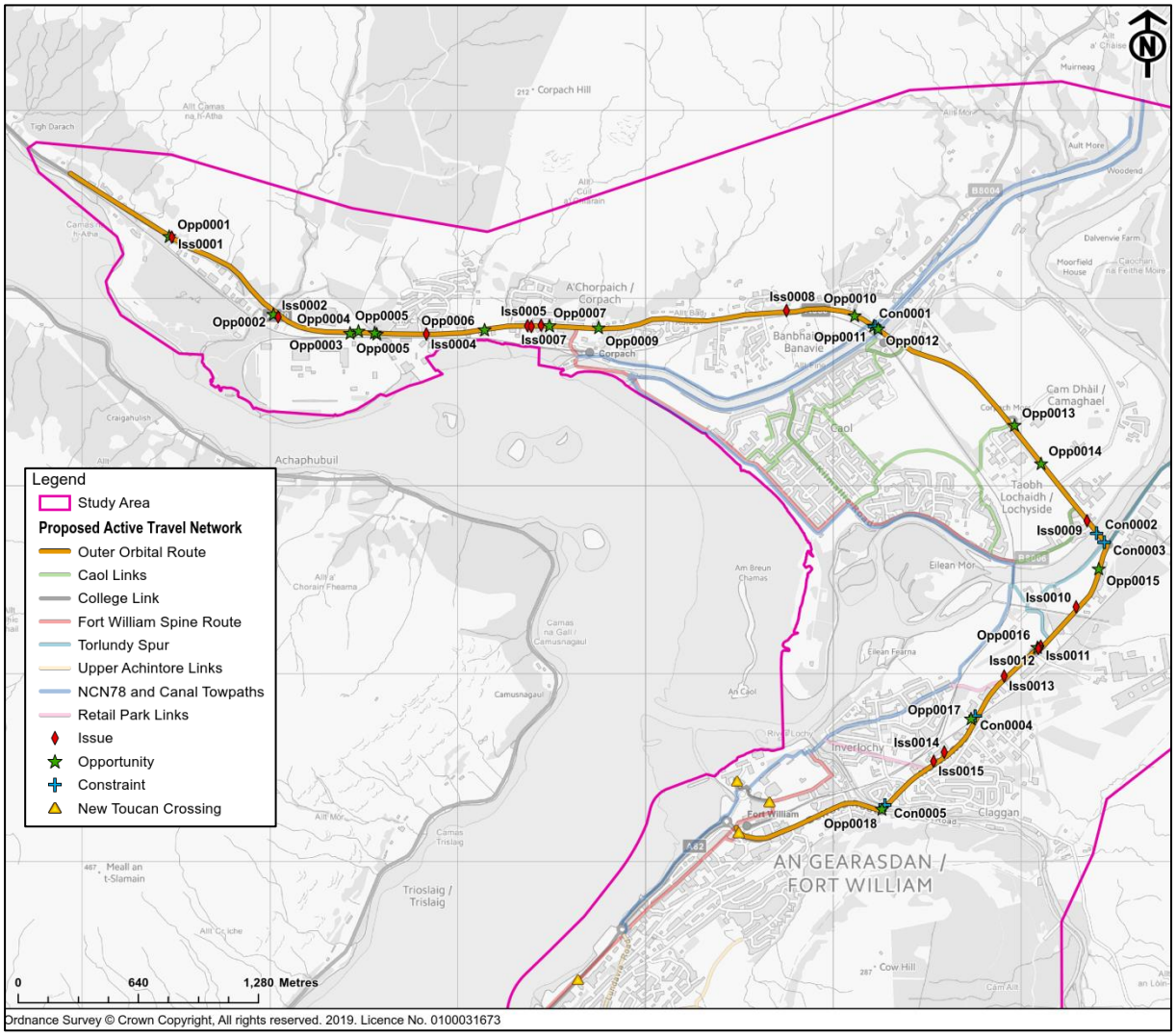
ID	Type	Name	Detail
0001	Opportunity	Opp0001	Opportunity to widen footway to west of road to create a shared use footway.
0002	Constraint	Con0001	Road is heavily trafficked, including by large vehicles.
0003	Opportunity	Opp0002	The footway on the west side is ~1.35m wide but it is narrowed by encroaching vegetation. There is a Vehicle Restraint System on the west side of the road that would have to be repositioned to accommodate the widened footway, and there is vegetation that would need to be cleared. The topography of the land is not clear. A retaining structure may be required to widen the footway. Subject to feasibility study.

ID	Type	Name	Detail
0004	Opportunity	Opp0003	Where footway on the east side terminates, a crossing could be provided to enhance pedestrian accessibility.
0005	Issue	Iss0001	There are a number of uncontrolled crossings along the length of the route at which issues were observed, including: • No tactile paving provided at the crossing point; • Dropped kerbs not being aligned; and • Dropped kerbs having a high upstand.
0006	Opportunity	Opp0004	There is currently no crossing to enable pedestrians to cross between opposing footways to access bus stops etc.
0007	Opportunity	Opp0005	Opportunity to widen path to west and to designate the path as shared use. It is currently ~1.82m wide. The bridge is a constraint, as it is ~2.1m wide and the parapets are only 1.08m high. The parapets would have to be raised to permit cycling across the bridge. It is not currently lit and is separate from the carriageway via a hedgerow. Some upgrades would thus be necessary to bring the path up to the desired standard.
0008	Issue	Iss0002	There was evidence of standing water on the path and there was a depression in the surface of the path at one point (56.8105622183505, -5.12397518179713).
0009	Issue	Iss0003	At this point the footway is extremely narrow (~0.48m), and appears to be a bridge deck. The route would either have to cross onto the opposite side or would have to ramp down and back up again. Would need to be subject to a feasibility study.
0010	Issue	Iss0004	There are some issues with the tactile paving at the controlled crossings along the route, including: • Incorrect layout of tactile paving.
0011	Opportunity	Opp0006	Opportunity to provide traffic calming measures to improve the infrastructure for cyclists. Measures could include providing raised tables at key junctions and more crossing points. Carriageway is likely too narrow to be able to accommodate segregation, parking and bus stops, and there are a number of buildings and businesses fronting onto the footways.
0012	Opportunity	Opp0007	Cyclists cannot currently turn onto High Street from Station Square / Gordon Square. Observationally, the number of vehicles is low and the risk of conflict would likely be low. Appropriate signage could be considered to ensure cyclists share the space appropriately and so that vehicles are aware that cyclists may be travelling contraflow. Furthermore, there is shared use signage along the street that indicates that cycling north-eastbound is permitted.
0013	Issue	Iss0005	At the junction of High Street and Fraser Square, the footway and carriageway are at grade, but there is nothing to inform a visually impaired user that they are about to step onto the carriageway (e.g. appropriate tactile paving).
0014	Issue	Iss0006	At the north-eastern extents of the pedestrianised area on the High Street and at Bank Street there is no tactile paving to inform a visually impaired user that they are about to step onto the carriageway.
0015	Opportunity	Opp0008	It is currently unclear as to whether cyclists are allowed to cycle contraflow on Bank Street. The section of road is signed as being one way south-westbound. There is no active travel signage to indicate where you are allowed to cycle or how you can access the station. There is an opportunity to improve this link for cycling. This could be achieved through signage and road markings, and / or relocating the taxi stance.
0016	Issue	Iss0007	The underpass is narrow, the visibility is poor, the gradients are steep (they look steeper than 1 in 20), and the width is not suitable for being determined as shared use. Cyclists are signed to dismount but were observed using the underpass. The ramps are ~2.35m wide and the underpass is ~2.3m high.
0017	Opportunity	Opp0009	There is an opportunity to provide an at-grade crossing across the dual carriageway (Belford Road) and the adjacent road (Middle Street). This was mentioned in the workshop and would provide a more direct link to the station, which would be suitable for all users. This would need to be subject to a feasibility study.
0018	Opportunity	Opp0010	There is not currently any way to transition between MacFarlane Way and the underpass beyond using the raised crossing and cycling on the

ID	Type	Name	Detail
			footway. An improved transition, such as dropped kerbs and signing and lining would benefit cyclists.
0019	Opportunity	Opp0011	MacFarlane Way is currently one-way north-eastbound and there is appropriate no entry signage. However, this is a signed route for active travel users to the Fort William Travel Centre. There is an opportunity to clarify the signage and permit contraflow cycling.
0020	Opportunity	Opp0012	Opportunity to improve cycling facilities through traffic calming measures (such as raised tables at key junctions) or through widening one or both of the footways and determining it / them as shared use. The northern footway could be potentially widened to the rear at the north, or the road width could be narrowed to 6.5m or 6m. The road is currently ~7.3m wide and the footways are ~2m wide.
0021	Issue	Iss0007	The carriageway surface is in poor condition and has been badly patched. It could do with being resurfaced.
0022	Issue	Iss0008	The carriageway surface is in poor condition and there are areas where the surface has come away. It could do with being resurfaced.
0023	Opportunity	Opp0013	Opportunity to enhance pedestrian accessibility through providing uncontrolled crossings at the junction of Wades Road, Lochiel Road and Montrose Avenue.
0024	Opportunity	Opp0014	There is the opportunity to enhance the pedestrian environment and prioritise active travel users by tightening up the geometry at a number of junctions along the extents of the route. Some of the junctions in Inverlochy and Caol, in particular, appear to be excessively wide.
0025	Issue	Iss0009	The carriageway surface is quite uneven and is in poor condition. It could do with being resurfaced.
0026	Opportunity	Opp0015	Opportunity to improve cycling facilities through traffic calming measures (such as raised tables at key junctions or build outs at certain locations).
0027	Issue	Iss0010	At this point the concrete surfacing is quite uneven with protrusions. It would benefit from being made good.
0028	Issue	Iss0011	The ramps connecting Lochiel Road and the Black Parks appear to be relatively long and steep. It is unclear if they would meet Inclusive Mobility guidance.
0029	Issue	Iss0012	The surface is quite uneven and rough at this location. It could do with being made good.
0030	Issue	Iss0013	During the audit standing water was observed on the path. It is recommended that appropriate drainage is provided to allow water to drain from the path surface.
0031	Constraint	Con0002	The ramps to the Soldiers Bridge and the bridge itself are around ~1.35m wide. This is the signed route. A cyclist cannot comfortably pass a pedestrian.
0032	Opportunity	Opp0016	The bridge deck reduces visibility to the east. It is a difficult location to cross, which is heightened by the speed of vehicles. There is an opportunity to improve the visibility of the crossing and thus make it safer for crossing non-motorised users. Measures that could be considered include providing warning signage, providing a signalised crossing, lowering the speed limit or providing traffic calming. It is unlikely to be feasible to change the grade and relative levels of the carriageway. This should be subject to a feasibility study.
0033	Issue	Iss0014	A sign facing westbound cyclists indicates that they should use the footway, but it is not determined as shared use and there is no complementary signage to indicate this. It is unclear if the sign face should be facing eastbound cyclists.
0034	Opportunity	Opp0017	The existing footway is not wide enough to be determined as shared use and there seems to be little scope to widen it into the carriageway. Measures to support on-road cycling could be introduced, such as traffic calming, lowering the speed limit and / or removing the centre line.
0035	Opportunity	Opp0018	Opportunity to improve cycling facilities through traffic calming measures such as raised tables at key junctions or build outs.
0036	Issue	Iss0015	Vegetation reduces the effective width of the footway on the north side of the road.

ID	Type	Name	Detail
0037	Opportunity	Opp0019	Opportunity to provide a controlled or uncontrolled crossing and a better connection to / from the Great Glen Way.
0038	Issue	Iss0016	At this location the surface was observed to be quite uneven and broken up in places.
0039	Opportunity	Opp0020	Opportunity to provide an uncontrolled crossing to aid pedestrian accessibility.
0040	Opportunity	Opp0021	The off-road path is not lit and is around 1.5m wide. The space between the two fences is ~3m, meaning that there is the opportunity to widen the path. As the path is off-road and remote, an ecology study should be undertaken to determine the impact of lighting on the wildlife and environment. Sensitive options could be considered.
0041	Constraint	Con0003	The bridge is around 1.3m wide.
0042	Opportunity	Opp0022	There is a worn desire line in the embankment, between the Great Glen Way and the canal towpath. There is the opportunity to provide infrastructure to facilitate this connection.
0043	Issue	Iss0017	The ramp in this section is relatively steep and it is unclear if the gradient would meet guidance in Inclusive Mobility.
0044	Issue	Iss0018	The canal towpath is not lit and does not have a sealed surface.
0045	Constraint	Con0004	The bridge over the canal is around 1.3m wide. Cyclists are asked to dismount.
0046	Opportunity	Opp0023	Opportunity to provide a dropped crossing and tactile paving to enhance pedestrian accessibility.

Outer Orbital Route



Appendix A – Outer Orbital Route: Route Mapping

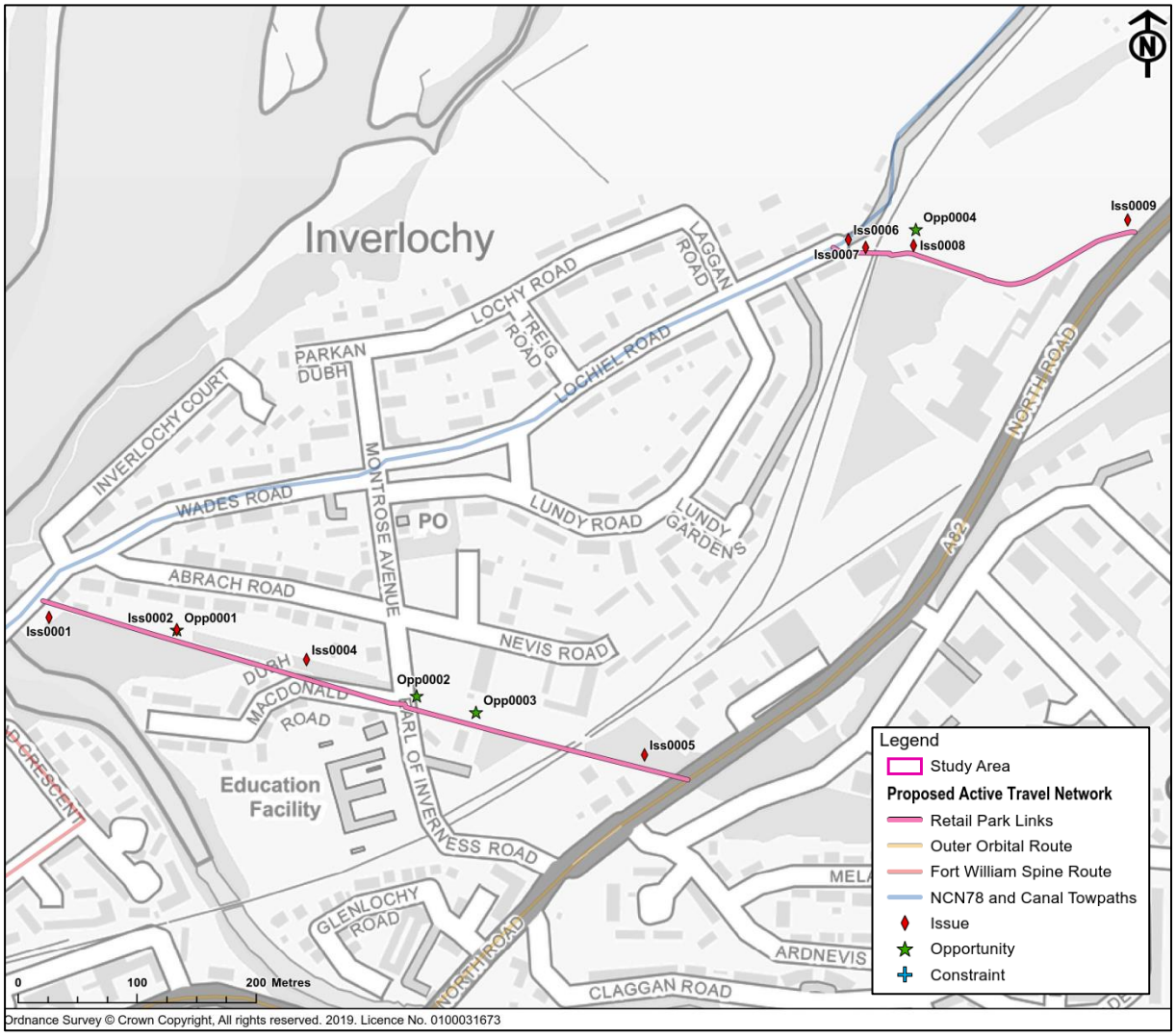
Appendix A – Outer Orbital Route: Table of Issues Opportunities and Constraints

ID	Type	Name	Detail
0001	Opportunity	Opp0001	No footways on either side of road at this point, but there is a worn path on the south side in the verge. There is an opportunity to provide a shared use footway on the south side of the road to facilitate journeys to Linnhe Holiday Park.
0002	Issue	Iss0001	This section of the road is not currently lit. If an active travel route was to be provided alongside it, lighting could be considered.
0003	Opportunity	Opp0002	The footway on the south side of the road is ~1.5m wide, but there is scope to widen this at specific locations.
0004	Issue	Iss0002	At this location the carriageway is in poor condition and there are big potholes. It could do with being resurfaced.
0005	Opportunity	Opp0003	At this location there is the opportunity to provide a dropped crossing and tactile paving to aid pedestrian accessibility.
0006	Opportunity	Opp0004	At this location there is the opportunity to provide a dropped crossing and tactile paving to aid pedestrian accessibility.
0007	Opportunity	Opp0005	At this location there is the opportunity to provide a dropped crossing and tactile paving to aid pedestrian accessibility.
0008	Opportunity	Opp0005	At this location there is the opportunity to provide an improved crossing for people wanting to access the paths and nature trails to the north of the road.

ID	Type	Name	Detail
0009	Issue	Iss0003	There are a number of uncontrolled crossings along the length of the route at which issues were observed, including: • No tactile paving provided at crossing points; • Dropped kerbs not being aligned; • Dropped kerbs having inappropriate upstands; and • Tactile paving not extending across the full width of the dropped kerbs.
0010	Issue	Iss0004	During the site investigation there were vehicles parked on the footway at this location.
0011	Opportunity	Opp0006	During the site investigation cyclists were observed cycling on the footways along this stretch of road, although they are not determined as shared use. There is the opportunity to redetermine one or both of them, and provide localised widening, to provide an off-road cycle route.
0012	Issue	Iss0005	Evidence of standing water at interface of carriageway and footway
0013	Issue	Iss0006	Vegetation encroaching onto the footway at this point reduces its effective width.
0014	Issue	Iss0007	At this location the surface is very rough and uneven and would benefit from being resurfaced.
0015	Opportunity	Opp0007	At this location there is no footway. To the rear of the highway there is The Corpach Hotel car park, and there is an access at this location that is gated and was closed. There is an opportunity to continue the footway at this location, which would eliminate or reduce the need for pedestrians to walk on the carriageway. This is particularly pertinent for users with visual impairments, who may be unable to tell where they are walking.
0016	Opportunity	Opp0008	There is the opportunity to enhance the pedestrian environment and prioritise active travel users by tightening up the geometry at a number of junctions along the extents of the route. Some of the junctions in Corpach and Inverlochy, in particular, appear to be excessively wide.
0017	Opportunity	Opp0009	The footways on both sides of the road are ~1.75m wide and the verges are ~1.9m. There is scope to narrow the verges, widen the footway and determine the footways as shared use.
0018	Issue	Iss0008	The surface of the footway on south side of the road at this point is very rough and there are loose stones. It would benefit from having a sealed surface.
0019	Opportunity	Opp0010	Along this stretch of the road there is scope to narrow the verges, widen the footway and determine the footways as shared use.
0020	Opportunity	Opp0011	At this location the canal towpaths are on either side of the road and Neptune's Staircase is to the north. There is an opportunity to provide a crossing to enhance active travel accessibility. There is also the possibility of providing placemaking measures to enhance this area.
0021	Constraint	Con0001	At the bridge over the Caledonian Canal the footways are ~1m wide and the parapets are ~1.17m high.
0022	Opportunity	Opp0012	At this location the canal towpaths are on either side of the road and Neptune's Staircase is to the north. There is an opportunity to provide a crossing to enhance active travel accessibility. There is also the possibility of providing placemaking measures to enhance this area.
0023	Opportunity	Opp0013	Opportunity to enhance pedestrian accessibility through providing a crossing across the south-eastern arm of the roundabout.
0024	Opportunity	Opp0014	Along this stretch of the road there is scope to narrow the verges, widen the footway and determine the footways as shared use.
0025	Issue	Iss0009	The surface of both footways is uneven at this location and would benefit from being resurfaced.
0026	Constraint	Con0002	The width of the southern footway at the bridge over the River Lochy is ~1.55m.
0027	Constraint	Con0003	The width between the guardrail and the VRS on the southern footway is ~1.15m.
0028	Opportunity	Opp0015	Opportunity to enhance pedestrian accessibility by providing a crossing across the junction of the A82 and Glenmhor Terrace.
0029	Issue	Iss0010	The surface of the western footway is uneven at this location and would benefit from being resurfaced.

ID	Type	Name	Detail
0030	Issue	Iss0011	The road markings indicate that cyclists should transition onto the footway, but there are no dropped kerbs to allow them to do so. It's assumed that cyclists should transition onto the footway at the uncontrolled crossing point downstream. However, this could cause conflicts with pedestrians waiting to cross.
0031	Opportunity	Opp0016	During the site investigation it was observed that the north-east arm of the roundabout is incredibly difficult to cross at peak times. I had to rely on drivers / riders waving me across. There is an opportunity to provide a controlled crossing to benefit crossing active travel users.
0032	Issue	Iss0012	At this location there is a 'Cyclists rejoin carriageway' sign facing south-westwards. This signage is unclear and incoherent, as cyclists travelling north-eastbound would have to cross and then rejoin the carriageway when it is safe to do so. This signage should be clarified.
0033	Issue	Iss0013	The road markings indicate that cyclists should transition onto the footway, but there are no dropped kerbs to allow them to do so. It's assumed that cyclists should transition onto the footway at the controlled crossing point downstream. However, this could cause conflicts with pedestrians waiting to cross.
0034	Constraint	Con0004	The width of the western footway is ~1.5m and the width of the eastern footway is ~1.2m.
0035	Opportunity	Opp0017	During the site investigation it was observed that there appears to be a disused bridge to the north-west of the road bridge. Could this become a cycling / walking bridge?
0036	Issue	Iss0014	During the site investigation it was observed that the ramp down to the retail park could benefit from having a handrail. The slope to the car park is quite steep, and people could sustain personal injuries if they were to fall down it.
0037	Issue	Iss0015	The surface of the footway at this point is uneven at this location and would benefit from being resurfaced.
0038	Constraint	Con0005	The footways on the bridge over the River Nevis are ~1.4m wide.
0039	Opportunity	Opp0018	Opportunity to enhance pedestrian accessibility by providing a crossing across the northern arm of the North Road / Glen Nevis / Belford Road junction.

Retail Park Links



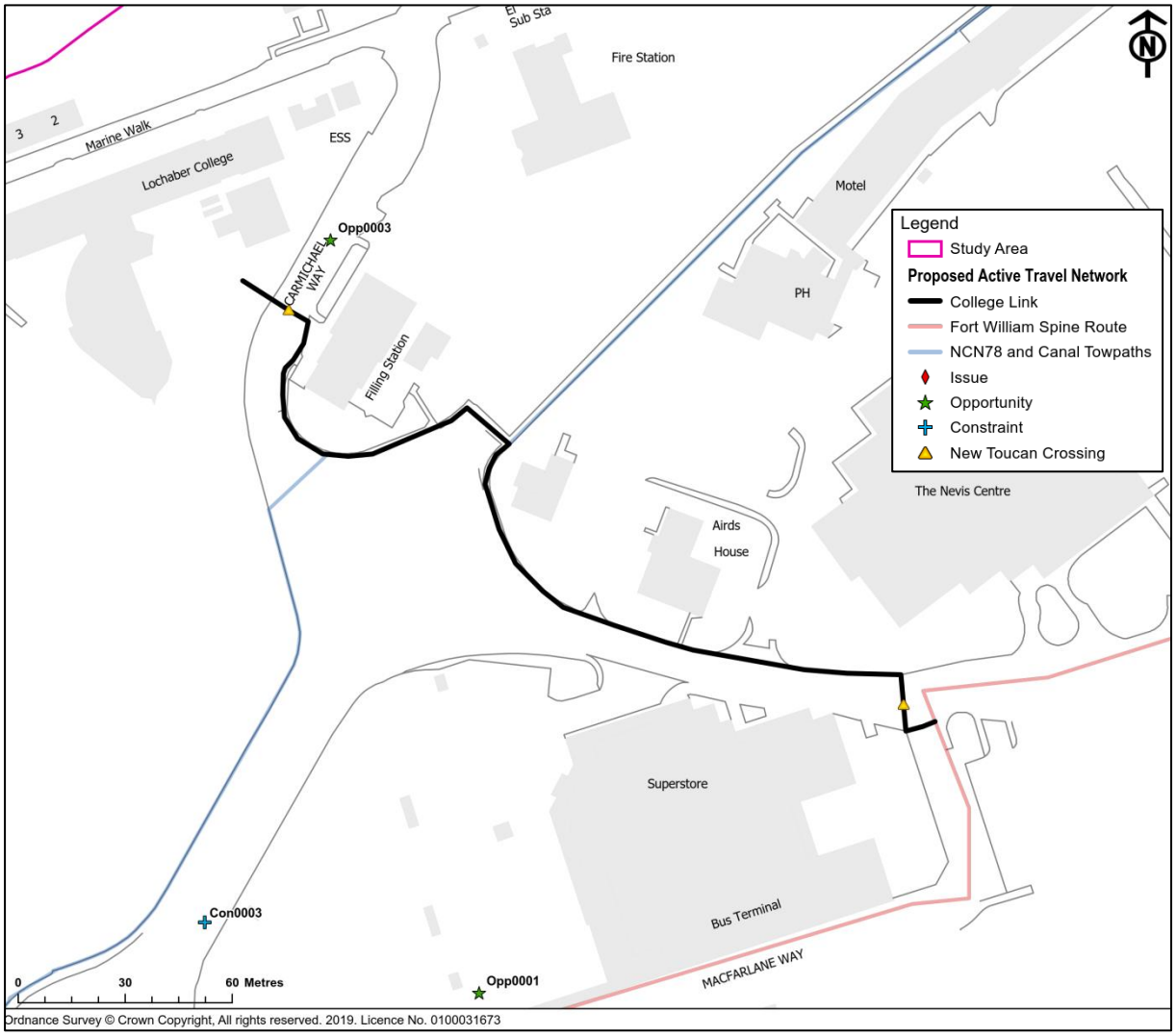
Appendix A – Retail Park Links: Route Mapping

Appendix A – Retail Park Links: Table of Issues Opportunities and Constraints

ID	Type	Name	Detail
0001	Issue	Iss0001	The path is not surfaced.
0002	Opportunity	Opp0001	Opportunity to widen the path. Existing width varies between 1.5 and 1.8 metres.
0003	Issue	Iss0002	The edging was observed to be protruding from the path and could act as a trip hazard.
0004	Issue	Iss0003	The existing worn path is not lit.
0005	Issue	Iss0004	The gradient linking the path and Dubh MacDonald Road appears to be steep and it is considered unlikely that it would meet the requirements of Inclusive Mobility.
0006	Opportunity	Opp0002	Opportunity to extend path across Montrose Avenue / Earl of Inverness Road through provision of a bridge.
0007	Opportunity	Opp0003	There is the opportunity to provide a link between Montrose Avenue / Earl of Inverness Road, but this area is currently very overgrown.
0008	Issue	Iss0005	During the site investigation it was observed that the construction of the fast food restaurant has terminated the link to the bridge over the railway line and eastwards towards Montrose Avenue / Earl of Inverness Road
0009	Issue	Iss0006	Existing set of steps connect Lochiel Road and the footbridge over the railway line.

ID	Type	Name	Detail
0010	Issue	Iss0007	The existing footbridge over the railway line looks old and requires cyclists to dismount.
0011	Issue	Iss0008	The path is not surfaced.
0012	Opportunity	Opp0004	The path is approx. 0.7 metres wide. There is an opportunity to widen it to make it suitable to be determined as shared use.
0013	Issue	Iss0009	There is an existing gate where the path meets the western footway of the A82. It is unclear what purpose the gate serves.

College Links



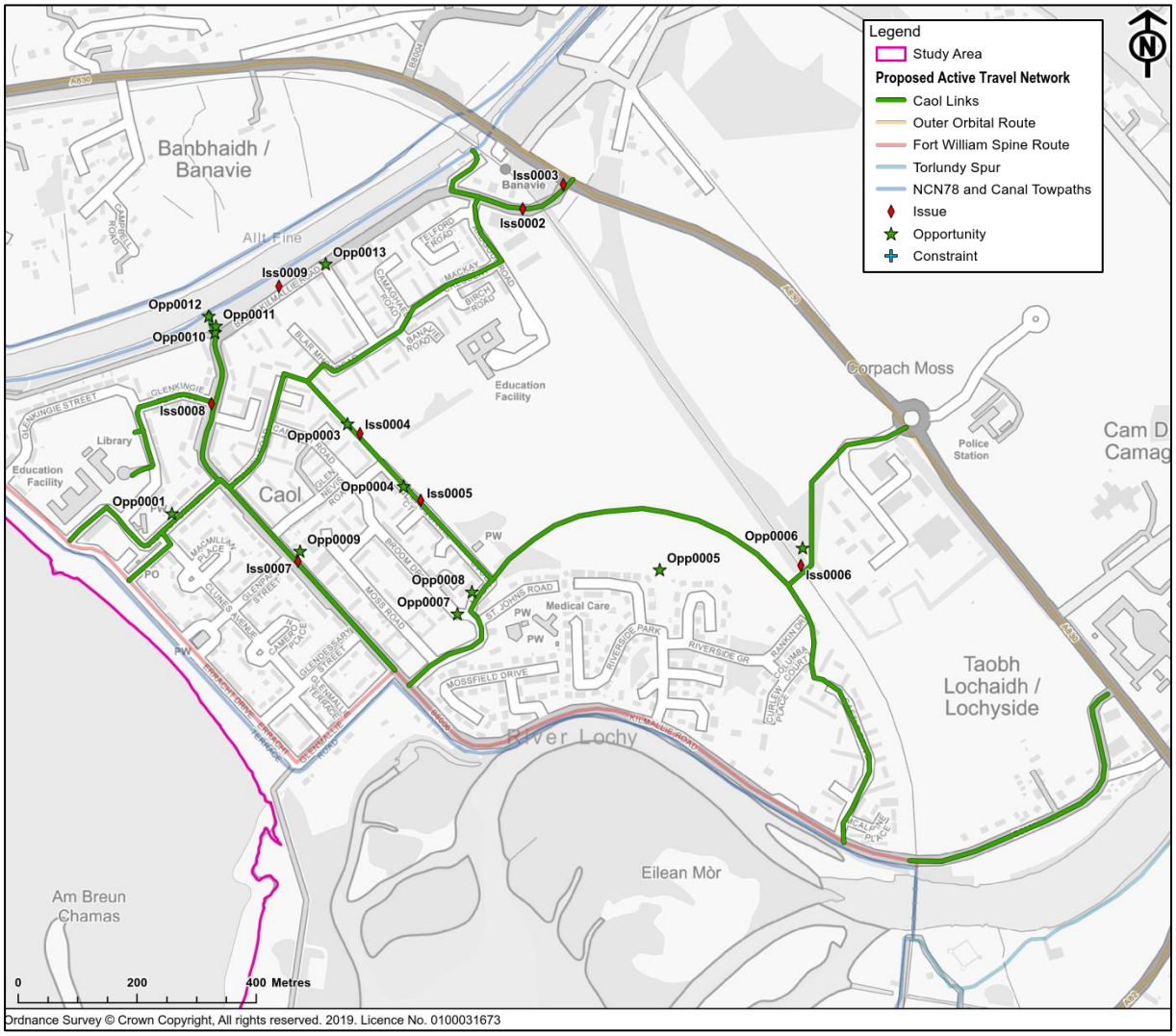
Appendix A – College Links: Route Mapping

Appendix A – College Links: Table of Issues Opportunities and Constraints

ID	Type	Name	Detail
0001	Constraint	Con0001	The supermarket car park is presumably privately-owned. It's likely to be busy with a number of vehicle movements, and in its current form it would likely represent a significant barrier to cyclists.
0002	Constraint	Con0002	There is no currently no footway on the north side of MacFarlane Way to the west of the existing raised table.
0003	Constraint	Con0003	There is no currently no footway on the south-east side of the road connecting the An Aird Roundabout and the A82 Belford Road roundabout.
0004	Issue	Iss0001	There are a number of uncontrolled and controlled crossings along the length of the route at which issues were observed, including: • No tactile paving provided at crossing points; • Dropped kerbs does not align; • Tactile paving does not align; • Tactile paving is not correct.
0005	Opportunity	Opp0001	MacFarlane Way is currently one-way north-eastbound and there is appropriate no entry signage. However, this is a signed route for active travel users to the Fort William Travel Centre. There is an opportunity to clarify the signage and permit contraflow cycling.
0006	Opportunity	Opp0002	There is the opportunity to enhance the pedestrian environment and prioritise active travel users by tightening up the geometry at a number of junctions along the extents of the route.

0007	Opportunity	Opp0003	There is the opportunity to enhance pedestrian accessibility through providing an uncontrolled crossing across the accesses to West Highland College, the petrol station entrance, and the T-junction at the northern extents of Carmichael Way.

Caol Links



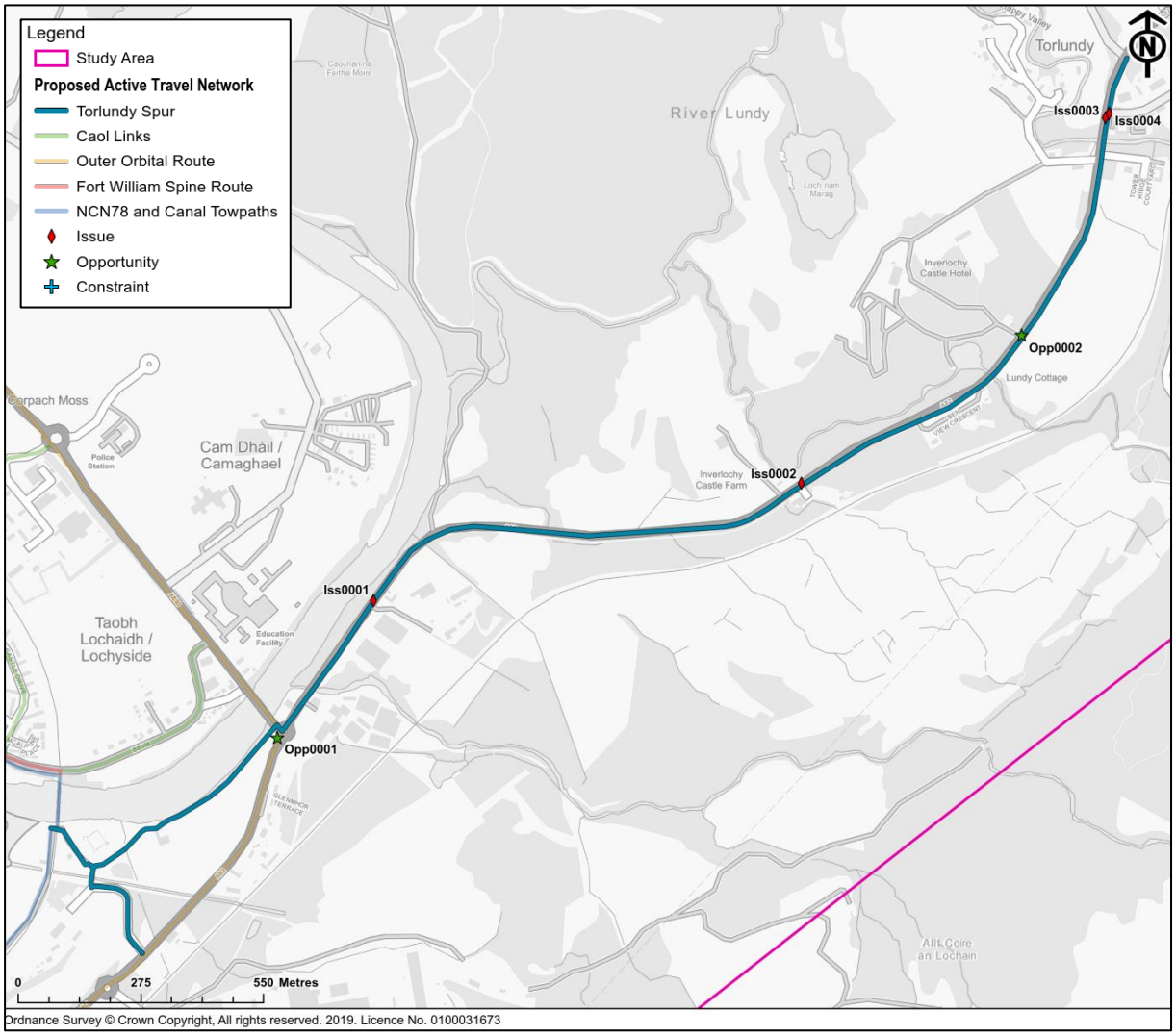
Appendix A – Caol Links: Route Mapping

Appendix A – Caol Links: Table of Issues Opportunities and Constraints

ID	Type	Name	Detail
0001	Opportunity	Opp0001	Opportunity to improve cycling facilities through traffic calming measures (such as raised tables at key junctions or build outs).
0002	Issue	Iss0001	There are a number of uncontrolled crossings along the length of the route at which issues were observed, including: • No tactile paving provided at crossing points; • Dropped kerbs does not align; • Tactile paving does not align.
0003	Opportunity	Opp0002	There is the opportunity to enhance the pedestrian environment and prioritise active travel users by tightening up the geometry at a number of junctions along the extents of the route. Some of the junctions appear to be excessively wide.
0004	Issue	Iss0002	Vegetation encroaching onto the footway and could obscure visibility to signs, etc.
0005	Issue	Iss0003	On-site, it is unclear the extents of the shared use footways. Signage is fairly limited and there is no corduroy paving.
0006	Issue	Iss0004	Vegetation has encroached onto the path, particularly around the chicane barrier.
0007	Opportunity	Opp0003	This path is not currently signed as being shared use, and there is the opportunity to provide signage and / or road markings to clarify this. There is also the opportunity to widen the path into the grassed area.

ID	Type	Name	Detail
0008	Opportunity	Opp0004	Opportunity to provide cycle-friendly access controls, to replace the existing chicane barriers.
0009	Issue	Iss0005	Standing water was observed on the carriageway. During periods of cold / freezing weather this could freeze and pose a slipping / skidding hazard.
0010	Opportunity	Opp0005	There is an opportunity for a link to be provided through this land, particularly if it is to be part of a development. During the site investigation a number of existing issues were observed along the alignment of the existing worn path. These included: • There are a number of obstacles along the path, including a utility chamber in a large concrete structure; concrete structures on the ground; and other objects protruding from the surface; • The path is unlit; • At points there is limited forward visibility; • The path is not surfaced; and • The path is very muddy, there are areas of standing water, and there is no drainage provision.
0011	Issue	Iss0006	The underpass under the railway line is very low (~1.6m vertical clearance) and is ~2.4m wide.
0012	Opportunity	Opp0006	There is an opportunity for a link to be provided to Blar Mhor Industrial Estate and to the A830. However, during the site investigation a number of existing issues were observed in this area, including: • There are a number of tree roots; • The path is not surfaced; and • The path is not lit.
0013	Opportunity	Opp0007	Opportunity to enhance pedestrian accessibility through providing an uncontrolled crossing across Broom Drive to allow pedestrians to travel to / from Moor Road and completing the footpath on the south side.
0014	Opportunity	Opp0008	Opportunity to enhance pedestrian accessibility through providing continuous footways on Moor Road.
0015	Issue	Iss0007	There is no tactile paving at the Zebra crossing.
0016	Opportunity	Opp0009	There is currently no cycle parking at the local centre in Caol. There is an opportunity to provide this and potentially encourage more people to travel by bike.
0017	Issue	Iss0008	There is currently no crossing point for pedestrians to cross to the bus stop between the B8006 and the parallel road to the west. This could make it difficult to access for people with visual or mobility impairments.
0018	Opportunity	Opp0010	Opportunity to enhance pedestrian accessibility through providing a crossing to link the path ramp to NCN78 and Kilmallie Road. This would need to be sited carefully as it is on / close to the bend.
0019	Opportunity	Opp0011	Opportunity to provide a footway or shared use footway on the north-west side of the road. There is not currently a footway, but there is a wide verge that has a worn desire line along it.
0020	Opportunity	Opp0012	Existing link to NCN78 is not signed and is not surfaced. There is an opportunity to provide appropriate signage and to suitably upgrade it.
0021	Opportunity	Opp0013	There are various desire lines work into the verge and embankment between Kilmallie Road and NCN78. Opportunity to formalise one or more links.
0022	Issue	Iss0009	There is currently no crossing point for pedestrians to cross to the bus stop on the west side of the road and the footway on the east. This could make it difficult to access for people with visual or mobility impairments.

Torlundy Spur

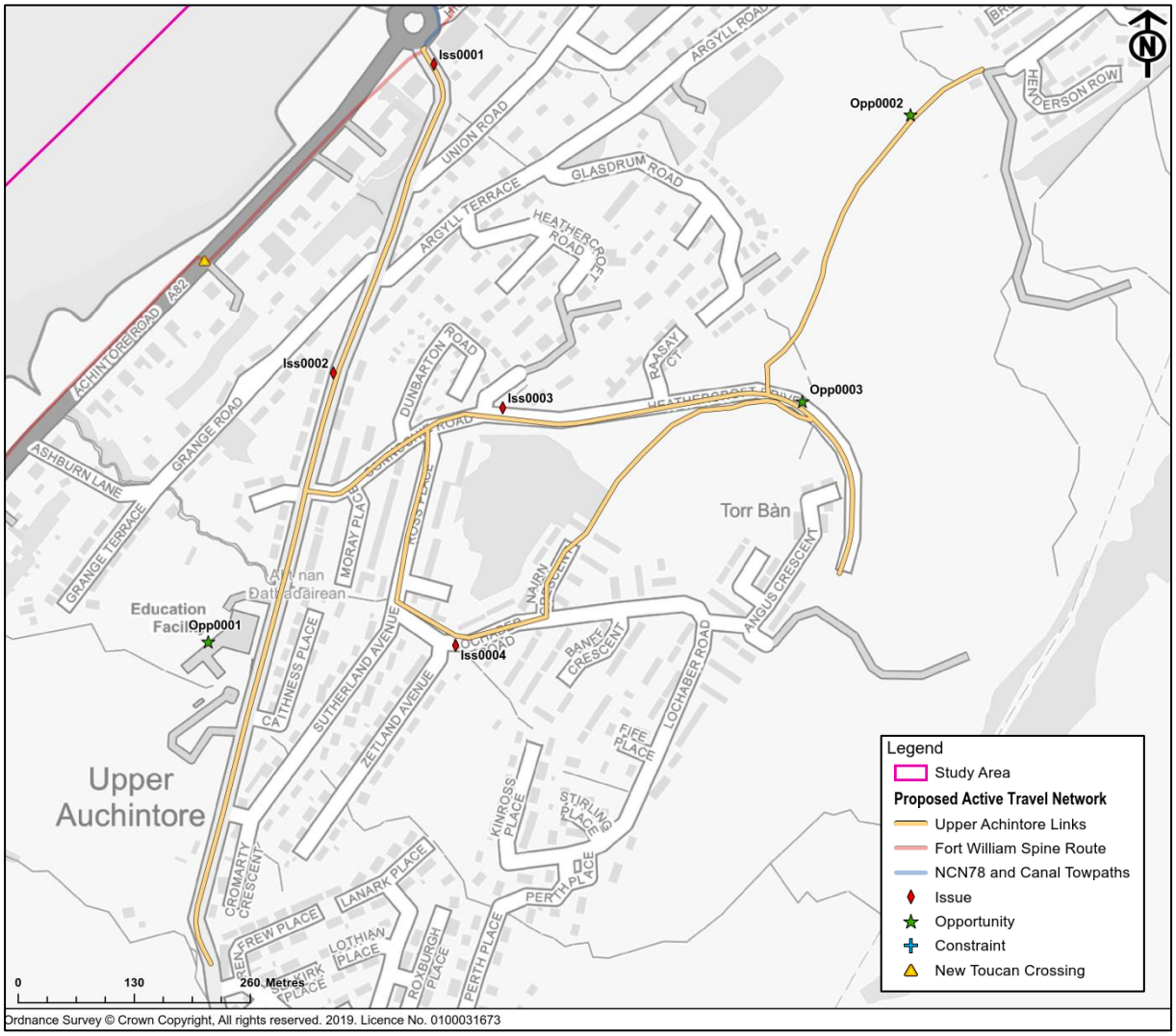


Appendix A – Torlundy Spur: Route Mapping

Appendix A – Torlundy Spur: Table of Issues Opportunities and Constraints

ID	Type	Name	Detail
0001	Opportunity	Opp0001	Opportunity to improve connection of the off-road shared use path at the junction, foliage obstructs view and path ends at guard rail abruptly.
0002	Issue	Iss0001	Improve junction at Carr's Corner Industrial estate with better road markings or other features to alert vehicles to presence of cycle and pedestrian traffic.
0003	Issue	Iss0002	Improve junction at Fort William Golf Club with better road markings or other features to alert vehicles to presence of cycle and pedestrian traffic.
0004	Opportunity	Opp0002	Improve active travel access to Inverlochy Castle tourist site. Currently no junction or crossing facilities / adequate signage.
0005	Issue	Iss0003	Path is unmaintained and vegetation encroaches on path.
0006	Issue	Iss0004	Route is lacking in onward signage and connectivity.

Upper Achintore Links



Appendix A – Upper Achintore Links: Route Mapping

Appendix A – Upper Achintore Links: Table of Issues Opportunities and Constraints

ID	Type	Name	Detail
0001	Issue	Iss0001	Gradients may be prohibitive to active travel use, especially for users with special needs such as children, the elderly or those with disabilities.
0002	Issue	Iss0001	Road environment is constrained in places with residential frontages, and relatively steep inclines along verges of routes.
0003	Opportunity	Opp0001	Potential to provide better links to Lundrava and Upper Achintore Primary Schools
0004	Issue	Iss0001	Shared use path on Heathercroft drive does not continue into Connochie Road. Opportunity to complete high quality shared use path along length of route which will help connect users to potential subsequent developments on eastern edge of Upper Achintore.
0005	Opportunity	Opp0001	Opportunity to upgrade Plantation Path to create a loop connecting Upper Achintore. Could include better onward signage, surfacing (and widening), and lighting provision. Would help connect with community facilities of Pine Grove Park and the children's play park at the north end of the path.
0006	Opportunity	Opp0001	Opportunity to upgrade path between Heathercroft Drive and Nairn Crescent - will provide connectivity to Upper Achintore Primary from the north when combined with upgrades to Plantation Path.
0007	Issue	Iss0001	Better signage, connectivity and surfacing required from Nairn Crescent to Upper Achintore Primary School Access.

Appendix B Cost Estimates

The following assumptions have been made in preparing this Order of Cost Estimate:-

Construction costs represent 2019 levels on a fixed price basis

A traditional single stage procurement strategy has been assumed, the following allowances have been made for on-costs:-

- Optimism Bias 44.0% for Civils Works; 66% for Structures;
- Professional Fees Excluded; and
- Design, Reserve and Construction Contingencies Excluded.

Costs have been based upon utilising rates from recent benchmark data/similar projects with due allowance for assumed specification and scope of works

All materials associated with cycling infrastucture and quiet road treatments are standard (DMB surfacing; pre-cast concrete kerbing), unless otherwise noted.

No allowance is currently included to cover phasing of the works and any associated temporary works that may be necessary on the basis that the works are carried out in one continuous sequence.

Optimism bias (OB) of 44% has been applied to the total costs in accordance with The Scottish Transport Appraisal Guidance (STAG) Technical Database, Table 13.4 Stage 1 Scheme Development.

Exclusions

1) Site acquisition fees/costs and other third party compensation settlements
2) Client finance costs
3) Legal advice and associated fees
4) Sustainable construction strategies (wind turbines, boreholes, photovoltaic cells, ground source cooling/heating and the like)
5) Local and statutory authority fees / charges
6) Value Added Tax (VAT)
7) Project contingency
8) Utilities connections and diversions etc
9) Infrastructure alterations / improvements outwith the proposals
10) Abnormal ground conditions / remediation measures (including consequential costs arising)
11) Inflation
12) Public artwork and sculptures
14) Road Closures

TfGM Cycling Design Standard (2014); Appendix C: Construction Cost Estimates [rates]

Type of Intervention	Extent of assumed carriageway width alterations *1 (m)	Extent of assumed footway width alterations *1 (m)	Work Zone Length (m)	Typical cost LOW (Top end) (limited civil works) *3	Typical cost LOW (Top end) per m	Typical cost LOW (Lower end) (limited civil works) *3	Typical cost HIGH (Top end) (full civil works) *2	Typical cost HIGH (Top end) per m	Typical cost HIGH (Lower end) (full civil works) *2	Typical cost HIGH (Lower end) per m
One-way Cycle Track	1	n/a	1000	£580,000.00	£580.00	£420,000.00	£1,300,000.00	£1,300.00	£960,000.00	£960.00
Two-way Cycle Track	0.5	n/a	1000	£400,000.00	£400.00	£300,000.00	£1,200,000.00	£1,200.00	£880,000.00	£880.00
Shared Foot/Cycleway – Segregated	n/a	2	1000	£250,000.00	£250.00	£190,000.00	£1,200,000.00	£1,200.00	£900,000.00	£900.00
Shared Foot/Cycleway – Unsegregated	n/a	1	1000	£150,000.00	£150.00	£105,000.00	£690,000.00	£690.00	£500,000.00	£500.00

Notes:
1. Total carriageway and/or footway alteration across full cross section
2. The 'high' cost estimate range is based on maximum civil engineering intervention with associate changes to kerb lines drainage, pavements, footways and street lighting.
3. The 'low' cost estimate range is based on minimal civil engineering intervention assuming the design standard has been adopted because it is the best fit to the existing highway cross section and highway space allocation.
4. Assumes provision of stated cycle facility on both sides of the carriageway.
5. Assumes provision of stated cycle facility on one side of the carriageway only.

Assumptions from TfGM related to Fort William proposed Infrastucture

Type of Intervention	TfGM Assumption	Low Rate per m	Median Rate per m	High Rate per m
3m wide two way segregated cycle facility	Two-way Cycle Track; Low-end Low rate; Top end of High rate	£350.00	£775.00	£1,200.00
2.5m wide two way segregated cycle facility	Two-way Cycle Track; Low-end Low rate; Top end Difference between 2m and 3m	£350.00	£695.00	£1,040.00
2m wide two way segregated cycle facility	Two-way Cycle Track; Low-end Low rate; Lower end of High rate	£350.00	£615.00	£880.00
2.5m wide resurfacing / widening of existing footway (one side) within carriageway / verge and redetermination to shared use	Shared Foot/Cycleway – Unsegregated; Top end of High & Low rates. Note these rates cover both sides of carriageway, therefore divided by 2.	£75.00	£210.00	£345.00

Spon's 2019 Civil Engineering and Highway Works Price Book

Item	Unit	Rate (Low)	Rate (High)	Source	Notes
Structural steel bridge with concrete foundations (20m span)	m^2	£ 2,600.00	£ 4,000.00	Spon's 2019, p.150	Assumed 20m span is appropriate

Rates from recent benchmark data/similar projects

Item	Unit	Rate	Detail	Unit	Rate	Notes
New footpath construction; assuming 4m wide	m	£ 306.64	Excavate landscape to suitable depth for cycle path	m2	£ 15.00	
			New cycle path construction; assumed 40mm thick red chip coated macadam surface; on 50mm thick dense macadam binder; on 150mm thick Type 1 fill	m2	£ 45.00	
			Street Lighting - Estimate from LA @ £2000/column. Assumed spacing @ 30m for 4m wide footpath (2000/30/4=16.66).	m2	£ 16.66	
New footpath construction; assuming 2m wide	m	£ 153.32	Excavate landscape to suitable depth for cycle path	m2	£ 15.00	
			New cycle path construction; assumed 40mm thick red chip coated macadam surface; on 50mm thick dense macadam binder; on 150mm thick Type 1 fill	m2	£ 45.00	
			Street Lighting - Estimate from LA @ £2000/column. Assumed spacing @ 30m for 4m wide footpath (2000/30/4=16.66).	m2	£ 16.66	
New footpath construction; assuming 2.5m wide	m	£ 191.65	Excavate landscape to suitable depth for cycle path	m2	£ 15.00	
			New cycle path construction; assumed 40mm thick red chip coated macadam surface; on 50mm thick dense macadam binder; on 150mm thick Type 1 fill	m2	£ 45.00	
			Street Lighting - Estimate from LA @ £2000/column. Assumed spacing @ 30m for 4m wide footpath (2000/30/4=16.66).	m2	£ 16.66	
On-road quiet route treatment: Low Cost	m	£ 10.00	Basic signage and road markings	m	£ 10.00	
On-road quiet route treatment: High Cost	m	£ 100.00	Signage, road markings and allowance for road surface patching repairs and local improvements.	m	£ 100.00	
5m wide Rural Road construction	m	£ 431.60	Type 1 @ 275mm deep	m2	£ 14.08	CEC Framework Rate
			DBM Base Course	m2	£ 32.30	CEC Framework Rate
			DBM Binder Course	m2	£ 25.84	CEC Framework Rate
			DBM Surface Course	m2	£ 14.10	CEC Framework Rate
Signalised Junction	No.	£ 430,000.00	Edinburgh Council Dalmahoy Junction upgrade cost (2015)	no.	£ 430,000.00	
Raised Tables / Chicanes: Med Cost	No.	£ 8,500.00	Forming raised tables (Area 170m2) asphalt surfacing	no.	£ 8,500.00	
Raised Tables / Chicanes: High Cost	No.	£ 8,500.00	Forming raised tables (Area 170m2) high quality surfacing and planting (150/m2 surfacing & £50/m2 planting)	no.	£ 34,000.00	
Toucan crossing	No.	£ 62,000.00	Rate from similar project	no.	£ 62,000.00	
Staggered Toucan crossing	No.	£ 93,000.00	Rate from similar project	no.	£ 93,000.00	
Street lighting improvements	m	£ 66.67	Assumed rate based on advice from liaison with a LA Street Lighting team on a similar project (£2000 a lighting column at	m	£ 66.67	

FORT WILLIAM SPINE ROUTE

Route	Section	Level of Intervention	Extents (m)	Description	Quantity	Unit	Typical Cost Low	Typical Cost Median	Typical Cost High	Total Cost Low	Total Cost Median	Total Cost High	Assumptions
Fort William Spine Route	South-western extents to West End Roundabout	Shared use footway (one side)	925	Assumed widening of 1m into verge	925	m	£ 75.00	£ 210.00	£ 345.00	£ 69,375.00	£ 194,250.00	£ 319,125.00	Assumed widening of 1m into verge. Rate taken from TfGM. Rates cover both sides of carriageway, therefore divided by 2.
	A82 Belford Road	New crossing	-	Toucan crossing	1	no.	£ 62,000.00	£ 62,000.00	£ 62,000.00	£ 62,000.00	£ 62,000.00	£ 62,000.00	Rate from similar project.
	West End Roundabout to High Street	Quiet streets	150	On-road treatments	150	m	£ 10.00	£ 55.00	£ 100.00	£ 1,500.00	£ 8,250.00	£ 15,000.00	Rates from similar project.
	High Street to MacFarlane Way	Quiet streets (with contraflow where applicable)	740	On-road treatments	740	m	£ 10.00	£ 55.00	£ 100.00	£ 7,400.00	£ 40,700.00	£ 74,000.00	Rates from similar project.
	A82 Belford Road	New crossing	-	Staggered Toucan crossing	1	no.	£ 93,000.00	£ 93,000.00	£ 93,000.00	£ 93,000.00	£ 93,000.00	£ 93,000.00	Rate from similar project.
	A82 Belford Road	Tie in points to new crossing	60	Assumed new footway construction (2.5m wide)	60	m	£ 191.65	£ 191.65	£ 191.65	£ 11,499.00	£ 11,499.00	£ 11,499.00	Built up rate from similar project. Includes excavation, construction and street lighting.
	MacFarlane Way	Quiet streets (with contraflow)	215	On-road treatments	215	m	£ 10.00	£ 55.00	£ 100.00	£ 2,150.00	£ 11,825.00	£ 21,500.00	Rates from similar project.
	Carmanachd Crescent western section)	Shared use footway (one side)	260	Assumed widening of 1m into carriageway	260	m	£ 75.00	£ 210.00	£ 345.00	£ 19,500.00	£ 54,600.00	£ 89,700.00	Assumed widening of 1m into carriageway. Rate taken from TfGM. Rates cover both sides of carriageway, therefore divided by 2.
	Carmanachd Crescent (eastern / northern section)	Quiet streets	290	On-road treatments	290	m	£ 10.00	£ 55.00	£ 100.00	£ 2,900.00	£ 15,950.00	£ 29,000.00	Rates from similar project.
	Carmanachd Crescent (eastern / northern section)	Raised table	290	Raised tables at key junctions	1	no.	£ 8,500.00	£ 8,500.00	£ 8,500.00	£ 8,500.00	£ 8,500.00	£ 8,500.00	Assumed asphalt surfacing. Rate from similar project.
	Inverlochy	Quiet streets	835	On-road treatments	835	m	£ 10.00	£ 55.00	£ 100.00	£ 8,350.00	£ 45,925.00	£ 83,500.00	Rates from similar project.
	Inverlochy	Raised tables	835	Raised tables at key junctions	4	no.	£ 8,500.00	£ 8,500.00	£ 8,500.00	£ 34,000.00	£ 34,000.00	£ 34,000.00	Assumed asphalt surfacing. Rate from similar project.
	Black Parks	Shared path / road[1]	640	General streets works (includes 20% risk allowance)						£ 80,000.00	£ 80,000.00	£ 80,000.00	
	Black Parks	Shared path / road[1]	640	Lighting						£ 50,000.00	£ 50,000.00	£ 50,000.00	
	The Soldiers Bridge	Existing	210	Lighting	210	m	£ 66.67	£ 66.67	£ 66.67	£ 14,000.70	£ 14,000.70	£ 14,000.70	
	The Soldiers Bridge	New bridge[2]	-	New bridge with an assumed 115m span and an assumed width of 3m (345sqm). Rates taken from Spon's 2019 (structural steel bridge with 20m span between piers / abutments)	345	m^2	£ 2,600.00	£ 3,300.00	£ 4,000.00	-	-	-	New bridge with an assumed 115m span and an assumed width of 3m (345sqm). Rates taken from Spon's 2019 (structural steel bridge with 20m span between piers / abutments)
	Kilmallie Road	Shared use footway[3]	980										
	Glenmallie Road and Erracht Drive	Shared use footway[3]	1015										
	Off-road section	Shared use path (localised widening)	595	Assumed widening of 1m in verge	595	m	£ 75.00	£ 210.00	£ 345.00	£ 44,625.00	£ 124,950.00	£ 205,275.00	Assumed widening of 1m into verge. Rate taken from TfGM. Rates cover both sides of carriageway, therefore divided by 2.
	Off-road section	Shared use path (localised widening)	595	Lighting	595	no.	£ 66.67	£ 66.67	£ 66.67	£ 39,668.65	£ 39,668.65	£ 39,668.65	Assumed rate based on advice from liaison with a LA Street Lighting team on a similar project (£2000 a lighting column at 30m spacing)
	Canal section	Existing	275	Lighting	275	no.	£ 66.67	£ 66.67	£ 66.67	£ 18,334.25	£ 18,334.25	£ 18,334.25	Assumed rate based on advice from liaison with a LA Street Lighting team on a similar project (£2000 a lighting column at 30m spacing)
	Corpach section	Quiet streets	195	On-road treatments	195	m	£ 10.00	£ 55.00	£ 100.00	£ 1,950.00	£ 10,725.00	£ 19,500.00	Rates from similar project.

Sub-Total (Without OB)	**£ 568,752.60**	**£ 918,177.60**	**£ 1,267,602.60**
Optimism Bias 44%	**£ 250,251.14**	**£ 403,998.14**	**£ 557,745.14**
New Bridge Structure (Incl. 66% OB)	**£ 1,489,020.00**	**£ 1,889,910.00**	**£ 2,290,800.00**
Total	**£ 2,308,023.74**	**£ 3,212,085.74**	**£ 4,116,147.74**

Notes

1 The costs for these item should be taken from the separate AECOM study into active travel provision in the Black Parks. The cost provided is based on communication received from the Black Parks project team on 4 September 2019

2 The cost for this item is provided above the total, as this is subject to an optimism bias of 66%

3 No costs for these items have been provided, as it is understood that they are to be delivered as part of a development / separate project

OUTER ORBITAL ROUTE

Route	Section	Level of Intervention	Extents (m)	Description	Quantity	Unit	Typical Cost Low	Typical Cost Median	Typical Cost High	Total Cost Low	Total Cost Median	Total Cost High	Assumptions
Outer Orbital Route	A82 Belford Road from Old Fort to River Nevis Bridge	Shared use footway (one side)	870	Assumed minimal widening required	870	m	£ 75.00	£ 210.00	£ 345.00	£ 65,250.00	£ 182,700.00	£ 300,150.00	Assumed minimal widening required. Rate taken from TfGM. Rates cover both sides of carriageway, therefore divided by 2.
	A82 North Road River Nevis Bridge to Fort William Retail Park	Shared use footway (one side)	1190	Assumed widening of approx. 0.25m required (to approx. 2.75m). Assumed into carriageway	1190	m	£ 75.00	£ 210.00	£ 345.00	£ 89,250.00	£ 249,900.00	£ 410,550.00	Assumed widening of <1m into carriageway required. Rate taken from TfGM. Rates cover both sides of carriageway, therefore divided by 2.
	A82 Fort William Retail Park to River Lochy Bridge	Shared use footway (one side)	710	Assumed widening of approx. 0.25m required (to approx. 2m). Assumed to rear	710	m	£ 75.00	£ 210.00	£ 345.00	£ 53,250.00	£ 149,100.00	£ 244,950.00	Assumed widening of <1m to rear. Rate taken from TfGM. Rates cover both sides of carriageway, therefore divided by 2.
	A830 River Lochy Bridge to Banavie Rail Station	Shared use footway (both sides)	3370	Assumed widening of approx. 0.5m required (to approx. 2.5m). Assumed into carriageway and verge	3370	m	£ 150.00	£ 500.00	£ 690.00	£ 505,500.00	£ 1,685,000.00	£ 2,325,300.00	Assumed widening of <1m into carriageway and verge required. Rate taken from TfGM.
	A830 West of Banavie Rail Station	Shared use footway (one side)	3505	Assumed widening of approx. 0.25m required (to approx. 2m). Assumed into carriageway and verge	3505	m	£ 75.00	£ 210.00	£ 345.00	£ 262,875.00	£ 736,050.00	£ 1,209,225.00	Assumed widening of <1m into carriageway and verge required. Rate taken from TfGM. Rates cover both sides of carriageway, therefore divided by 2.
	A830 West of Banavie Rail Station	Shared use footway (one side)	625	New footway construction (assumed 2m)	625	m	£ 153.32	£ 153.32	£ 153.32	£ 95,825.00	£ 95,825.00	£ 95,825.00	Built up rate from similar project. Includes excavation, construction and street lighting.
	Toucan crossing across northern arm of A82 / Fort William Retail Park access / Lochaber Smelter roundbaout	Toucan crossing	-	Toucan crossing	1	no.	£ 62,000.00	£ 62,000.00	£ 62,000.00	£ 62,000.00	£ 62,000.00	£ 62,000.00	Rate from similar project.
	2 no. Toucan crossings across A830, either side of swing bridge over Caledonian Canal	Toucan crossing	-	Toucan crossings	2	no.	£ 62,000.00	£ 62,000.00	£ 62,000.00	£ 124,000.00	£ 124,000.00	£ 124,000.00	Rate from similar project.
										£ -	£ -	£ -	
										£ -	£ -	£ -	

Sub-Total (Without OB)	**£ 1,257,950.00**	**£ 3,284,575.00**	**£ 4,772,000.00**
Optimism Bias 44%	**£ 553,498.00**	**£ 1,445,213.00**	**£ 2,099,680.00**
Total	**£ 1,811,448.00**	**£ 4,729,788.00**	**£ 6,871,680.00**

RETAIL PARK LINKS

Route	Section	Level of Intervention	Extents (m)	Description	Quantity	Unit	Typical Cost Low	Typical Cost Median	Typical Cost High	Total Cost Low	Total Cost Median	Total Cost High
Retail Park Links	Puggy Line: Wades Road to Montrose Avenue	Shared use path	310	Upgrade of existing informal path to a 2m wide shared use path	310	m	£ 153.32	£ 153.32	£ 153.32	£ 47,529.20	£ 47,529.20	£ 47,529.20
	Puggy Line: New bridge over Montrose Avenue[1]	New bridge	-	New bridge with an assumed 20m span and an assumed width of 2m (40sqm)	40	m^2	£ 2,600.00	£ 3,300.00	£ 4,000.00	-	-	-
	Puggy Line: Montrose Avenue to A82	Shared use path	245	New path construction (2m wide and shared use)	245	m	£ 153.32	£ 153.32	£ 153.32	£ 37,563.40	£ 37,563.40	£ 37,563.40
	Lochiel Road to A82	Shared use path	270	Upgrade of existing informal path to a 2m wide shared use path	270	m	£ 153.32	£ 153.32	£ 153.32	£ 41,396.40	£ 41,396.40	£ 41,396.40
	Lochiel Road to A82: New bridge over West Highland Line[2]	New bridge										
										£ -	£ -	£ -
										£ -	£ -	£ -

Assumptions
Built up rate from similar project. Includes excavation, construction and street lighting.
New bridge with an assumed 20m span and an assumed width of 2m (40sqm)
Built up rate from similar project. Includes excavation, construction and street lighting.
Built up rate from similar project. Includes excavation, construction and street lighting.

Sub-Total (Without OB)	**£ 126,489.00**	**£ 126,489.00**	**£ 126,489.00**
Optimism Bias 44%	**£ 55,655.16**	**£ 55,655.16**	**£ 55,655.16**
New Bridge Structure over Montrose Avenue (Incl. 66% OB)	**£ 172,640.00**	**£ 219,120.00**	**£ 265,600.00**
New Bridge Structure over West Highland Line (Incl. 66% OB)[2]	**£ 300,000.00**	**£ 400,000.00**	**£ 500,000.00**
Total	**£ 654,784.16**	**£ 801,264.16**	**£ 947,744.16**

Notes

[1] The cost for this item is provided above the total, as this is subject to an optimism bias of 66%

[2] The cost for this item should be taken from the separate AECOM study into active travel provision in the Black Parks. The cost provided is based on communication received from the Black Parks project team on 4 September 2019

COLLEGE LINK

Route	Section	Level of Intervention	Extents (m)	Description	Quantity	Unit	Typical Cost Low	Typical Cost Median	Typical Cost High	Total Cost Low	Total Cost Median	Total Cost High
College Link	Camanachd Crescent, MacFarlane Way to Carmichael Way	Shared use footway (one side)	220	Assumed widening of approx 0.75m (to 2.5m)	220	m	£ 75.00	£ 210.00	£ 345.00	£ 16,500.00	£ 46,200.00	£ 75,900.00
	Carmichael Way	Shared use footway (both sides)	60	Assumed widening of approx. 0.5m (to 2.5m) on east side and minimal widening on west side (existing shared use footway)	60	m	£ 150.00	£ 500.00	£ 690.00	£ 9,000.00	£ 30,000.00	£ 41,400.00
	Camanachd Crescent and Carmichael Way	New Toucan crossings	-	New Toucan crossings	2	no.	£ 62,000.00	£ 62,000.00	£ 62,000.00	£ 124,000.00	£ 124,000.00	£ 124,000.00
										£ -	£ -	£ -
										£ -	£ -	£ -

Assumptions
Assumed widening of <1m required. Rate taken from TfGM. Rates cover both sides of carriageway, therefore divided by 2.
Assumed widening of <1m required. Rate taken from TfGM.
Rate from similar project.

Sub-Total (Without OB)	**£ 149,500.00**	**£ 200,200.00**	**£ 241,300.00**
Optimism Bias 44%	**£ 65,780.00**	**£ 88,088.00**	**£ 106,172.00**
Total	**£ 215,280.00**	**£ 288,288.00**	**£ 347,472.00**

CAOL LINKS

Route	Section	Level of Intervention	Extents (m)	Description	Quantity	Unit	Typical Cost Low	Typical Cost Median	Typical Cost High	Total Cost Low	Total Cost Median	Total Cost High	Assumptions
Caol Links	B8006 Kilmallie Road, A830 to The Soldier's Bridge	On-road treatment	515	On-road treatment	515	m	£ 10.00	£ 55.00	£ 100.00	£ 5,150.00	£ 28,325.00	£ 51,500.00	Rates from similar project.
	B8006 Kilmallie Road, Glenmallie Road to Caledonian Canal	On-road treatment	700	On-road treatment	700	m	£ 10.00	£ 55.00	£ 100.00	£ 7,000.00	£ 38,500.00	£ 70,000.00	Rates from similar project.
	B8006 Kilmallie Road, Caledonian Canal to A830	Shared use footway (both sides)	440	Assumed widening of approx. 0.5m (to 2.5m) on both sides	440	m	£ 150.00	£ 500.00	£ 690.00	£ 66,000.00	£ 220,000.00	£ 303,600.00	Assumed widening of <1m required. Rate taken from TfGM.
	Minor streets (Glenloy Street, Glenkingie Terrace, Glenkingie Street, Torlundy Road, Blar Mhor Road, Mackay Crescent, Ardgour Road, Fern Court, Broom Drive, Moor Road, Castle Drive)	On-road treatments	2420	On-road treatments	2420	m	£ 10.00	£ 55.00	£ 100.00	£ 24,200.00	£ 133,100.00	£ 242,000.00	Rates from similar project.
	Link through development	Shared use path / footway	720	New path construction	720	m	£ 191.65	£ 191.65	£ 191.65	£ 137,988.00	£ 137,988.00	£ 137,988.00	Built up rate from similar project. Includes excavation, construction and street lighting.
	Link to Blar Mhor Retail Park	Shared use path	240	New path construction	240	m	£ 191.65	£ 191.65	£ 191.65	£ 45,996.00	£ 45,996.00	£ 45,996.00	Built up rate from similar project. Includes excavation, construction and street lighting.
	Blar Mhor Retail Park to A830	Shared use footway (one side)	125	Assumed minimal widening required	125	m	£ 75.00	£ 210.00	£ 345.00	£ 9,375.00	£ 26,250.00	£ 43,125.00	Assumed widening of <1m required. Rate taken from TfGM. Rates cover both sides of carriageway, therefore divided by 2.
	Caol	Raised tables	-	Raised tables at key junctions	5	no.	£ 8,500.00	£ 8,500.00	£ 8,500.00	£ 42,500.00	£ 42,500.00	£ 42,500.00	Assumed asphalt surfacing. Rate from similar project.
	Underpass	Allowance for upgrade of existing underpass	-	Allowance for upgrade of existing underpass	1	no.	£ 50,000.00	£ 50,000.00	£ 50,000.00	£ 50,000.00	£ 50,000.00	£ 50,000.00	Assumption
										£ 388,209.00	**£ 722,659.00**	**£ 986,709.00**	
										£ 170,811.96	**£ 317,969.96**	**£ 434,151.96**	
										£ 559,020.96	**£ 1,040,628.96**	**£ 1,420,860.96**	

Sub-Total (Without OB)
Optimism Bias 44%
Total

UPPER ACHINTORE LINKS

Route	Section	Level of Intervention	Extents (m)	Description	Quantity	Unit	Typical Cost Low	Typical Cost Median	Typical Cost High	Total Cost Low	Total Cost Median	Total Cost High	Assumptions
Upper Achintore Links	Lundrava Road from West End Roundabout to Lundrava Primary School	On-road treatments. Raised tables at key junctions	1150	On-road treatments	1150	m	£ 10.00	£ 55.00	£ 100.00	£ 11,500.00	£ 63,250.00	£ 115,000.00	Rates from similar project.
	Connochie Road / Heathercroft Drive	On-road treatments. Raised tables at key junctions	800	On-road treatments	800	m	£ 10.00	£ 55.00	£ 100.00	£ 8,000.00	£ 44,000.00	£ 80,000.00	Rates from similar project.
	Plantation Path (via Pine Grove Park) from Kennedy Road to Nairn Crescent via Heathercroft Drive	Shared use path	750	Assumed widening of approx. 0.5m into vegetation	750	m	£ 75.00	£ 210.00	£ 345.00	£ 56,250.00	£ 157,500.00	£ 258,750.00	Assumed widening of <1m into vegetation required. Rate taken from TfGM. Rates cover both sides of carriageway, therefore divided by 2.
	Ross Place / Lochaber Road	On-road treatments. Raised tables at key junctions	660	On-road treatments	660	m	£ 10.00	£ 55.00	£ 100.00	£ 6,600.00	£ 36,300.00	£ 66,000.00	Rates from similar project.
	Upper Achintore	Quiet streets	-	Raised tables at key junctions	8	no.	£ 8,500.00	£ 8,500.00	£ 8,500.00	£ 68,000.00	£ 68,000.00	£ 68,000.00	Assumed asphalt surfacing. Rate from similar project.
										£ -	£ -	£ -	
										£ -	£ -	£ -	
		Sub-Total (Without OB)								**£ 150,350.00**	**£ 369,050.00**	**£ 587,750.00**	
		Optimism Bias 44%								**£ 66,154.00**	**£ 162,382.00**	**£ 258,610.00**	
		Total								**£ 216,504.00**	**£ 531,432.00**	**£ 846,360.00**	

TORLUNDY SPUR

Route	Section	Level of Intervention	Extents (m)	Description	Quantity	Unit	Typical Cost Low	Typical Cost Median	Typical Cost High	Total Cost Low	Total Cost Median	Total Cost High
Torlundy Spur	Great Glen Way / The Soldier's Bridge to link to A82	Existing	125	-	125	m				£ -	£ -	£ -
	Link to A82	Existing	260	-	260	m				£ -	£ -	£ -
	Old Inverlochy Castle to junction of A82 / A830	Existing	540	-	540	m				£ -	£ -	£ -
	Junction of A82 / A830 to Torlundy	Existing	2255	-	2255	m				£ -	£ -	£ -
	Extension of route to access road to Tomacharich and Camisky	Shared use footway	115	Assumed construction of 2.5m wide footway in eastern verge	115	m	£ 191.65	£ 191.65	£ 191.65	£ 22,039.75	£ 22,039.75	£ 22,039.75
										£ -	£ -	£ -
										£ -	£ -	£ -
	Sub-Total (Without OB)									**£ 22,039.75**	**£ 22,039.75**	**£ 22,039.75**
	Optimism Bias 44%									**£ 9,697.49**	**£ 9,697.49**	**£ 9,697.49**
	Total									**£ 31,737.24**	**£ 31,737.24**	**£ 31,737.24**

Assumptions
Built up rate from similar project. Includes excavation, construction and street lighting.