

## 10 Pedestrians, Cyclists, Equestrians and Community Effects

### 10.1 Introduction

This chapter assesses the pedestrians, cyclists, equestrians and community effects directly associated with the construction and operation of the Scheme. It assesses the potential temporary and permanent access effects on pedestrians, cyclists, equestrians and community facilities and services, businesses and amenities.

Other chapters such as Landscape and Visual Amenity, Land-Use, Cultural Heritage and Disruption due to Construction have considered construction and operational effects of the scheme which may have a potential baseline recreation, community facility and business operation relevance. However, the specific assessment of the potential effects of these other environmental disciplines is provided in the relevant chapters of this ES and does not form part of this recreation and community effects chapter.

A number of consultations were received relating to pedestrians, cyclists, equestrians and community effects and these are addressed in Chapter 3 - Consultation.

### 10.2 Approach and Methodology

DMRB Volume 11, Section 3, Part 8 Pedestrians, Cyclists, Equestrians and Community Effects provides guidance on assessing a scheme's impact on the journeys which people make in its locality and has been used in this assessment. In addition the assessment has also relied upon the following:

- The results from site visits which are reported in the Baseline Conditions section (10.3) of this chapter;
- Desk-top documentation review and web-based information sources. These are fully listed in section 10.8;
- Reference to guidance contained in the Scottish Natural Heritage (SNH) (*EIA Handbook Appendix 5: Outdoor Access Impact Assessment - 2009*) in respect of issues likely to arise in the EIA process with regards to outdoor access.

The recreation and community assessment methodology embraces a number of key considerations for existing receptors contained within, and in proximity to, the scheme location and these are highlighted below. The scope of effects considered in this chapter includes:

- Permanent or temporary restriction of access or severance of access to residential, community, and other civic facilities;

- Permanent or temporary restriction of access or severance of access to local business operations although no assessment has been made of any direct impacts on commercial properties as this is a land use consideration and is assessed elsewhere in the ES (Chapter 7 – Land Use);
- Permanent or temporary severance of public recreational amenities and routes e.g. existing public Rights of Way (RoW), proposed Loch Lomond & the Trossachs National Park Authority core path networks, cycle-ways, bridleways etc;
- Changes in amenity which DMRB Vol. 11 defines as “*the relative pleasantness of a journey*”. For ramblers, equestrians and also cyclists, changes in the quality of the landscape is a relevant part of the amenity change considerations but this particular aspect is covered elsewhere in the ES (Chapter 6 – Landscape and Visual Effects);
- Scheme effects on existing pedestrians, cyclists, equestrians and local vehicular journey routes e.g. changes in journey lengths and times with reference to the DMRB Vol 11 “New Severance” three point scale descriptions for pedestrians, cyclists and equestrians.

The assessment of the potential effects of the scheme (prior to Mitigation) has been undertaken as follows:

- Identification of a particular recreation or community effect;
- Consideration of the Magnitude of the effect (the actual change taking place to the environment). The scales adopted for the Magnitude of the effects are shown in Table 10.1 below:

**Table 10.1 - Magnitude Scales**

Level of Magnitude	Definition
Major	A fundamental change to the recreation or community baseline conditions
Moderate	A material but non-fundamental change to the recreation or community baseline conditions
Minor	A detectable but non-material change to the recreation or community baseline conditions
None	No detectable change to the recreation or community baseline conditions

- Consideration of the Sensitivity of the receptor – a judgement as to the importance or value of the receptor, and its resilience to cope with changes resulting from the recreation or community effect. A scale of sensitivity of the receptor has been defined as None, Low, Medium, High and Very High;
- Determination of the level of impact by considering both the Magnitude and Sensitivity of the recreation or community receptor as summarised in Table 10.2 below:-

**Table 10.2 - Determination of Impact Significance (Effects falling within shaded boxes are considered to be significant)**

Magnitude of Effect	Sensitivity of Receptor				
	Very High	High	Medium	Low	None
MAJOR	Major	Major	Moderate	Minor	None
MODERATE	Moderate	Moderate	Minor	Minor	None
MINOR	Moderate	Minor	Minor	None	None
NONE	None	None	None	None	None

- A qualitative judgment for the determination of Significance has been adopted and only those effects that fall within the “Moderate” and “Major” categories are considered to be Significant; and
- Following the determination of the effect, its nature and duration are then described. The scope of these can include: beneficial or detrimental; direct or indirect; temporary or permanent.

Mitigation measures have been identified to minimise the recreation and community effects of the proposed scheme as far as possible within the technical constraints of the project. The mitigation is designed to prevent, reduce, and where possible offset the potential effects upon the community baseline conditions.

## 10.3 Baseline Conditions

The following sections provide a comprehensive baseline description of the pedestrians, cyclists, equestrians and community facilities within, and in proximity to, the A82 Pulpit Rock scheme location. These facilities are illustrated on Figure 10.1 – Community Baseline.

### 10.3.1 Recreation

#### 10.3.1.1 Pedestrians

There is no dedicated footpath provision for pedestrians at Pulpit Rock. Indeed the nearest sections of road-side footpath provision are at Ardlui (c.2km north of the site) and at Sloy Power Station (c.4.8km south of Pulpit Rock). Between these two locations, pedestrians are obliged to use the A82 verges for road-side walking with no physical separation from vehicular traffic.

The Scottish Rights of Way & Access Society has advised in its consultation response to the Scoping Report (4<sup>th</sup> February 2010) that the Society is not aware of any Rights of Way (RoW) at, or in, the immediate vicinity of Pulpit Rock - other than those rights which are exercisable along any public road. In the wider area around Pulpit Rock there is a route to the top of Ben Vorlich commencing next to Ardlui railway station (for “serious and skilled walkers/climbers”). For less experienced walkers there is another route to Ben Vorlich starting from Sloy Power Station ([www.loch-lomond.net/villages/ardlui/ardlui.html](http://www.loch-lomond.net/villages/ardlui/ardlui.html)). However, neither route passes Pulpit Rock.

As there is no baseline pedestrian provision at, or adjacent to Pulpit Rock, therefore there are:-

- No pedestrians to count for the purposes of the ES;
- No applicable descriptive statements as to the baseline amenity value for pedestrians.

As summarised in the later Ferry Services section of this chapter (10.3.6), seasonal foot ferry services across Loch Lomond from Inveruglas (to Inversnaid) and Ardlui (to Ardluish) provide a link for walkers to connect with the West Highland Way long distance walking route which extends up the east side of Loch Lomond from north of Balmaha.

In addition, it is appropriate to highlight the fact that a significant part of the land (and inland water) in the vicinity of the scheme will be affected by the Land Reform (Scotland) Act 2003 legislation. Under Part 1 of the Land Reform (Scotland) Act 2003 everyone now has statutory access rights for recreational purposes on most land and inland water in Scotland – provided these rights are exercised responsibly and regardless of whether an identified path or track exists or not. Section 13 of the 2003 Act reinforces the duty of local authorities (and the National Park authorities) to assert, protect, and keep open and free from obstruction or encroachment of any route – which includes Rights of Way (RoW) – by which access may reasonably be exercised. The legislation also requires land managers to manage their land responsibly in relation to public access rights. These access rights for walking include (amongst others) paths and tracks, woods and forests, grassland, moorland, and margins of fields in which crops are growing.

Under the Land Reform (Scotland) Act 2003, the Loch Lomond & the Trossachs National Park Authority (LLTNPA) - as the access authority - also has a statutory requirement to produce a Core Paths Plan to cover its administrative area. The Core Paths system is required to cater for all types of users e.g. walkers, cyclists, horse riders, etc. Section 17(1) of the 2003 Act states that although it is the duty of access authorities to draw up a Core Paths Plan there is no presumption that all existing RoW must become core paths and that they should be assessed on their present day condition and usefulness in providing meaningful core routes.

The LLTNP Core Paths Plan was published as a formal Consultation Draft document on 5 May 2008. The Draft Consultation Plan emerged following consultations with local communities, land managers and other key stakeholders. Following a 12 week formal consultation period held during the summer of 2008, the National Park Authority Access team submitted the Draft Core Paths Plan (along with four outstanding objections) to the Scottish Government in September 2009. The Core Paths Plan came back from the Minister in February 2010 with a direction to adopt (following a recommendation from the Reporter to the Minister) and the LLTNP Core Paths Plan was adopted by the LLTNPA Board on the 23<sup>rd</sup> June 2010.

The adopted LLTNP Core Paths Plan sets out a basic network of core paths that has been identified as being sufficient to meet the needs of local people and visitors for recreational purposes and for local movement (non-motorised), as well as providing

links to wider path systems within an area. These proposed paths form a basic framework of paths across the National Park area and embrace Rights of Way, signposted paths, cycle-ways, footways and other routes that provide access to places that the public want to go.

A review of the adopted LLTNP Core Paths Plan maps identifies the following:-

- There are no adopted core paths in the land area covered by the A82 Pulpit Rock Improvement Scheme location;
- The nearest adopted core paths are:-
  - North of Pulpit Rock – Core Path (S0334) at Inverarnan Farm (north of Ardlui) connecting to the West Highland Way over the River Falloch.
  - South of Pulpit Rock – at Sloy Power Station heading south on A82 then west of the West Highland Railway line towards Coiregrogain (S0354 and S0359).

In addition, the nearest “non-core path” routes are:-

- North of Pulpit Rock (c.1.1km) – at Stuckendroin (on west side of A82 heading west over the West Highland Railway line.
- South of Pulpit Rock (c.1.9km) – at Ardvorlich (on west side of the A82 heading south then west over the West Highland Railway and then south over-land towards Sloy Power Station.

### 10.3.1.2 Cycling

Although the scheme corridor is currently “cycleable” along its duration, there is no dedicated cycle-way amenity provision e.g. on-road (*but segregated*) cycle lanes or adjacent off-road cycle paths. The only baseline cycling provision is the “Cyclists Push Button” facility connected to both sets of traffic lights at Pulpit Rock.

Cyclists along the scheme corridor have to share the single A82 carriageway with motorised vehicular traffic and are therefore fully exposed to the attendant traffic issues of close physical proximity to passing vehicles, noise and air quality. They also face safety considerations associated with vehicle awareness concentration which potentially impinges upon their ability to fully appreciate the pleasantness of the surrounding natural landscape during their cycling journey.

Indeed, along the section of the A82 between Tarbet (where the West Loch Lomond Cycle Path from Balloch ends) and Crianlarich, there is no off-road cycleway or quieter on-road cycling alternatives to take cyclists off the A82.

The evolving National Cycle Network (NCN) of on-road and traffic-free cycle routes does not currently include the A82 between Tarbet and Crianlarich – although the LLTNPA National Park Plan (2007-2012) identifies Tarbet to Crianlarich as a “Potential Strategic Link” which would fill a key gap in the National Park-wide network of access provision. The nearest section of the NCN is the “Lochs and Glens North”

route (which forms part of the NCN No. 7) between Glasgow and Inverness and which passes through the Loch Lomond & the Trossachs National Park on the east side of the National Park between Balloch and Killin. In addition, a Regional Cycle Route (No.40) runs from Balloch to Tarbet.

The statements made in the preceding “Pedestrians” section regarding the Land Reform (Scotland) Act 2003 and the Draft Core Paths Plan are also applicable for public recreational access rights to cycling in, and around, the scheme area.

### 10.3.1.3 Horse Riding

There are no riding centres within or immediately adjacent to, the proposed A82 Pulpit Rock scheme location. The nearest British Horse Society (BHS) approved riding centre establishments are the Colgrain Equestrian Centre at Cardross and the Lomondside Stud & Equestrian Centre at Drymen. In addition there is a riding centre at Alexandria (Duncryne Equitation & Trekking Centre).

There are also no off-road bridleways within, or adjacent to the Pulpit Rock area, whilst the absence of any minor roads surrounding the A82 between Tarbet and Crianlarich negates the opportunity for “safe and quiet” on-road riding alternatives. The British Horse Society’s Scottish Development Officer stated in the Society’s consultation response that *“except in extreme circumstances horse riders and carriage drivers will rarely use this road”* (the A82) although *“quite a few horses and ponies will travel this road in lorries and trailers”*.

In light of the previous paragraph, there are no applicable descriptive statements as to the baseline amenity value for equestrians. However, the statements made in the “Pedestrians” section above regarding the Land Reform (Scotland) Act 2003 and the Draft Core Paths Plan are also applicable for public recreational access rights to horse riding in, and around, the scheme area.

### 10.3.2 Community Facilities and Business Operations

At the southern end of the scheme location the nearest receptors are the Ardvorlich House Bed & Breakfast establishment and Ardvorlich cottage, a residential property, which are both c.1.9 km south of Pulpit Rock.

At the north-west end of the scheme location, approximately 100 metres from the north end traffic lights, lies the Pulpit Rock Scheduled Monument. The nearest signposted formal lay-by provision is located approximately 0.6km north of Pulpit Rock on the east side of the A82 – but with no path link between the lay-by and the Pulpit Rock site. It should be noted that there is currently an informal lay-by to the north of the scheme close to Pulpit Rock.

There is no direct foot-path connection to the Pulpit Rock from the informal lay-by. An informal pedestrian access route to the Pulpit Rock site is visible from the informal lay-by, heading west over undulating ground - but this route necessitates crossing a low barb-wire topped fence to reach the Pulpit Rock. The formal pedestrian access to the site is located approximately 100 metres north of the informal lay-by – but necessitates walking on the verge of the A82 (along a bend),

then along a rough section of track (c. 20 metres in length which links to the A82) before entering the Pulpit Rock site via a pedestrian “kissing-gate”. There are no recorded visitor numbers to the Pulpit Rock site.

Approximately 1.1km north of Pulpit Rock there are two residential properties and a farm (Stukendroin Farm) which are located on the west side of the A82. Between Stukendroin Farm and the village of Ardlui (which is located c.2km north of Pulpit Rock) there are a further two residential properties which are also located on the west side of the A82.

Ardlui village has a number of community and visitor facilities including:-

- Six residential properties;
- Ardlui Hotel (10 rooms, 2 bars and 2 restaurants), self-catering Lodges, Holiday Home Park (90 static pitches and touring pitches) and a marina (moorings for 130 craft in the marina and on moorings). (*The Ardlui Hotel, marina and Holiday Home Park is a year round tourism business operation*);
- Ardlui shop (*a seasonal operation*).

In addition, in March 2010, the former McGregor's Landing property in Ardlui re-opened as the Loch Lomond Outdoor Education Centre. The facility has been let on a long-term basis to West Dunbartonshire Council (WDC) and offers residential outdoor educational provision for West Dunbartonshire pupils as well as other local authorities and organisations wishing to hire the use of the Centre from WDC. The Centre will operate on a year round basis including weekends and school holidays.

A further 3.2km north of Ardlui (c.5km north of Pulpit Rock) at Inverarnan there are several visitor facilities:-

- The Drovers Inn (11 rooms), bar and restaurant and the Drovers Lodge (16 rooms);
- Beinglas Farm Campsite (B&B chalets, self-catering, wig-wam accommodation and a camping field for 100 tents);
- Clisham Cottage B&B (2 rooms) and one static caravan for let.

There are no schools between Tarbet and Crianlarich. The nearest primary school (*south of the Pulpit Rock scheme*) is at Arrochar (Arrochar Primary School – c.14.5km south-west from Pulpit Rock and with a roll of 58 pupils in August 2009) which has a pupil catchment area including Arrochar, Tarbet and Succoth. The nearest primary school (*north of the Pulpit Rock Scheme*) is Crianlarich Primary School. The school is c. 15.5km north of Pulpit Rock and had a pupil roll of 29 pupils in November 2009. Its catchment area includes Inverarnan, Crianlarich and Tyndrum.

The nearest secondary school (*south of the Pulpit Rock scheme*) is Hermitage Academy, Helensburgh (c.39km south-west of Pulpit Rock) which intakes from primary schools in the wider catchment area including Arrochar and Tarbet. The Vale



of Leven Academy in Alexandria (c.40km south of Pulpit Rock) intakes from surrounding communities – but does not appear to include secondary age pupils as far north as Tarbet.

The nearest secondary school (*north of Pulpit Rock*) is McLaren High School, Callander (c. 63km north-east of Pulpit Rock) whose catchment area extends west as far as Inverarnan and Tyndrum. Oban High School is located c.81km north-west of Pulpit Rock but its associated primary school catchment only extends eastwards as far as Dalmally.

The only key community facility in reasonable physical proximity to Pulpit Rock which would specifically service vulnerable groups (e.g. children) is the Loch Lomond Outdoor Education Centre at Ardlui. Whilst other facilities e.g. Ardlui Hotel, marina and Holiday Home Park could service other vulnerable groups e.g. the elderly, disabled as part of their overall business clientele, the conclusion has been made that these vulnerable groups are unlikely to constitute a disproportionate number of the baseline users of the A82 affected by the Scheme.

### 10.3.3 Emergency Services

Table 10.3 below summarises the emergency services provision which are relevant considerations in the immediate locational context of the proposed A82 Pulpit Rock Scheme.

**Table 10.3 - Emergency Services**

Location	Distance from Pulpit Rock	Police Station	Fire Station	Ambulance/Hospital	Notes
Tarbet	11.7km (south)	No	No	No	
Arrochar	14.8km (south)	No	Yes	Yes	Single Ambulance station only.
Crianlarich	15.4km (north)	Yes	Yes	No	
Tyndrum	22.6km (north)	No	Yes	No	

In addition, the Arrochar Mountain Rescue Team (based c.15km south of Pulpit Rock) provides a 24hour/365 day volunteer search and rescue service throughout the Strathclyde area. The Team is based in Arrochar and also covers a large area of the LLTNPA. Table 10.3 above highlights that:-

- There is no Police Station or Hospital facility located between Pulpit Rock and Tarbet/Arrochar (*south of the Scheme*). The nearest Police station (*south of the Scheme*) is located at Garelochhead (c.30km south-west of Pulpit Rock) which is a 24 hour station serving a wide catchment area including Tarbet, Inveruglas and Ardlui. The nearest Hospital (*south of the Scheme*) is the Victoria Integrated Care Centre, in Helensburgh. Two GP Practices are located within purpose built premises close to the Victoria and provide a minor Casualty Service. The other hospital is the Vale of Leven District General Hospital in Alexandria (c.40km



south of Pulpit Rock) which includes a Minor Injuries Unit, but not a full-scale Accident and Emergency Department.

- There is no Hospital located between Pulpit Rock and Tyndrum (*north of the Scheme*). The nearest Hospitals (*north of the Scheme*) are the Aberfeldy Community Hospital and the Crieff Community Hospital (both c.74km north-east of Pulpit Rock) – but neither provides Accident & Emergency services cover. The Lorn & Islands Hospital, in Oban (c.81km north-west of Pulpit Rock) is the nearest hospital, north of the proposed Pulpit Rock Scheme, which provides Accident & Emergency services.

### 10.3.4 Scheduled Bus Services

There are no listed bus stops along the proposed A82 Pulpit Rock scheme corridor. The nearest listed bus stops to the Pulpit Rock scheme corridor are at Sloy Power Station (c.4.8km south of the site) and Ardlui Hotel (c.2km north of the site). However, Scottish Citylink operates a passenger boarding policy between formal bus stops where scheduled services will pick-up/set down passengers where safe to do so. A summary of the scheduled bus services (October 2009 to May 2010 timetable) which use the section of the A82 between Tarbet and Ardlui (i.e. pass through the scheme location) are summarised in Table 10.4 below.

**Table 10.4 - Scheduled Bus Services**

No.	Service	Service Frequency	Bus Operator
914	Glasgow – Fort William	Daily (1 x service per day)	Scottish Citylink
915	Glasgow – Isle of Skye	Daily (1 x service per day)	Scottish Citylink
916	Glasgow – Isle of Skye	Daily (2 x services per day)	Scottish Citylink
914	Fort William - Glasgow	Daily (1 x service per day)	Scottish Citylink
915	Isle of Skye - Glasgow	Daily (1 x service per day)	Scottish Citylink
916	Isle of Skye - Glasgow	Daily (2 x services per day)	Scottish Citylink

### 10.3.5 Train Services

The West Highland Railway line runs c.200m west of the A82 at Pulpit Rock. The nearest train station to the A82 Pulpit Rock scheme location is at Ardlui (c.2km north of the site). The nearest rail station south of the Pulpit Rock site is at Arrochar & Tarbet (c.11km south).

A summary of the passenger train services using the West Highland line which stop at Ardlui (December 2009 to May 2010 timetables) is summarised in Table 10.5. It should be noted that for many of the train services stopping at Ardlui on the Glasgow-Fort William-Mallaig route and the Glasgow-Oban route these are the same trains which physically separate (or join) at Crianlarich. This has been reflected in the Notes column of the following table (Table 10.5) to avoid “double-counting” of scheduled passenger services.

**Table 10.5 - Scheduled Train Services**

Service	Service Frequency	Operator	Notes
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Service	Service Frequency	Operator	Notes
Glasgow – Fort William - Mallaig	Monday – Saturday (1 x service per day)	First ScotRail	Request stop at Ardlui
Glasgow – Fort William-Mallaig	Monday – Saturday (3 x services per day)	First ScotRail	Scheduled stop at Ardlui.
Glasgow – Fort William-Mallaig	Sunday (1 x service increasing to 2 x services – see Notes column for details)	First ScotRail	Scheduled stop at Ardlui. 1 x Sunday service between 13 Dec 09 and 21 March 10 increasing to 2 x Sunday services between 28 March 10 and 16 May 10
Mallaig-Fort William-Glasgow	Monday – Friday (1 x service per day)	First ScotRail	Request stop only at Ardlui
Mallaig – Fort William-Glasgow	Monday – Saturday (3 x services per day)	First ScotRail	Scheduled stop at Ardlui
Mallaig - Fort William-Glasgow	Sunday (1 x service)	First ScotRail	Request stop only at Ardlui
Fort William - Glasgow	Sunday (1 x service increasing to 2 x services – see Notes column for details)	First ScotRail	Scheduled stop at Ardlui. 1 x Sunday service between 13 Dec 09 and 21 March 10 increasing to 2 x Sunday services between 28 March 10 and 16 May 10.
Glasgow - Oban	Monday – Friday (3 x services per day)	First ScotRail	Same scheduled services as Glasgow-Fort William-Mallaig ( <i>see notes above</i> )
Glasgow - Oban	Saturday (1 x service)	First ScotRail	Scheduled stop at Ardlui (27 March 10 to 22 May 10 only)
Glasgow - Oban	Sunday (1 x service increasing to 2 x services – see Notes column for details)	First ScotRail	Same scheduled Sunday service as Glasgow-Fort William-Mallaig ( <i>see notes above</i> )
Oban - Glasgow	Monday – Saturday (3 x services per day)	First ScotRail	Same Monday – Saturday services as Mallaig-Fort William-Glasgow
Oban - Glasgow	Saturday (1 x Saturday only service)	First ScotRail	Scheduled stop at Ardlui (27 March 10 to 22 May 10 only)
Oban - Glasgow	Sunday (1 x service increasing to 2 x services – see Notes column for details)	First ScotRail	Same scheduled Sunday service as Mallaig-Fort William-Glasgow ( <i>see notes above</i> )
Caledonian Sleeper (Fort William – London)	Monday – Friday and Sunday (1 x overnight service)	First ScotRail	Request stop only at Ardlui

Service	Service Frequency	Operator	Notes
Caledonian Sleeper (London – Fort William)	Monday – Friday and Sunday (1 x overnight service)	First ScotRail	Request stop only at Ardlui

In addition to scheduled passenger train services, there will also be Freight rail traffic using the West Highland Railway line. However this does not form part of the scope of this chapter and therefore has not been assessed.

### 10.3.6 Ferry Services

Passenger ferry services operate across Loch Lomond from Ardlui (c.2km north of Pulpit Rock) and Inveruglas (c.4.8km south of Pulpit Rock). These are summarised below:-

- Inveruglas to Inversnaid – a foot ferry service across to Inversnaid Hotel which also provides visitor access to attractions within the hotel's grounds including Rob Roy's Cave and the West Highland Way long distance walking route. The ferry is a seasonal service operating between March and December Daily with sailings at 8.30 am and 5.00 pm (usually to ferry guests to and from the Hotel) or by arrangement;
- Ardlui to Ardleish – a foot ferry service operated by the Ardlui Hotel providing a link to the West Highland Way. The seasonal service operates between April and October (April, September & October 9am to 7pm and May June, July, August 9am to 8pm).

In addition, whilst there are commercial pleasure cruiser services operating up and down Loch Lomond e.g. from Balloch (Sweeney's Cruises), Tarbet (Cruise Loch Lomond Ltd) and Balmaha (Macfarlane & Son Ltd), there are no Loch Lomond cruiser operators based north of Tarbet.

## 10.4 Predicted Impacts

The assessment of the recreation and community effects (before Mitigation) associated with the proposed scheme is summarised in Table 10.6 (Scheme Construction) and Table 10.7 (Scheme Operation).

The main impacts during the construction period are predicted to be:

- Temporary disruption during construction periods when traffic management will be in place.
- Temporary severance of A82 "through-access" at Pulpit Rock for a number of weeks during the full closure construction period.

**Table 10.6 - Potential Effects of the Scheme during Construction (continued over)**

Receptor	Type of Effect	Magnitude of the Effect	Sensitivity of the Receptor	Significance of the Effect	Significant/Not Significant	Nature
Pedestrians, Cyclists and Equestrians	Temporary disruption to receptors using the A82 at Pulpit Rock during the construction period when traffic management measures in place.	Moderate	High	Moderate	Significant	Temporary Reversible
	Temporary severance of A82 “through-access” at Pulpit Rock affecting receptors for a number of weeks during the full closure construction period.	Major	High	Major	Significant	Temporary Adverse Reversible
	Temporary change to amenity value for cyclists using the A82 at Pulpit Rock during the construction period when traffic management measures are in place e.g. potential for increased instances of physical proximity to construction associated traffic, air and noise exposure, slower movement of traffic through the extended length of the traffic-light controlled scheme re-alignment works.	Moderate	High	Moderate	Significant	Temporary Adverse Reversible
Residents and businesses (between Tarbet and Crianlarich)	Temporary disruption to receptors using the A82 at Pulpit Rock during the construction period when traffic management measures in place.	Moderate	High	Minor	Not Significant	Temporary Reversible
	Temporary severance of A82 “through-access” at Pulpit Rock affecting receptors for a number of weeks during the full closure construction period.	Major	High	Major	Significant	Temporary Adverse Reversible
Tourists (Day/Staying/Transient)	Temporary disruption to receptors using the A82 at Pulpit Rock during the construction period when traffic management measures in place.	Moderate	High	Minor	Not Significant	Temporary Reversible
	Temporary severance of A82 “through-access” at Pulpit Rock affecting receptors for a number of weeks during the full closure construction period.	Major	High	Major	Significant	Temporary Adverse Reversible
Service Suppliers to local businesses between Tarbet and Crianlarich	Temporary disruption to receptors using the A82 at Pulpit Rock during the construction period when traffic management measures in place.	Moderate	Medium	Minor	Not Significant	Temporary Reversible
	Temporary severance of A82 “through-access” at Pulpit Rock affecting receptors for a number of weeks during the full closure construction period.	Major	Medium	Major	Significant	Temporary Adverse Reversible

Receptor	Type of Effect	Magnitude of the Effect	Sensitivity of the Receptor	Significance of the Effect	Significant/Not Significant	Nature
Scheduled Bus Service/Tour Bus drivers and passengers (on A82 between Tarbet and Crianlarich)	Temporary disruption to receptors using the A82 at Pulpit Rock during the construction period when traffic management measures in place.	Moderate	High	Minor	Not Significant	Temporary Reversible
	Temporary severance of A82 "through-access" at Pulpit Rock affecting receptors for a number of weeks during the full closure construction period.	Major	High	Major	Significant	Temporary Adverse Reversible
Emergency Services  (Police/Fire/Ambulance/ Arrochar Mountain Rescue Team)	Temporary disruption to receptors using the A82 at Pulpit Rock during the construction period when traffic management measures in place.	Moderate	High	Minor	Not Significant	Temporary Reversible
	Temporary severance of A82 "through-access" at Pulpit Rock affecting receptors for a number of weeks during the full closure construction period.	Major	High	Major	Significant	Temporary Adverse Reversible
Ardlui Railway Station users	Temporary disruption to receptors using the A82 at Pulpit Rock during the construction period when traffic management measures in place – <u>only</u> effects those station users whose baseline journey to/from the station commences/ends <u>south</u> of the scheme works.	Moderate	Medium	Minor	Not Significant	Temporary Reversible
	Temporary severance of rail passenger access to Ardlui station during the full road closure construction period – <u>only</u> effects those station users whose baseline journey to/from the station commences/ends <u>south</u> of the scheme works	Major	Medium	Major	Significant	Temporary Adverse Reversible
Loch Lomond Outdoor Education Centre (Ardlui)	Temporary disruption to receptors using the A82 at Pulpit Rock during the construction period when traffic management measures in place period – <u>only</u> effects those Centre users whose baseline journey to/from the Centre commences/ends <u>south</u> of the scheme works.	Moderate	Medium	Minor	Not Significant	Temporary Reversible
	Temporary severance of patrons to the Outdoor Education Centre during the full road closure construction period – <u>only</u> effects those Centre users whose baseline journey to/from the Centre commences/ends <u>south</u> of the scheme works	Major	Medium	Major	Significant	Temporary Adverse Reversible

Receptor	Type of Effect	Magnitude of the Effect	Sensitivity of the Receptor	Significance of the Effect	Significant/Not Significant	Nature
Seasonal Ferry Service passengers (Ardlui- Ardleish and Inveruglas – Inversnaid)	Temporary disruption to receptors using the A82 at Pulpit Rock during the construction period when traffic management measures in place.	Moderate	Medium	Minor	Not Significant	Temporary Reversible
	Temporary severance of A82 “through-access” at Pulpit Rock for these receptors during the full road closure construction period <u>only</u> effects:-  Passengers of Ardlui-Ardleish service whose baseline journey to/from Ardlui commences/ ends <u>south</u> of the scheme works  Passengers of Inveruglas- Inversnaid service whose baseline journey to/from Inveruglas commences/ ends <u>north</u> of the scheme works.	Major	Medium	Major	Significant	Temporary Adverse Reversible

**Table 10.7 - Potential Effects of the Scheme during Operation (continued over)**

Receptor	Type of Effect	Magnitude of the Effect	Sensitivity of the Receptor	Significance of the Effect	Significant/Not Significant	Nature
Pedestrians, Cyclists and Equestrians	The scheme provides a verge on the east side of the Viaduct that would be suitable for shared use by Pedestrians and Cyclists but <u>not</u> Equestrians. It should be noted that this non-motorised provision is provided as 'future proofing' should connecting non-motorised provision be provided north and south of the scheme and will not be signed as off-road provision until such time.	Major	High	Major	Significant	Permanent Beneficial
	No provision is proposed for Equestrians as the scheme does not change the baseline A82 on-road provision at Pulpit Rock (i.e. shared equestrians use of the road with vehicles).	None	Low	None	Not Significant	None
	Permanent improvement to amenity value for cyclists using the A82 at Pulpit Rock during the scheme operation period e.g. access to verge along Viaduct length, segregated from vehicular traffic and providing safety to better experience the pleasantness of the surrounding natural landscape such as the views to the west over Loch Lomond.	Moderate	High	Moderate	Significant	Permanent Beneficial
Residents and businesses e.g. tourism sector (between Tarbet and Crianlarich)	Scheme operation results in the removal of traffic light controls on the A82 at Pulpit Rock.	Major	High	Moderate	Significant	Permanent Beneficial
Tourists (Day/Staying/Transient)	Scheme operation results in the removal of traffic light controls on the A82 at Pulpit Rock.	Major	High	Moderate	Significant	Permanent Beneficial
Service Suppliers to local businesses between Tarbet and Crianlarich	Scheme operation results in the removal of traffic light controls on the A82 at Pulpit Rock.	Major	Medium	Moderate	Significant	Permanent Beneficial



Receptor	Type of Effect	Magnitude of the Effect	Sensitivity of the Receptor	Significance of the Effect	Significant/Not Significant	Nature
Scheduled Bus Service/Tour Bus drivers (on A82 between Tarbet and Crianlarich)	Scheme operation results in the removal of traffic light controls on the A82 at Pulpit Rock.	Major	High	Moderate	Significant	Permanent Beneficial
Emergency Services  (Police/Fire/Ambulance/Arrochar Mountain Rescue Team)	Scheme operation results in the removal of traffic light controls on the A82 at Pulpit Rock.	Major	High	Moderate	Significant	Permanent Beneficial
Loch Lomond leisure craft users (at Pulpit Rock)	Permanent loss of leisure craft access to water area "lost" by construction of scheme into Loch Lomond. Larger area during construction.	Moderate	Low	Minor	Not Significant	Permanent

## 10.5 Mitigation

Mitigation measures have been identified to minimise the effects of the scheme on pedestrians, cyclists, equestrians and the community. The mitigation is designed to prevent, reduce or offset the potential effects upon the baseline situation. The following mitigation recommendations should be included in the Employer's Requirements for the construction contract. The recommended mitigation measures are summarised below. No mitigation measures are proposed where a predicted impact is beneficial in nature.

### 10.5.1 Disruption during traffic management measures

The following mitigation measures refer to the disruption to receptors using the A82 at Pulpit Rock during the construction period when traffic management measures are in place:

- Access to be maintained for all users by the temporary extension of the one-way traffic light controlled management system already in place on the A82 at Pulpit Rock.
- Appropriate advance warning signage should be installed to inform users of traffic management measures.
- Ferry passenger access to both the Ardlui-Ardleish and Inveruglas-Inversnaid seasonal services maintained by the temporary extension of the one-way traffic light controlled management system already in place on the A82 at Pulpit Rock.

### 10.5.2 Temporary Severance

The following mitigation measures refer to the disruption experienced by receptors during the temporary severance of A82 "through-access" at Pulpit Rock for a number of weeks during the full closure construction period:

- Provision of advance signage information (e.g. signs at Tarbet and Crianlarich) warning receptors of temporary suspension of "through access" on the A82 at Pulpit Rock.
- Provision of advance signage information of the primary diversionary route from Tarbet to Crianlarich via Inveraray (and vice-versa) - using the A83/A819/A85 (and vice-versa). This mitigation should include signs at Tarbet and Crianlarich, radio station traffic bulletin updates and information displays on Traffic Scotland signs in the wider central Scotland road network.
- Early consultations between Transport Scotland and affected businesses and community facilities to restrict impacts of temporary severance.
- A strategy should be prepared in liaison with the emergency service providers to ensure that service is maintained through the full closure construction period.
- Bus Services:
  - Scheduled Bus Services - Discussions to be held between Transport Scotland and Scottish Citylink to identify options for temporary

amendments to affected scheduled services (914/915/916). Options could include temporary suspension of these services during the full road closure period or temporary diversion of the affected services between Tarbet and Crianlarich via Inveraray - using the A83/A819/A85 (and vice-versa).

- Tour Bus Services - Discussions to be held between Transport Scotland and Tour Bus operators currently using the A82 between Tarbet and Crianlarich to provide advance warning of temporary severance of “through access” and the need to make route diversions during this period.
- Arrochar & Tarbet railway station (c.14km south of Ardlui station) provides alternative rail passenger option and access to all baseline services which currently halt at Ardlui railway station. Signage should be provided to inform passengers of temporary impact.
- Ferry services:
  - Discussions to be held between Transport Scotland/ Contractor and the seasonal ferry service operators (the Ardlui Hotel and the Inversnaid Hotel) to consider options for temporary amendments to the affected services in order to maintain the ferry links e.g.:-
  - Explore possibility of a temporary “circular” ferry service linking Inveruglas/Inversnaid/Ardleish/Ardlui (and vice-versa) to avoid temporary severance of public access to the baseline ferry services during the full A82 Pulpit Rock road closure period.
- Loch Lomond Leisure Craft:
  - During the scheme construction period implement a temporary “exclusion zone” for leisure craft (on health & safety grounds) around the works extending into Loch Lomond.

Appropriate signage should be installed for Pedestrians, Cyclists and Vehicle Drivers if in the future non-motorised provision is provided north and south of the Scheme. Signage should provide advance warning of new off-road facility provision. No signage to be provided until such time as non-motorised provision is provided north and south of the Scheme.

### 10.5.3 Mitigation Monitoring

Consideration of mitigation monitoring requirements is provided in Chapter 15 - Schedule of Environmental Commitments: Table 15.1.

## 10.6 Residual Impacts

Residual effects are those which are likely to remain after the application of the proposed mitigation measures. Where residual effects are predicted - following mitigation - these are identified below. Once the scheme is operational there will be a permanent beneficial impact associated with the removal of the traffic controls on the A82 at Pulpit Rock allowing two-way flow of traffic that will be of benefit to all users, as identified in Table 10.7. In addition the introduction of non-motorised user

provision on the east of the viaduct structure is considered a beneficial impact but only if non-motorised provision is provided on the A82 north and south of the scheme in the future.

## 10.6.1 All Users of the A82

### 10.6.1.1 Construction period when traffic management in place

The temporary traffic lights cycle over the full length of the re-alignment works - including the construction of the off-line parts of the new alignment - would potentially be over a distance of \*c.600 metres (compared to the baseline traffic signals distance of c.130 metres) and is likely to be based on a \*2 minute “switch” with a 30mph speed restriction. If operational during the Spring to Autumn period, this could result in longer delays for these receptors than the baseline A82 Pulpit Rock traffic lights/one-way traffic management system.

*[\*Note - Distance and Time may change relative to the detail of the construction works being carried out].*

### 10.6.1.2 Full closure construction period

Temporary severance of pedestrian, cyclist and equestrian user access along the A82 will occur for a number of weeks created by the full road closure period during the scheme construction. This would necessitate walkers, cyclists and equestrians taking temporary diversionary routes.

Section 10.3.3.3 stated that there is no dedicated footpath provision for pedestrians at Pulpit Rock for walkers, and indeed the footpath provision for walkers adjacent to the A82 between Tarbet and Crianlarich is minimal. In the eventuality of a scenario where a pedestrian receptor desired to walk the A82 between Tarbet and Crianlarich during the full road closure construction period, the nearest diversionary route option would be as follows:

- Walk along the A82 road verge between Tarbet and Inveruglas (6.6km – *Source: AA Route Planner website*);
- Take the Inveruglas to Inversnaid passenger ferry service across Loch Lomond which provides a link to the West Highland Way long distance walking route. (However this is only a seasonal service operating between March and December with sailings daily at 8.30 am and 5.00 pm - or by prior arrangement with the Inversnaid Hotel). The ferry crossing is around 2km in length (*Source: OS Landranger Map No.56*) and takes approximately 15 minutes (*Source: Inversnaid Hotel*);
- Walk along the section of the West Highland Way between Inversnaid and Beinglas before crossing the bridge over the River Falloch to re-join the A82 (c.10km – *Source: OS Landranger Map No.56*);
- Walk along the verge of the A82 between Inverarnan and Crianlarich (10.5km – *Source: AA Route Planner website*).

As Table 10.8 below illustrates, the use of this temporary diversionary route by a walker receptor would create a “Severe” temporary residual effect (based on DMRB Volume 11 “New Severance” classifications). Furthermore, use of this diversionary

route option would only be feasible if the temporary full A82 Pulpit Rock road closure construction period coincided with the seasonal running of the Inveruglas – Inversnaid passenger ferry service.

**Table 10.8 - Temporary Changes in Walkers Journey Lengths and Times**

Receptor	Journey Length (Temporary Diversionary Route compared to Baseline route – A82 Tarbet to Criarlairich)	Assumed Average Journey Speed (as per DMRB Vol 11)	Journey Time
Walkers (Baseline Route A82 Tarbet to Criarlairich)	27km	5km per hour	5.4 hours
Walkers (Diversionary Route)	27.1km	5km per hour	5.42 hours
Ferry Crossing (Seasonal availability only)	2km	N/A	0.25 hours
TOTAL (Diversionary Route)	29.1km	N/A	5.67 hours
Net Difference (Diversionary Route v Baseline Route)	+2.1km		+0.25 hours

For cyclists and equestrians the temporary diversionary route option would need to be from Tarbet to Tyndrum via “The Rest and Be Thankful” and Inveraray. As Table 10.9 below illustrates, the use of this temporary diversionary route by these receptors is considered to be an unrealistic proposition and in both instances would create a “Severe” temporary residual effect (based on DMRB Volume 11 “New Severance” change to journey distance classifications).

**Table 10.9 - Temporary Changes in Cyclists & Equestrians Journey Lengths and Times**

Receptor	Net Journey Length Difference (Temporary Diversionary Route compared to Baseline route – A82 Tarbet to Tyndrum)	Assumed Average Journey Speed (as per DMRB Vol 11)	Additional Journey Time
Cyclists	+ 48km	20km per hour	2.4 hours
Equestrians	+ 48km	10km per hour	4.8 hours

There will also be temporary severance of local vehicular traffic access to community facilities, residences and businesses for a number of weeks created by the full road closure period during the scheme construction. Use of the proposed temporary diversionary route from Tarbet to Criarlairich via Inveraray (and vice-versa) using the A83/A819/A85 (and vice-versa) will involve an additional 48km journey distance resulting in an additional 40 minutes journey drive-time for vehicle users - compared to the baseline A82 Tarbet to Tyndrum route. (*Note: - This assessment is based*

*upon the indicated route journey lengths/journey times provided by the AA Route Planner website).*

An assessment report which considers the wider impacts of the potential for other road closures and assesses the impacts on local facilities and users of the proposed road closure is provided in Appendix 5 – A82 Full Road Closure – Assessment Report. In addition, it also considers the impacts on emergency service providers in the area and contingency plans for ensuring the impact on service provision is minimal.

### 10.6.1.3 Operation

There will be a permanent beneficial impact associated with the removal of the traffic controls on the A82 at Pulpit Rock allowing two-way flow of traffic that will be of benefit to all users. The introduction of non-motorised user provision on the east side of the viaduct is considered to be a permanent beneficial effect in terms of facility provision and the baseline amenity change for cyclists. However this may take some time to be implemented as the non-motorised user provision is provided to 'future proof' should similar provision be provided north and south of the scheme in the future.

The non-motorised user provision would be unsuitable for equestrians use and therefore following scheme construction, any equestrians using the A82 at Pulpit Rock would require to share the carriageway with vehicular traffic – same as the baseline situation.

### 10.6.2 Scheduled Bus Services & Tour Bus Services

During the full closure construction period there will be:

(i) Scheduled Bus Services:

Temporary suspension of affected services option would result in loss of baseline service provision for a number of weeks during the full A82 Pulpit Rock road closure period.

or:-

Temporary diversion of affected services option would result in extended bus journey time/additional distance implications (additional 48km journey distance and at least an additional 40 minutes drive-time (baseline route comparison - Tarbet to Tyndrum – with the proposed temporary signed diversionary route).

(ii) Tour Bus Services

Temporary diversion of affected Tour Bus services would result in extended bus journey time/additional distance implications (an additional 48km journey distance and at least an additional 40 minutes drive-time (baseline route comparison - Tarbet to Tyndrum – with the proposed temporary signed diversionary route).

### 10.6.3 Emergency Services

During full closure construction period there is likely to be some residual impact on the emergency service providers but the strategy should seek to minimise any adverse impact on service provision.

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#### 10.6.4 Seasonal Ferry Service passengers

Potential temporary severance of baseline foot passenger access to the seasonal services if no temporary alternative ferry service operation can be agreed.

#### 10.6.5 Loch Lomond leisure craft users (at Pulpit Rock)

The scheme structure extending into Loch Lomond potentially removes leisure craft access to a small area of inland water but this is not considered to be a significant residual effect.

### 10.7 Summary

The scheme proposals will have a number of potential temporary and also permanent operational beneficial effects on the baseline conditions and several of these effects are deemed to be significant – during both the scheme construction and operation. The main effect is associated with the temporary severance of the A82 “through access” at Pulpit Rock created by a full road closure period. A range of measures have been proposed in order to mitigate the effects deemed to be significant on the baseline conditions particularly with respect to the disruption on local communities in the scheme area. These are detailed in section 10.5 above and are also summarised in Chapter 14 - Summary of Effects and Mitigation: Table 14.1). However, despite the implementation of the recommended mitigation measures, residual impacts on the baseline conditions during construction are predicted as detailed in section 10.6 above.



## 10.8 References

- Loch Lomond & the Trossachs National Park Authority web site – Core Paths Plan (<http://www.lochlomond-trossachs.org/looking-after/core-paths-plan/menu-id-394.html>).
- The Loch Lomond & the Trossachs National Park Authority - Core Paths Plan Consultation Draft (May 2008) and Approved Core Paths Plan Maps (June 2010).
- The Sustrans website – January 2010 ([www.sustrans.org.uk](http://www.sustrans.org.uk)).
- The Scottish Government (2003) - Land Reform (Scotland) Act 2003 : Part 1
- British Horse Society web site – January 2010:- ([http://www.bhs.org.uk/Riding/Find\\_Where\\_To\\_Ride/Find\\_An\\_Approved\\_Centre/Find\\_a\\_Riding\\_Centre.aspx](http://www.bhs.org.uk/Riding/Find_Where_To_Ride/Find_An_Approved_Centre/Find_a_Riding_Centre.aspx))
- Yellow Pages web site – January 2010 (www.yell.com website).
- Ardlui Hotel, Marina & Holiday Home Park web site - February 2010 (<http://www.ardlui.co.uk/>)
- Ardlui to Ardleish passenger ferry service – February 2010 ([http://www.incallander.co.uk/loch\\_lomond.htm](http://www.incallander.co.uk/loch_lomond.htm))
- Inversnaid to Inveruglas passenger ferry service – February & August 2010 (<http://www.incallander.co.uk/inversnaid.htm>)
- Scottish Citylink website – January 2010 ([www.citylink.co.uk](http://www.citylink.co.uk))
- First ScotRail – Glasgow & the West Highlands Trains Timetable : December 2009 to May 2010 (<http://www.scotrail.co.uk/sites/files/WHL.web.pdf>)
- First ScotRail – Caledonian Sleeper Trains Timetable : December 2009 to May 2010 (<http://www.scotrail.co.uk/sites/files/Sleeper%20timetable.pdf>)
- Clisham Cottage B&B, Inverarnan (<http://www.clishamcottage.com/location.htm>)
- The Drovers Inn, Inverarnan (<http://www.thedroversinn.co.uk/rooms.php>)
- Beinglas Farm Campsite, Inverarnan (<http://www.beinglascampsite.co.uk>)
- Arrochar Mountain Rescue Team (<http://www.arrocharmrt.org.uk/index.php>)
- Arrochar Primary School (<http://www.arrochar.argyll-bute.sch.uk/index.asp?navID=1>)
- Crianlarich Primary School (<http://www.stirling.gov.uk/index/services/learning/schools/primaries/primaries-a-c/crianlarich.htm>)
- Hermitage Academy, Helensburgh (<http://www.argyll-bute.gov.uk/content/education/schoolprofiles/hermitageacademy>)
- Vale of Leven Academy, Alexandria (<http://www.hmie.gov.uk/documents/inspection/ValeofLevenAcad.pdf>)
- McLaren High School, Callander (<http://www.stirling.gov.uk/mclarenhscatchmentmap.pdf>)

- Oban High School (<http://www.obanhigh.argyll-bute.sch.uk/Websites/SchSecObanHigh/UserFiles/file/Microsoft%20Word%20-%20Revised%20OHS%20Handbook%202010-2011.pdf>)
- Strathclyde Police (<http://www.strathclyde.police.uk/index.asp?locID=1246&docID=-1>)
- Vale of Leven District General Hospital, Alexandria ([http://www.nhsggc.org.uk/content/default.asp?page=s762&loc\\_id=2529](http://www.nhsggc.org.uk/content/default.asp?page=s762&loc_id=2529))
- Victoria Integrated Care Centre, Helensburgh:-
- <http://www.nhshighland.scot.nhs.uk/Services/Pages/VictoriaInfirmarYHelensburgh.aspx>
- [http://www.helensburgh.info/Community\\_Info/Health\\_Services/health\\_services.html](http://www.helensburgh.info/Community_Info/Health_Services/health_services.html)
- OS Landranger Map No. 56 (1:50000);
- Road distance calculations (AA Route Planner) - <http://www.theaa.com/route-planner/index.jsp>