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A83 Trunk Road Route Study

Part B - A83 Tarbet-Lochgilphead-Kennacraig

Final Report

TRANSPORT SCOTLAND

February 2013

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Document Control Sheet

BPP 04 F8
Version 14 July 2012

Project: A83 Trunk Road Route Study Report Project No: B1557610
Client: Transport Scotland
Document Title: Part B – A83 Tarbet-Lochgilphead-Kennacraig
Ref. No:

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DATE **7/12/2012**	INITIALS LR	INITIALS GMcQ	INITIALS ST	INITIALS EHB
	Document Status: Published Draft for Consultation			

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DATE **22/02/2013**	INITIALS LR	INITIALS GMcQ	INITIALS ST	INITIALS EHB
	Document Status: Published Final Report			

	NAME	NAME	NAME	NAME
DATE	INITIALS	INITIALS	INITIALS	INITIALS
	Document Status			

	NAME	NAME	NAME	NAME
DATE	INITIALS	INITIALS	INITIALS	INITIALS
	Document Status			

Document Changes from Draft Report to Final Report

Reference	Description of change
Section 2.2 (page 3)	Paragraph added detailing speed limits on the route and the proposed change between Tarbert and Ardrishaig
Section 2.2.1 (page 4)	Paragraph added on abnormal loads on the route.
Section 2.2.2 (page 5)	Sentence referring to 'hazard ranking' removed.
Section 2.5.19 (page 21)	Ardrishaig amended to read Erines
Section 2.5.21 (page 24)	Paragraph added detailing planned residential and retail developments on Barmore Road, Tarbert.
Summary – Table 1 (page iii) Table 5-1 (page 54) Appendix E	Accessibility and social inclusion assessment amended for Barmore Road, Tarbert options.
Summary (page iv)	Sentence describing 'next step' deleted
Section 4.1.2, item 5 & 6 (page 35)	Text added to clarify approach to approval of standards
Section 4.1.2, item 12 & 14 (page 37)	Text added to clarify approach to approval of standards
Section 4.1.4, item 22	Minor wording change
Section 4.1.9, items 27, 28 & 29 (page 41)	Text added to clarify approach to approval of standards

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SUMMARY

Jacobs was appointed by Transport Scotland to undertake a study of the A83 Trunk Road to identify and appraise potential options to minimise the effects of road closures, investigate the feasibility of removing traffic pinch points and improve pedestrian safety in villages along the route.

This Part B report examines the issues along the length of the A83 Trunk Road between Tarbet and Kennacraig and presents the results of the transport appraisal in accordance with Scottish Transport Appraisal Guidance. The Part B Report excludes consideration of landslide issues at the Rest and Be Thankful, which are covered in the Part A report.

The A83 Trunk Road

The A83 Trunk Road runs from the A82 at Tarbet on Loch Lomond in a generally south westerly direction for 108 km to the Islay Ferry port at Kennacraig in Kintyre. The section of the A83 between Kennacraig and Campbeltown is not part of the trunk road network. The principal towns on the A83 Trunk Road are Inveraray, Lochgilphead and Tarbert and the road also serves Dunoon, the Cowal peninsula, Campbeltown and the rest of Kintyre. Traffic volumes on the route are relatively low at around 2,000-4,000 vehicles per day, however this increases to around 5,500 per day in the summer months.

Analysis of Problems and Opportunities

Current evidence-based problems and potential opportunities along the route were identified through a review of recent relevant studies, analysis of relevant available data and an inspection of the route. Consultation was undertaken, via a workshop, which enabled stakeholders to share their views about issues experienced by road users. This consultation exercise has also informed the identification of the evidence-based problems.

The problems identified can be summarised in the following broad categories:

- the overall geometric standard of the route; including restricted road width, poor horizontal and vertical alignment, the availability and standard of lay-bys and pinch points;
- concerns regarding pedestrian provision in Inveraray, Ardrishaig and Tarbert and between Tarbet and Arrochar;
- frequency and severity of injury related road collisions; and
- concerns over traffic speeds through communities along the route.

Transport Planning Objectives

Objectives and outcomes for the route were developed as part of the Strategic Transport Projects Review. Considering the route further and taking cognisance of the relevant local and regional transport strategies, the strategic objective for the study is to improve operating conditions on the A83. In addition, the following specific Transport Planning Objectives were developed to reflect the identified problems:

Transport Planning Objectives (continued)

- Improve journey time reliability by reducing the frequency and impact of road closures;
- Reduce accident rates and severity on the A83; and
- Improve pedestrian and cycling amenities in the settlements on the A83.

Option Generation, Sifting and Development

Options were generated with the potential to address the identified problems and contribute towards meeting the objectives. 30 potential options were identified for appraisal. The exercise to identify potential options was informed by a review of previous relevant study reports.

Potential options were grouped, by location, as follows:

- Whole route (3 options)
- Tarbet to Ardgartan (9 options)
- Clachan to Inveraray (8 options)
- Furnace (1 option)
- Minard (2 options)
- Lochgair (1 option)
- Ardrishaig (1 option)
- Erines (1 option)
- Tarbert (4 options)

Appraisal Process

The 30 identified options were subjected to a transport appraisal in accordance with the Scottish Transport Appraisal Guidance. The transport appraisal considers the performance of potential options against the objectives and the standard appraisal criteria of Environment, Economy, Safety, Integration and Accessibility & Social Inclusion.

Limited information was available to quantify the potential benefits of each of these options and, therefore, it has not been possible to carry out a cost benefit analysis. The appraisal has been completed based on a mainly qualitative assessment using a seven point assessment scoring system which provides a relative comparison between options, with additional quantifiable benefits included where possible.

During the appraisal process, a number of options were sifted out as they did not meet the objectives and/or demonstrated limited benefits in terms of performance against the appraisal criteria. The 13 options surviving the appraisal process represent a series of potential infrastructure, signage and road marking interventions, under five themes. These are presented in Table 1 below, together with an indication of preliminary costs and benefits and potential timescales for delivery, subject to funding availability and competing priorities in Scotland.

Theme	Option	Estimated Cost	Environment	Safety	Economy	Integration	Accessibility and Social Inclusion	Potential Delivery
Pedestrian Measures	Provision of a pedestrian crossing island on Barmore Road, Tarbert	£20K-£50K	0	✓✓	0	0	✓	M
Minor Improvement Schemes	Re-alignment of the bend at Strone Point	£1M-£5M	XX	✓✓✓	✓✓	0	0	L
	Implement Phase 1&2 of the Dunderave Scheme	£5M-£10M	XX	✓✓	✓	0	0	L
	Implement the preferred scheme for widening the pinch point at Erines	£2M-£5M	XX	✓	0	0	0	L
	Widen the pinch point at Barmore Road, Tarbert and provide priority control in remaining section	£500K-£1M	XX	✓	0	0	✓	L
Measures to Improve Information	Improved signage on the A819 junction in Inveraray	<£5K	✓	✓	0	0	0	S
Safety Improvement Measures	Improve signing, lining and surfacing on the bend at Tarbet tearooms	£5K-£10K	0	✓	0	0	0	M
	Improve signing, lining and surfacing on the bend at Ardgartan Caravan Park	£5K-£10K	0	✓	✓	0	0	M
	Improved signage at the church on Main Street, Inveraray	<£5K	0	✓	0	0	0	S
	Re-model the junction at the north of the village of Furnace to improve visibility for vehicles emerging from the village, especially buses	£20K-£50K	X	✓	0	0	0	L
Speed Control Measures	Flashing speed warning signs in the 40mph limit at Minard	£5K-£10K	0	✓	0	0	0	S
	Flashing speed warning signs in the 40mph limit at Lochgair	£5K-£10K	0	✓	0	0	0	S
	Flashing speed warning signs in the 30mph limit at the north of Ardrishaig	£5K-£10K	0	✓	0	0	0	S

✓✓✓ Major Benefit
✓✓ Moderate Benefit
✓ Minor Benefit
0 Neutral
X Minor negative Impact
XX Moderate Negative Impact
XXX Major Negative Impact

Potential Delivery:
S – Short Term
M – Medium Term
L – Long Term

Table 1 Infrastructure Measures

Table 1 provides a summary of potential options along the A83 Trunk Road, which have been appraised, mainly qualitatively, in terms of meeting the objectives and performance against the appraisal criteria. Given the different range and type of potential interventions and the specific problem which each one may address, a relative comparison of one intervention against another is not always appropriate.

The potential options have, therefore, been grouped into common themes to allow a general overview of options which address similar types of issues. Options under the grouping of 'minor improvement schemes' address recognised pinch points and road casualty cluster points on the route. The potential quantifiable benefits relating to each of the minor improvement schemes mainly relate to potential cost savings from reduced casualty numbers and/or casualty severity. The positive and negative impacts are presented using the seven point scale detailed above. The assessment indicates that measures to realign the bend at Strone Point potentially provide the greatest benefits, followed by the intervention at Dunderave, although it should be noted that a quantified economic assessment has not been undertaken at this stage.

Potential options such as upgrading the whole route to a standard level of cross-section, or providing upgraded and additional lay-bys, in line with current Design Manual for Roads and Bridges (DMRB) standards, were also considered in the appraisal. Whilst these potential options were not taken forward within this study, consideration should be given to upgrading the standard of sections of the route, particularly with regard to cross section and lay-by provision, as part of ongoing maintenance and upgrade programmes. The rationale for implementing such interventions would need to be clear. In addition, in order to investigate further the issue of pedestrian casualties and facilities in Inveraray, consideration should be given to conducting a feasibility study.

Conclusions

The potential options identified in this study align with the approach recommended in the STPR, which recognised the need to maintain and safely operate the road in the context of a route management strategy. The potential options comprise a series of localised improvements to address the evidence based problems on the route.

The measures range from the implementation of improved direction or warning signs, which are relatively inexpensive and straightforward to implement, to minor improvement schemes that address specific pinch points and provide a greater level of benefit. The rationale for taking forward any option for further development and implementation would need to be clear and assessed against other competing priorities for the trunk road budget. For example, the minor improvement schemes, if developed further, would require additional assessment, planning and design work. Minor improvement schemes are generally managed and implemented on behalf of Transport Scotland by the Trunk Road Operating Companies.

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1 INTRODUCTION

1.1 Study Background

The A83 Trunk Road Route Study recognises the significant challenges that exist along the length of this vital road. The study identified and appraised potential options to address evidence based problems along the route.

A campaign to upgrade the A83 has been started to urge the Scottish Government to take 'urgent action to improve the rapidly deteriorating main road from Argyll into central Scotland'. The campaign has highlighted four areas:

- Absence of proper crossing points in villages of Ardrishaig and Tarbert;
- The pinch points on the route;
- The landslides at the Rest and Be Thankful; and
- Trunking of the route from Kennacraig to Campbeltown.

This study will inform Transport Scotland's response to the first three areas identified by the campaign to upgrade the A83. Transport Scotland will respond separately to the Public Petitions Committee on the subject of trunking of the A83 from Kennacraig to Campbeltown.

1.2 Study Deliverables

The A83 Trunk Road Route Study Report consists of two sections; Part A and Part B.

The Part A report examines the landslide problem at Rest and Be Thankful and considers options to minimise the effects of road closures on the local communities and road users in the area. It also addresses other sections of the A83 trunk road where a high risk of landslides has been identified.

This Part B Report provides a review of the issues across the whole A83 Trunk Road from Tarbet to Kennacraig and details the results of an appraisal of potential options to deal with the identified problems.

2 ANALYSIS OF PROBLEMS AND OPPORTUNITIES

2.1 Introduction

This section of the report presents details of the problems on the A83 route from Tarbet to Kennacraig and the evidence to support these problems. Key route characteristics are also outlined

2.2 A83 Corridor

The A83 Trunk Road runs from the A82 at Tarbet on Loch Lomond in a generally south west direction for 108 km to the Islay Ferry port at Kennacraig in Kintyre. The A83 continues south from Kennacraig to Campbeltown but this final section is not part of the trunk road network. The principal towns on the A83 Trunk Road are Inveraray, Lochgilphead and Tarbert and the road also serves Dunoon and Cowal, Campbeltown and Kintyre, and the islands of Islay, Jura and Gigha. Traffic volumes on the route are relatively low at around 2,000-4,000 vehicles per day, however this increases to around 5,500 per day in the summer months.

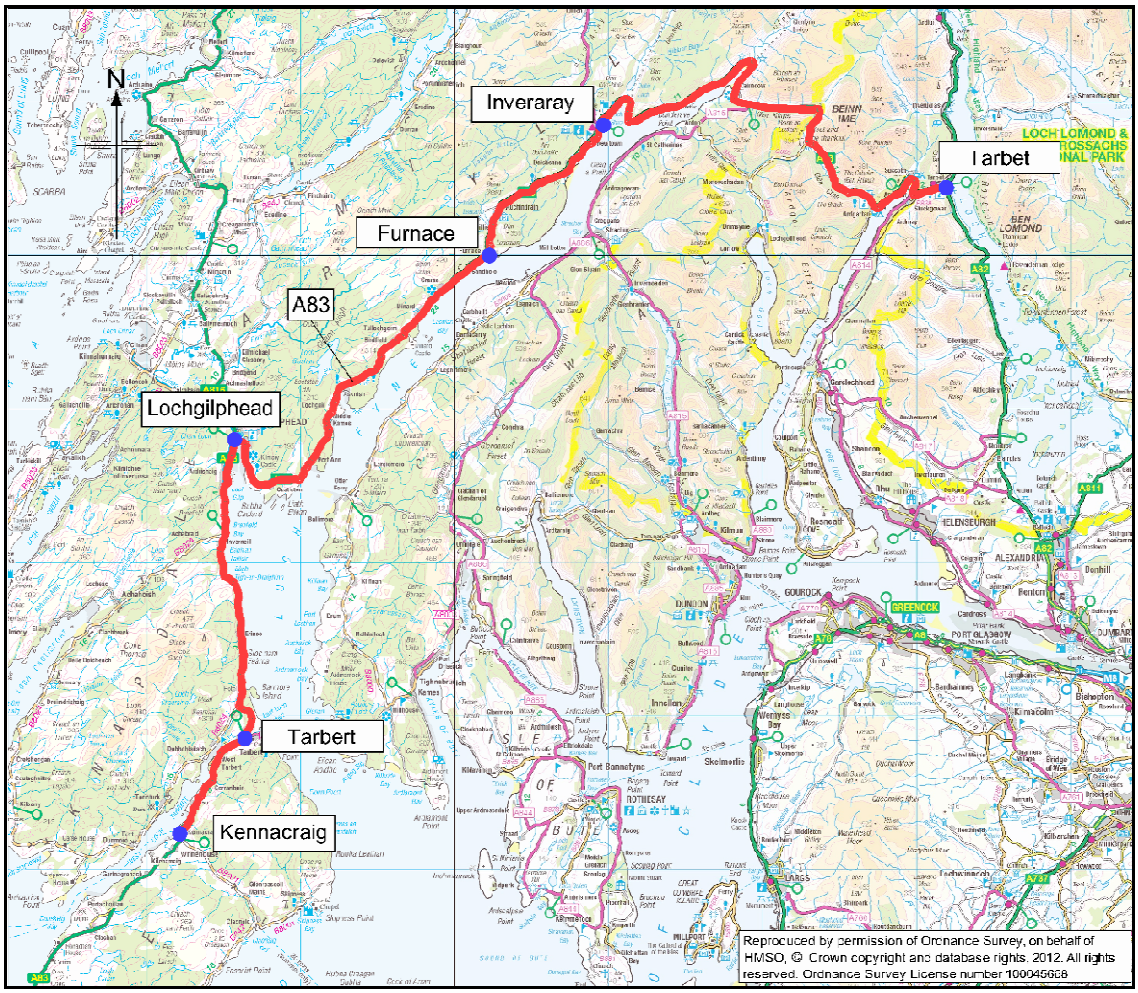

Figure 2-1: A83 Trunk Road

The A83 is of variable width single carriageway two lane construction throughout its entire length with the exception of localised short single lane narrowings at Aray Bridge, Minard, Ardrishaig, Erines and Barmore Road, Tarbert. The Strategic Transport Projects Review (STPR) identified the A83 as a route that would be maintained and safely operated within the general remit of Transport Scotland. No specific interventions were indicated within the STPR.

The speed limit on the route is generally national speed limit with 30mph and 40mph sections through the settlements. The recently published speed limit review however, recommended a reduction in the speed limit on the A83 between Tarbert and Ardrishaig to 50mph.

2.2.1 Existing Traffic Volumes

Traffic count data is available for nine locations along the route where Automatic Traffic Counters (ATCs) are installed. Annual average daily traffic levels have been extracted from the Scottish Road Traffic database and are detailed in Table 2-1 below. Average daily traffic levels for the month of August are also detailed showing the marked increase in trips on the route in the summer.

Location	Average Daily Traffic (2010)	Average Daily Traffic (August - 2010)
A83 Arrochar Outdoor Centre	4723	6677
A83 north of A814	4847	5460
A83 west of Arrochar	4414	6348
A83 Drishaig	3511	4687
A83 south of Inveraray	3005	3943
A83 Castleton	2781	3490
A83 east of Lochgilphead Roundabout	5789	6493
A83 Ardrishaig	2910	3248
A83 200m west of Tarbert	2298	2742

Table 2-1: A83 Traffic Volumes

The traffic flows detailed in Table 2-1 above show that, the southern section of the route has significantly lower traffic levels that the northern section. Traffic levels in general, while increasing in the summer months are relatively low.

Traffic classification is available at two of the locations detailed above (the A83 West of Arrochar and A83 Ardrishaig). Figures 2-2 and 2-3 below detail the classification of traffic at these ATC sites and highlight a much higher proportion of HGV traffic on the southern part of the route.

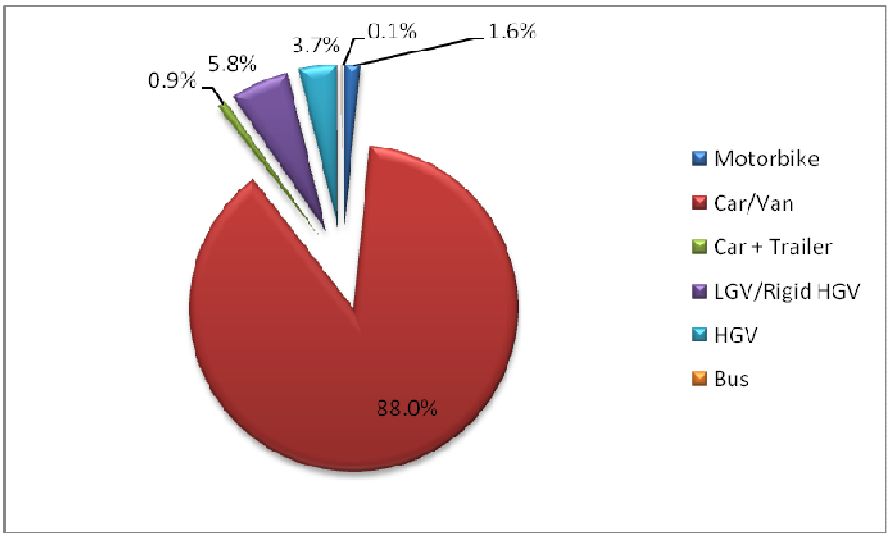

Figure 2-2: Vehicle Classification on A83 west of Arrochar

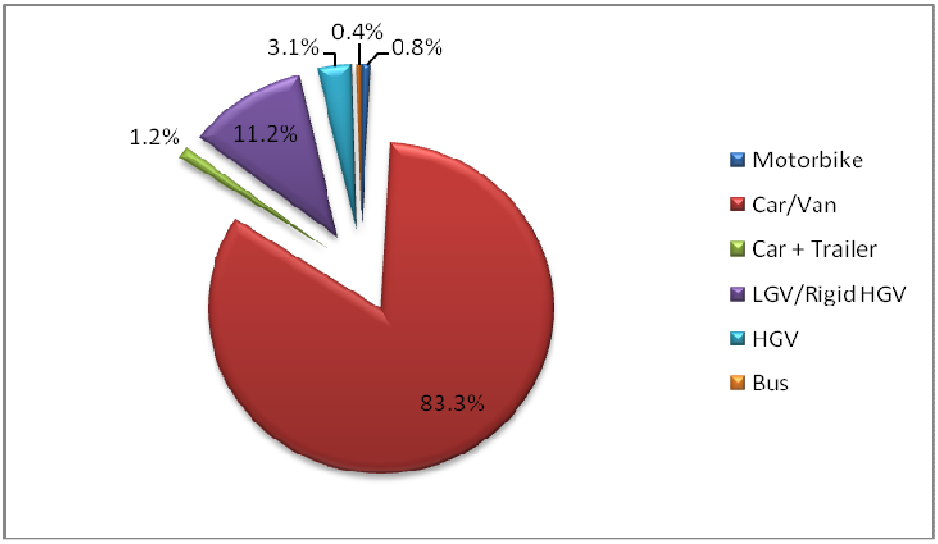

Figure 2-3: Vehicle Classification on A83 at Ardrishaig

Abnormal loads, particularly related to the transport of wind turbine components are increasingly utilising the route. The movement of these abnormal loads is planned in advance and escort vehicles are provided.

2.2.2 Accident Data

The accident rate for the A83 is 26.64 accidents per one hundred million vehicle kilometre (mvkm). In comparison, the accident rate for singles carriageways on the whole of the Scottish Trunk Road network is 15.9 accidents per hundred mvkm, indicating a higher accident rate on the A83[1].

Accident statistics have been made available for the period 1 January 2007 to 31 December 2011 inclusive, during which time there were a total of 239 accidents on the A83 between Tarbet and Kennacraig. A detailed breakdown of accident severity

[1] Scotland TranServ A83 Route Safety File; September 2010

and year of occurrence is provided in Table 2-2 below. It presents the Killed and Seriously Injured (KSI) severity ratio. The equivalent KSI ratio on the whole of the Scottish Trunk Road Network, as reported in the A83 Route Safety File, is 0.2, highlighting a higher proportion of accidents on the A83 that result in serious or fatal casualties than on the Scottish trunk road network as a whole.

Year	Fatal	Serious	Slight	Total	KSI Severity Ratio
2007	5	4	27	36	0.25
2008	1	15	36	52	0.31
2009	1	16	35	52	0.33
2010	3	11	38	52	0.27
2011	0	13	34	47	0.28
Total	10	59	170	239	0.29

Table 2-2: Accident Severity Statistics

Figure 2-4 presents the location of those accidents classified as slight (green), serious (blue), or fatal (red).

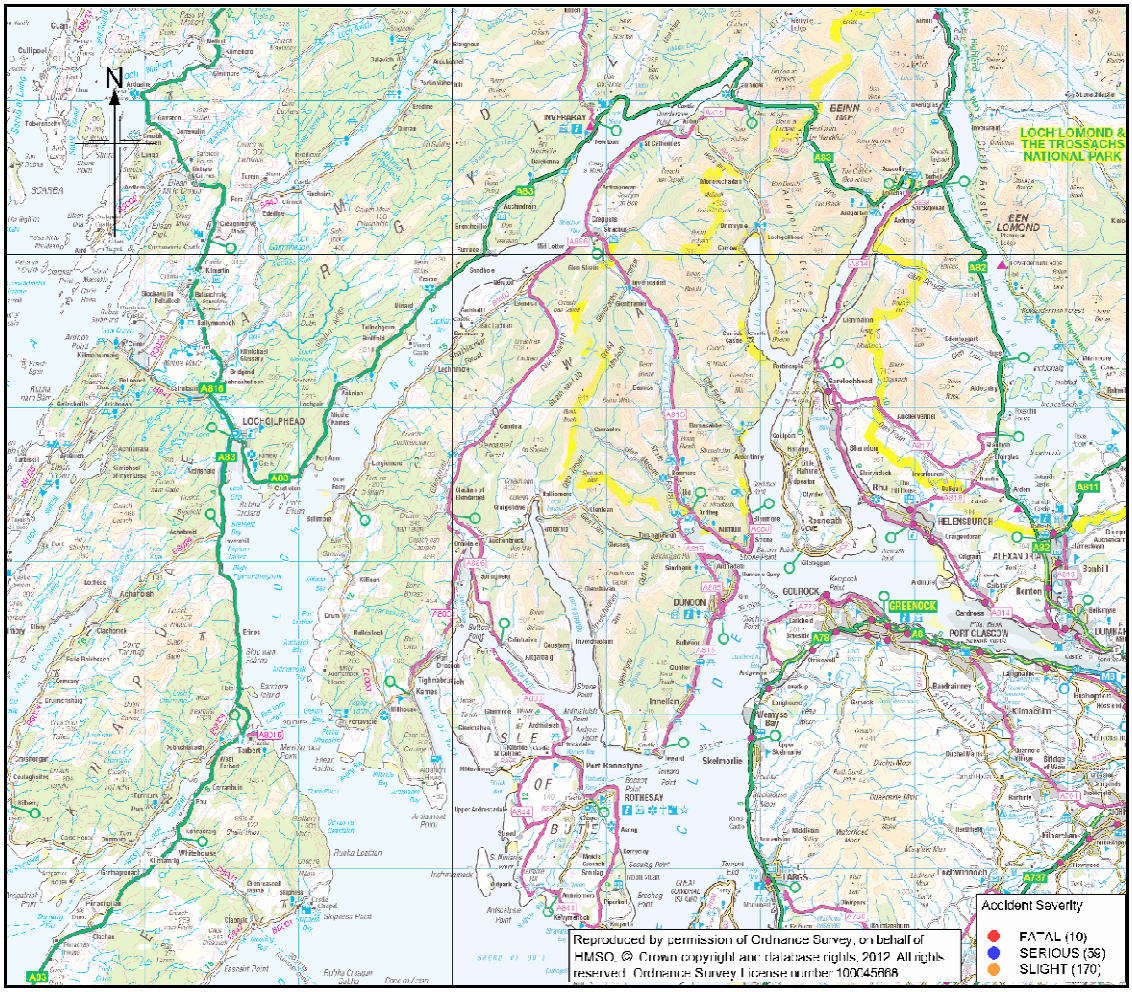

Figure 2-4: Accident Locations on the A83

Figure 2-5 below, extracted from the A83 Route Safety File[1] shows 50% of accidents on the A83 occur when vehicles are going ahead on a bend. Over the whole Scottish Trunk Road network, 15% of accidents are attributable to this vehicle manoeuvre, highlighting that this is a particular issue on the A83 route. The proportion of accidents on the A83 occurring while vehicles are overtaking another

moving vehicle (7%) is double that for the whole Scottish Trunk Road network, highlighting another particular issue on the A83.

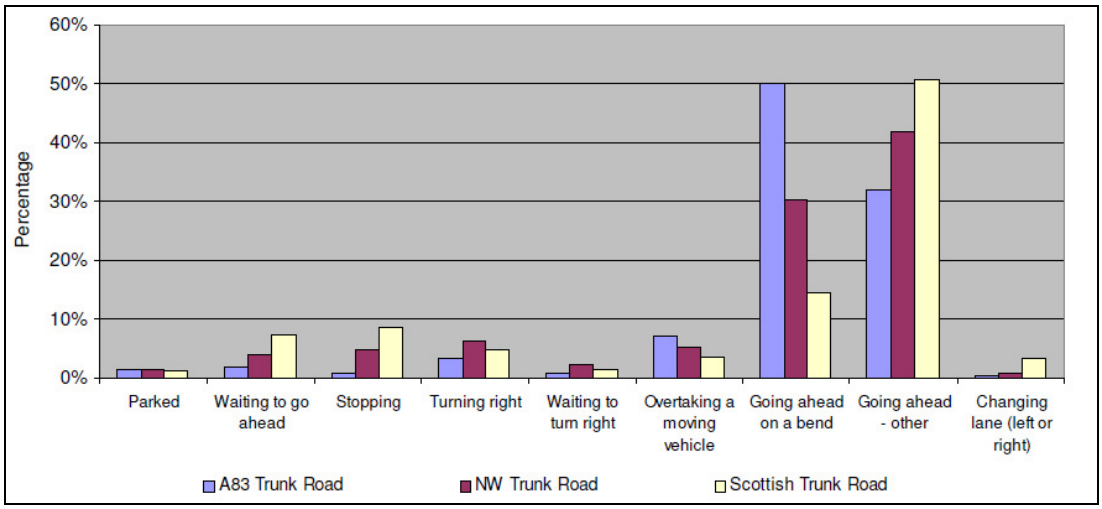

Figure 2-5: A83 Route Safety File - Accident Involvement by Vehicle Manoeuvre[1]

The number of accidents on the A83 increases in the summer months (Figure 2.6). This is not surprising given the increases in traffic flows, but it also may be related to the number of unfamiliar drivers on the route.

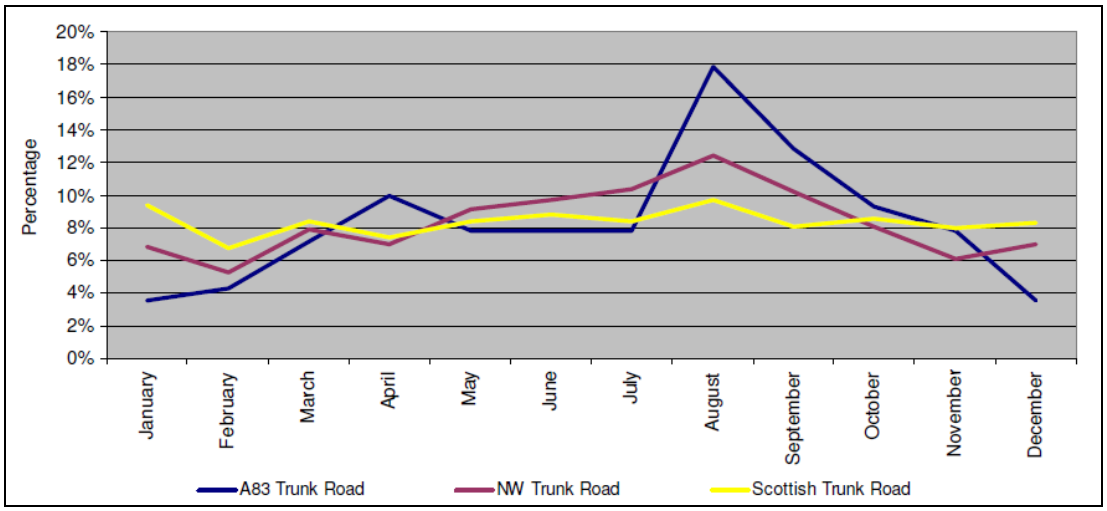

Figure 2-6: A83 Route Safety File – Accidents by Month (2007 to 2009)[1]

2.3 Methodology

The evidence-based problems on the route were identified using several approaches.

Previous reports and studies undertaken on the route, as supplied by Transport Scotland and Scotland TranServ, were studied and key problems identified. These reports are:

- A83 Emergency Standard Diversion Routes (Scotland TranServ, June 2009);
- A83 Route Accident Reduction Plan – Phase 1 Arrochar to Furnace (Scotland TranServ, January 2009);

- A83 Route Accident Reduction Plan – Phase 2 Furnace to Lochgilphead (Scotland TranServ, February 2008);
- A83 Route Accident Reduction Plan – Phase 3 Lochgilphead to Kennacraig (Scotland TranServ, June 2011);
- A83 Route Safety File (Scotland TranServ, September 2010);
- A83 Dunderave Scheme Phase 1 (Scotland TranServ, April 2010);
- A83 Dunderave Scheme Phase 2 (Scotland TranServ, June 2011);
- A83 Ardrishaig – Pedestrian Crossing Feasibility Study (Scotland TranServ, July 2012);
- A83 Tarbet – Lochgilphead – Kennacraig Trunk Road - Ardrishaig Pedestrian Crossing Feasibility Study (Scotland TranServ, February 2009);
- A83 Erines Road Improvement – Feasibility Study (Bear Scotland, March 2006);
- A83 Erines Scheme (Scotland TranServ, April 2010); and
- A83 Tarbert Draft Pedestrian Crossing Feasibility Study (Scotland TranServ, July 2012).

Some of the problems identified in the reports listed above have already been addressed and are therefore not included in any further assessment as part of this study.
Road accident data detailing all injury accidents for the past five years, supplied by Transport Scotland, and the current moving cursor data for accidents on the route was analysed.

Two stakeholder workshops were held as detailed in Section 2.4 below.

In addition, a site visit was undertaken. The purpose of this visit was to observe and verify the issues that had been identified through the previous reports and at the stakeholder workshops.

2.4 Stakeholder Consultation

A stakeholder consultation workshop for the study was held at the Loch Fyne Hotel, Inveraray, on 22 August 2012. It was attended by various parties including local elected members, officials from Argyll and Bute Council, community council representatives, transport operators, local business groups, Transport Scotland, Scotland Transerv and Jacobs. Further written feedback was also received from stakeholders through the project email address.

A further (technical) workshop was held on 29 August 2012 with a focus on operational management issues This workshop was held in Jacobs offices in Glasgow and was attended by representatives of Transport Scotland, Scotland Transerv, the Transport Research Laboratory and Jacobs.

The transport issues raised by stakeholders have been considered in the identification of transport problems and constraints, which is the first stage of a Transport Appraisal.

Following the stakeholder workshops the issues raised have been examined alongside previous reports and studies for the route and accident records for the route in order to build up the evidence of the identified problems.

The issues discussed at the Inveraray Stakeholder event are detailed in the Stakeholder Consultation Workshop – Summary of Discussion [2], which was published on the Transport Scotland website following the events and which is included as Appendix B of this report.

2.5 Analysis of Problems and Constraints

The problems identified are set out in the following section, grouped by location. Figure 2-7 below shows the whole route with specific locations of identified problems. Locations are grouped as follows:

- Whole route
- Tarbet to Ardgartan
- Clachan to Inveraray
- Furnace
- Minard
- Lochgair
- Ardrishaig
- Erines
- Tarbert

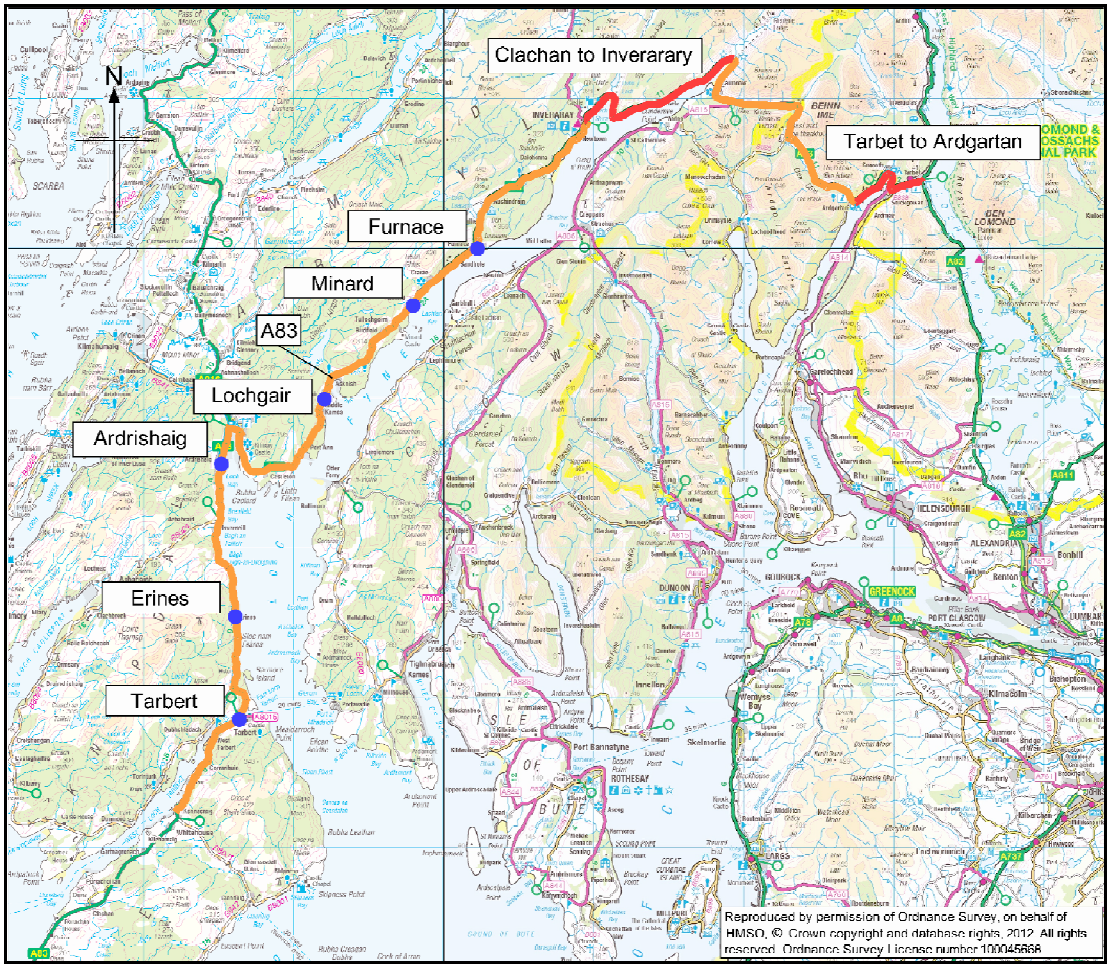

Figure 2-7: Location of Identified Problems on the Route

[2] A83 Trunk Road Route Study – Stakeholder Consultation Workshop: Summary of Discussion. Produced by Jacobs for Transport Scotland. August 2012.
http://www.transportscotland.gov.uk/road/maintenance/landslides/A83-rest-and-be-thankful

Whole Route Issues

2.5.1 Problem: Road width less than 6m wide requires closure for maintenance

The operating company for the route, Scotland TranServ, have advised that all maintenance activities on sections of the route that are less than 6.0m require a full closure to be implemented. The location and length of these areas is not recorded at present.

2.5.2 Problem: Road is not to current DMRB standards across most of its length

Parts of the route are below current standards in terms of horizontal and vertical alignment and carriageway width. Participants at the stakeholder workshop expressed concern at the road width on parts of the route. This was also highlighted in the Route Accident Reduction Plan that was developed by Scotland TranServ in 2008:

> *"Sub-standard width - The A83 is a trunk road and therefore a strategic route for commercial use. The width of the road is, in many places, unsuitable for a major route because it is not wide enough to accommodate large vehicles, HGVs, PSV's, tourist coaches and abnormal loads. Large vehicles should be able to use the road without overrunning the edge. This contributes to crumbling of the edge of the road and also the wear on the edge of carriageway and centre line markings. Such vehicles passing each other on this road can become perilously close to each other, causing sudden braking and conflict. There are many places where these vehicles stray over the centre line and can come into conflict with opposing traffic causing collisions. There are examples of this type of collision on this route."*[3]

2.5.3 Problem: Lack of overtaking opportunities on route

Stakeholders at the workshop in Inveraray shared their views about a lack of safe overtaking opportunities on the route as an issue. The substandard width and the proportion of HGV traffic on the route effectively reduce the available overtaking opportunities. Accident records for the route between 2007 and 2011 show a total of 21 accidents occurred when an overtaking manoeuvre was taking place. Of these, two resulted in fatalities and a further eight resulted in serious casualties. These accidents are however spread across the whole length of the route and are not confined to any particular section.

2.5.4 Problem: Lay-bys are infrequent

Several stakeholders raised concerns about a lack of formal lay-bys and the standard of existing lay-bys as an issue.

A desk top review of the lay-bys located on the A83 between Tarbet and Kennacraig has been undertaken using all available information sources. The aim of the review was as follows:

[3] Scotland TranServ A83 Tarbet-Lochgilphead-Kennacraig Trunk Road Route Accident Reduction Plan, May 2008

- Identify the number of lay-bys on the route;
- Identify the general type of lay-by;
- Identify the spacing between lay-bys;
- Investigate the condition of surfacing and signage at each lay-by; and
- Investigate options for improving the existing lay-bys both with and without need for land acquisition.

A total of 24 lay-bys were identified, 17 on the southbound carriageway and 7 on the northbound carriageway. Spacing of lay-bys and design varied greatly and in general failed to comply with the standards outlined in the Design Manual for Roads and Bridges (DMRB), which requires a spacing of 5-8km for single carriageway with Annual Average Daily Traffic (AADT) levels of 2,500-8,000.

There are two categories of lay-by within DMRB for single carriageway roads. A Type A lay-by is segregated from the running carriageway by a channel island whilst a Type B lay-by is immediately adjacent to the running carriageway. There is also a modified Type A lay-by detailed in the standard. The principal difference between a Type A and a Type A-modified lay-by is the length of the merge taper on exit from the lay-by.

All but two of the lay-bys identified on the A83 are of Type B layout however, their exact dimensions do not conform to the standard. Whilst the Type B layout is a recognised layout, the AADT figures for the A83 (<8000) indicate that a Type A or B layout is appropriate where a speed limit of 40mph or less is in place. Where the speed limit is greater than 40mph a Type A lay-by should be used.

Converting existing Type B lay-bys to Type A or Type A modified lay-bys requires an additional area of land to accommodate the channel island. Provision of a Type A or Type A modified lay-by is generally achievable with land purchase. Provision of a fully compliant Type B layout will also generally require land purchase however, to a lesser extent than that for Type A.

Signing for existing lay-bys is inconsistent. Whilst the majority of lay-bys have a signpost to diagram 801 of the Traffic Signs Regulations and General Directions 2002 immediately prior to the entry taper, certain lay-bys have advanced warning signs as well, located 400m from the lay-by. A number of lay-bys have no signpost.

Road markings for existing lay-bys are also inconsistent. Some lay-bys have road markings that contain green studs that help to indicate the presence of a break in the normal edge of carriageway whilst others do not. The road markings appear to take the form of a 1.1m line and 0.9m gap arrangement however in several locations there is a solid line at the carriageway edge.

A summary of the existing lay-bys on the route is provided in Appendix A of this report.

Tarbet to Ardgartan

Figure 2-8 below highlights the location of the problems identified between Tarbet and Ardgartan.

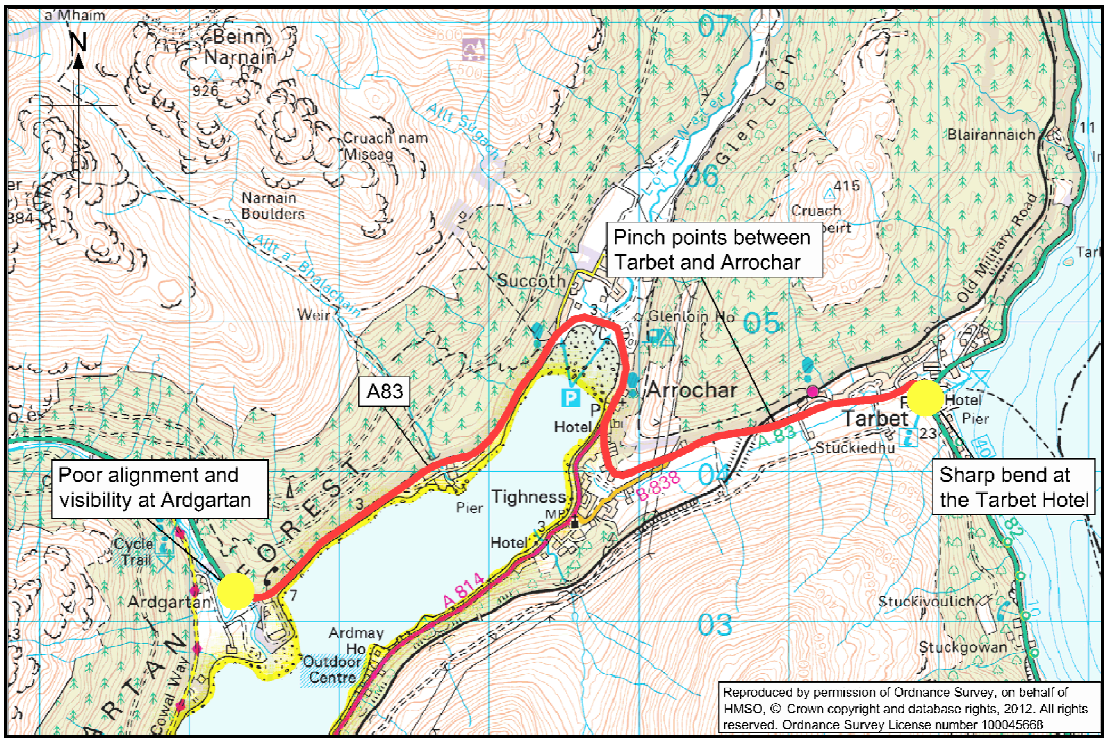

Figure 2-8: Identified problems between Tarbet and Ardgartan

2.5.5 Problem: Pinch points between Tarbet and Arrochar including through the railway bridge at Tarbet

Several stakeholders raised the issue of pinch points in the road width through the village of Tarbet and between Tarbet and Arrochar at the railway bridge where the pedestrian footway is reduced.

Figure 2-9: Pinch point at railway bridge between Tarbet and Arrochar[4]

[4] Image taken from Transport Scotland's SERIS database.

2.5.6 Problem: Risk of accidents on the sharp bend at the Tarbet Tearooms/Hotel

The sharp bend within Tarbet village at Tarbet tearooms was considered a potential accident risk by several stakeholders at the workshop. Analysis of the accident records between 2007 and 2011 has identified three slight injury accidents within the 30mph limits at Tarbet. These accidents were all attributable to either a poor turn or manoeuvre or losing control on a wet surface.

Figure 2-10: Bend at Tarbet Tearooms[5]

2.5.7 Problem: Risk of accidents due to poor alignment and visibility at Ardgartan

At Ardgartan, the A83 turns sharply north-west on a long sweeping bend. On this bend, there is a turning for Ardgartan Caravan Park. Stakeholders consider that this location is an accident risk area. From the accident data for 2007 to 2011, four accidents have been recorded at this location, one resulting in a serious injury, the rest resulting in slight injuries. Further analysis of the accident records shows no distinct patterns of accident type or causation.

Figure 2-11: Bend at Ardgartan Campsite (Westbound)[6]

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Figure 2-12: Bend at Ardgartan Campsite (Eastbound)[7]

2.5.8 Problem: Risk of accidents on the bend at the Rest and Be Thankful Car Park

The Rest and Be Thankful car park is a well known location on the A83 and is popular with tourists. The car park and view point is situated on a sharp bend, the severity of which is not apparent on approach. In addition, the entrances to the car park and the B828 junction are not readily apparent until motorists are within close proximity of the junction. This is particularly problematic due to the number of vehicle turning movements which occur there. Subsequently, the popularity and poor visibility at the Rest and Be Thankful has contributed to the high accident rates on this section of the A83.

Nine incidents have been recorded at the bend between 2007 and 2011, including seven slight and two serious injury accidents, the majority of which occurred in 2008. Three of the accidents were reported to be due to a poor turning manoeuvre and six occurred while going ahead on a left hand bend. Another five accidents occurred within 1km of the car park during the same time period, all of which since 2010. These included three slight injury and two serious injury accidents. Two were reported to have been due to a loss of control and three occurred while going ahead on a right hand bend.

Measures have been identified at this location as part of the Route Accident Reduction Plan in order to deal with these issues. The effectiveness of these measures will be monitored as part of ongoing annual accident analysis on the route. This problem is therefore not considered further in this report.

Clachan to Inveraray

Figure 2-13 below highlights the location of the problems identified between Clachan and Inveraray.

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[7] Image taken from Transport Scotland's SERIS database.

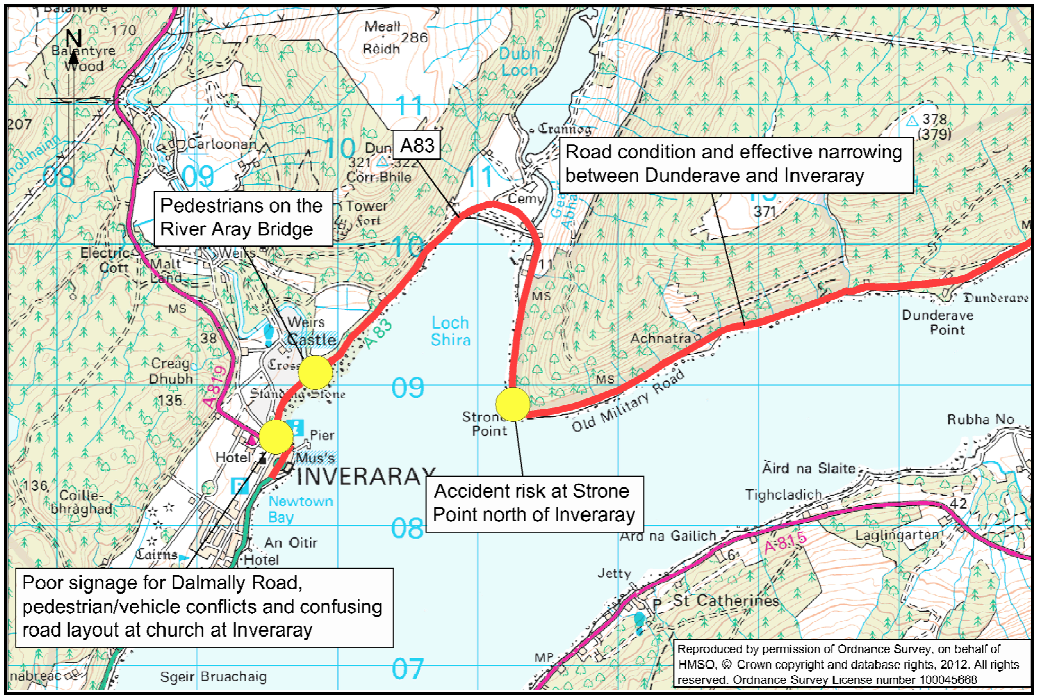

Figure 2-13: Identified problems between Clachan and Inveraray

2.5.9 Problem: Road condition and effective narrowing between Dunderave and Inveraray

Issues relating to poor condition of the road edge have been raised by stakeholders and are highlighted in previous work completed by Scotland TranServ on the section of the A83 between Dunderave and Inveraray. This issue effectively results in narrowing the available road width, especially for heavy vehicles and results in vehicles having to cross the centre line of the road to avoid the poor edge surface.

From the accident data for 2007 to 2011, three accidents have been recorded on this section of the A83, all resulting in serious injuries. Of these accidents, two were single vehicle accidents involving an LGV or HGV skidding and overturning, the other was a collision between two vehicles.

Figure 2-14: A83 at Dunderave showing poor carriageway edge on both sides[8]

[8] Image taken from Transport Scotland's SERIS database.

2.5.10 Problem: Accident risk at Strone Point north of Inveraray

Stakeholders considered Strone Point, to the north of Inveraray, as an area where there had been several serious accidents in the past and the bend was considered to be a hazard.

Figure 2-15: A83 at Strone Point[9]

The bend at Strone Point is located in the 3.6km section between Dunderave Castle and Shira Bridge. Six collisions, including one fatal collision and three collisions resulting in serious casualties, have been recorded at Strone Point in the five year period between 2007 and 2011. Contributory factors in each of these incidents have been either loss of control, making a poor manoeuvre or travelling too fast for the conditions. During the period of this study, there has been a further fatal collision at this location.

As the photograph above shows, advanced warning signs with reflective yellow backing are provided on the approach to the bend along with high friction surfacing, chevron markings with yellow reflective backing and safety barriers on the bend itself.

2.5.11 Problem: Pedestrians on the River Aray Bridge

Stakeholders at the workshop in Inveraray raised an issue with pedestrians accessing the single lane bridge over the River Aray in order to take photographs of Inveraray Castle. Although there have been no recorded accidents on the bridge in recent years this issue presents a safety risk for pedestrians, as there are no footways on the bridge and visibility is poor due to the incline of the bridge.

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Figure 2-16: Signal controlled bridge crossing of the River Aray to the north of Inveraray[10]

2.5.12 Problem: Poor signage for Dalmally Road in Inveraray

Stakeholders shared their views regarding several people missing the turning for the A819 Dalmally Road in Inveraray. Advanced directional signage is provided on the approach to Inveraray from the north however, the directional signage for the A819 at the junction is located on a bend and is less prominent than those for the car and coach parks, which are sited on the same pole. The A819 also passes through an arch adjacent to the Argyll Hotel, which does not give the impression of a main route. The road accident data does not give any indication that this problem has contributed to any accidents occurring within the vicinity of the junction.

2.5.13 Problem: Pedestrian/vehicle conflicts within Inveraray

The A83 passes through Inveraray on the Main Street which has shops on either side. The area becomes busy with pedestrians, especially during the tourist season. Pedestrians can be seen crossing the road along the length of Main Street between the various shops, creating potential pedestrian vehicle conflicts. In general, traffic through Inveraray is slowed by the presence and volume of pedestrians. However four accidents involving pedestrians have been recorded within the 30mph limits of Inveraray between 2007 and 2011, one of which resulted in a serious casualty, the remaining three resulting in slight casualties.

No assessment of pedestrian crossing requirements is currently available for Main Street, Inveraray therefore, it is recommended that a Pedestrian Crossing Feasibility Study, following the guidance set out in LTN 1/95 Assessment of Pedestrian Crossings, is carried out in order to determine the need for, and suitable type, of crossing facilities at this location.

[10] Image taken from Transport Scotland's SERIS database.

Figure 2-17: Main Street Inveraray showing pedestrians and shops on either side of the road[11]

2.5.14 Problem: Confusing road layout at church through Inveraray

Stakeholders considered that the road layout around the church on the A83 through Inveraray is confusing, especially to tourists, some of whom have been observed by stakeholders travelling in the wrong direction on this section of road. The road accident data does not give any indication that this road layout has resulted in any casualties.

Figure 2-18: Road layout at church – Main Street, Inveraray[12]

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[12] Image taken from Transport Scotland's SERIS database.

Furnace

Figure 2-19 below highlights the location of the problems identified at Furnace.

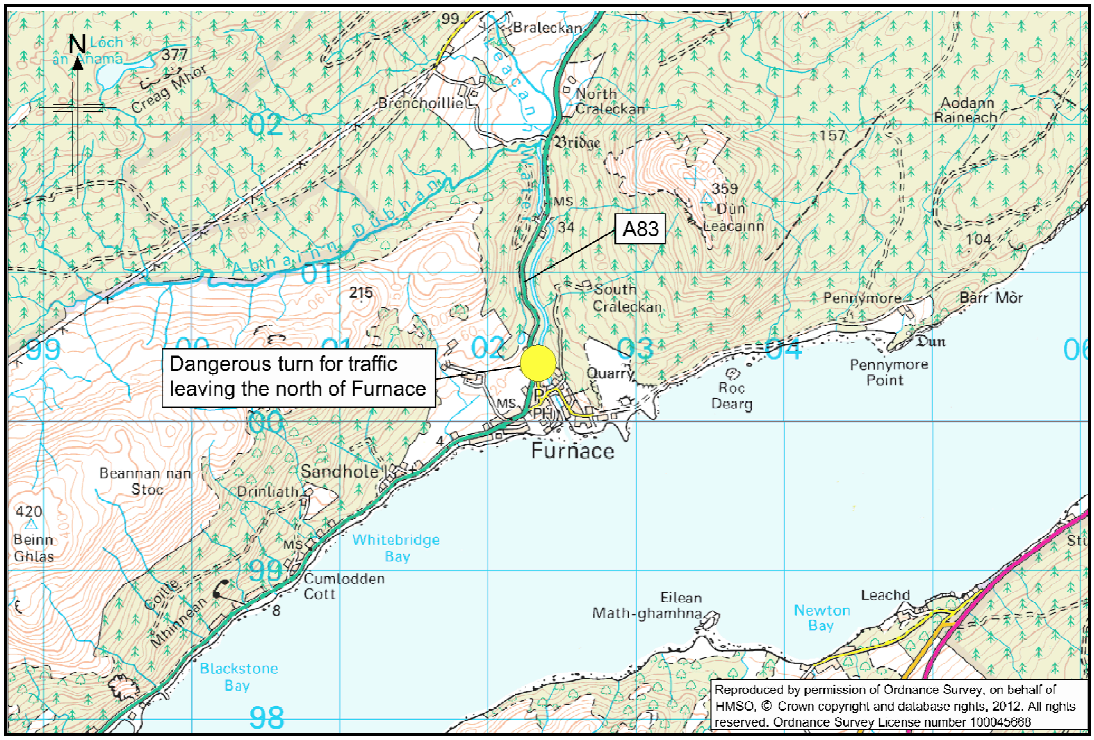

Figure 2-19: Identified problems at Furnace

2.5.15 Problem: Dangerous turn for traffic leaving Furnace (northern end of village), especially for buses

Figure 2-20: A83 at Furnace (north) junction looking south[13]

The bus services between Lochgilphead and Inveraray leave the main A83 to serve the village of Furnace. There are junctions at either end of the village that are used for access and egress onto the A83. Representatives from the local bus operator at

[13] Image taken from Transport Scotland's SERIS database.

the stakeholder event raised an issue with northbound buses turning right while egressing from the village at Furnace. The buses are unable to manoeuvre into the correct position at the junction and therefore visibility is restricted on the nearside of the bus (looking south). There have been no recorded accidents at the junction between 2007 and 2011. The available visibility is shown in Drawing No B1557610/Option 22 in Appendix C.

Minard

Figure 2-21 below highlights the location of the problems identified at Minard.

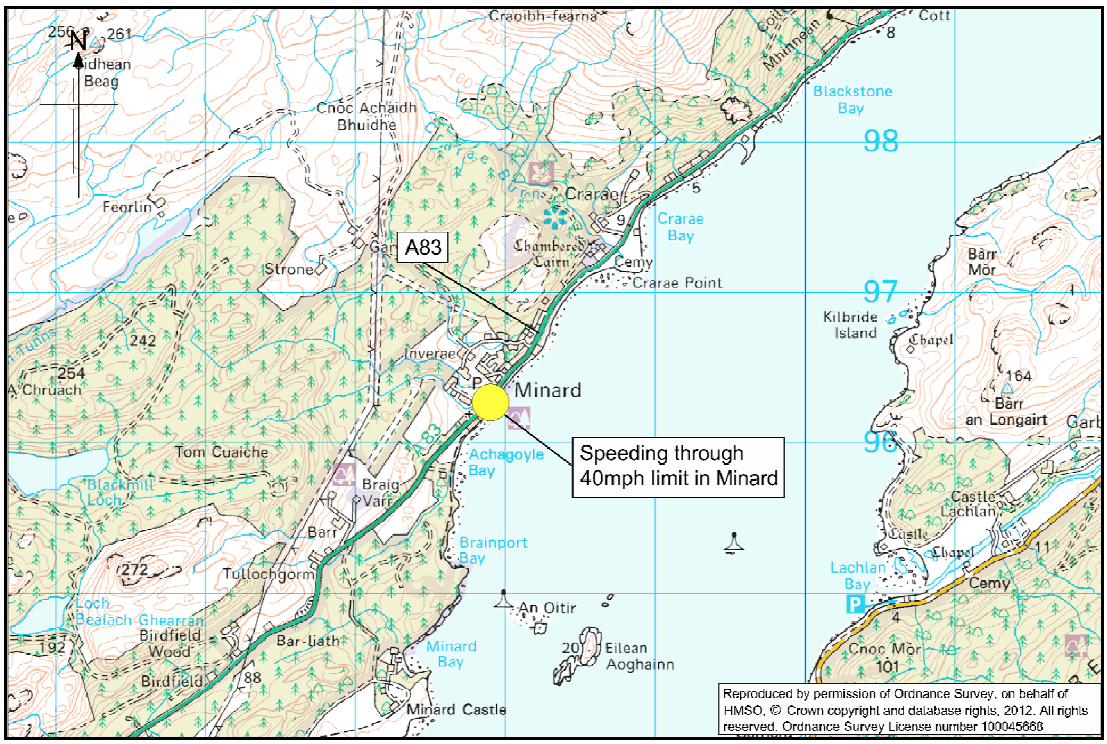

Figure 2-21: Identified problems at Minard

2.5.16 Problem: Traffic Speeds on 40mph limit at Minard

Stakeholders at the workshop expressed concern regarding the speed of traffic through the section of 40mph speed limit in Minard. Two slight injury accidents have occurred within the 40mph section at Minard between 2007 and 2011; however there is no evidence to suggest that these were due to speeding.

Lochgair

Figure 2-22 below highlights the location of the problems identified at Lochgair.

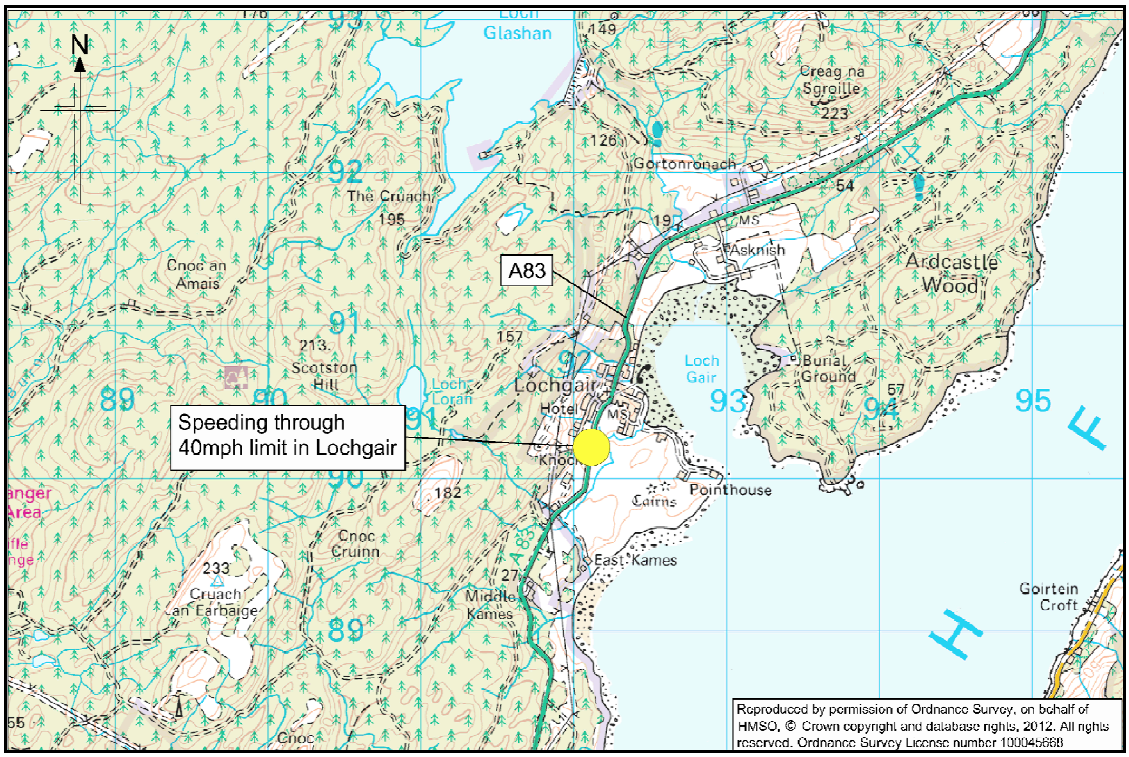

Figure 2-22: Identified problems at Lochgair

2.5.17 Problem: Traffic speeds on 40mph limit at Lochgair.

Stakeholders at the workshop expressed concern regarding the speed of traffic through the section of 40mph speed limit in Lochgair, however no accidents have been recorded within this section between 2007 and 2011.

Ardrishaig

Figure 2-23 below highlights the location of the problems identified at Ardrishaig.

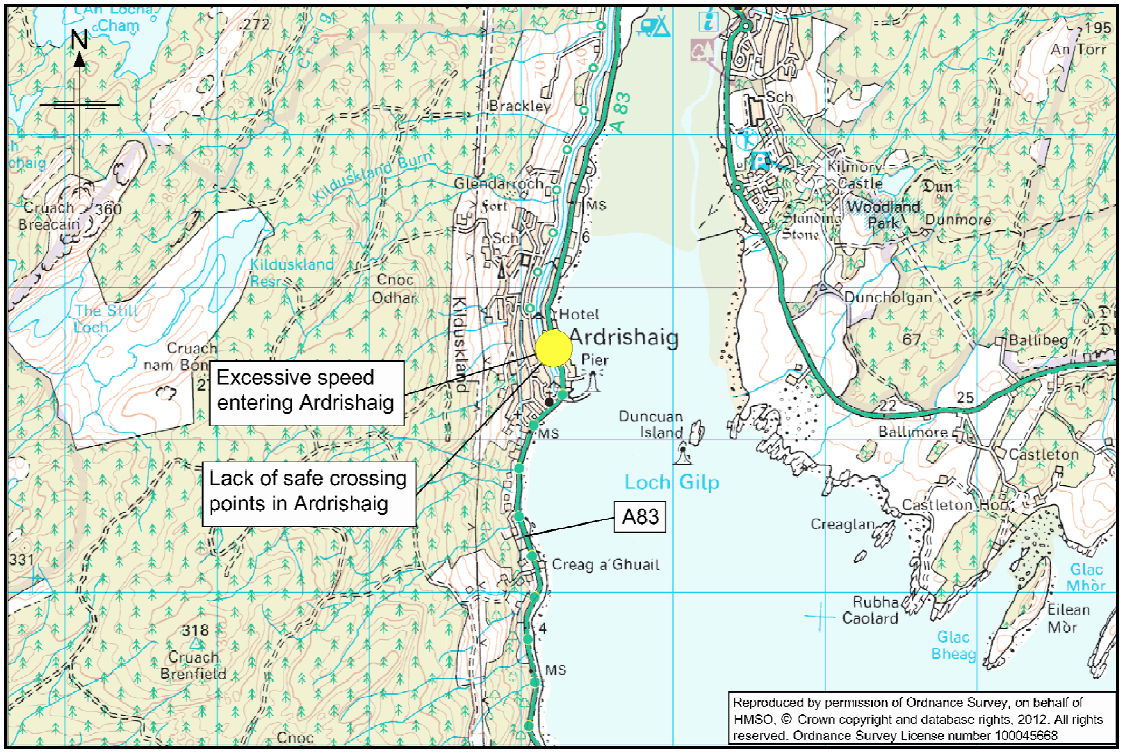

Figure 2-23: Identified problems at Ardrishaig

2.5.18 Problem: Speed of traffic entering the village of Ardrishaig from the 40mph limit

Stakeholders expressed concern over the speed of traffic entering the 30mph limits at Ardrishaig from the north. There were no recorded accidents within Ardrishaig between 2007 and 2011.

Figure 2-24: 30mph limit at Ardrishaig[14]

[14] Image taken from Transport Scotland's SERIS database.

2.5.19 Problem: Lack of safe crossing points in Ardrishaig;

Parking is restricted on the A83 Chalmers Street through Ardrishaig. Parking is provided in two car parks on the east side of Chalmers Street. The main shopping area is located on the opposite side of Chalmers Street, therefore creating a pedestrian desire line from the car parks to the shops.

Figure 2-25: A83 Chalmers Street, Ardrishaig[15]

A Draft Pedestrian Crossing Feasibility Study[16] for this location was completed for Transport Scotland by Scotland TranServ and submitted in July 2012. This study utilised the guidance set out in Local Transport Note (LTN) 1/95 *Assessment of Pedestrian Crossings* and assessed the site layout, pedestrian and vehicle trip levels and safety records for the area.

The study reported that there had been no personal injury accidents in the 5 year period between January 2007 and December 2011 at this location and that traffic and pedestrian count information suggested that there are sufficient gaps in the traffic patterns to allow safe passage across Chalmers Street.

The study recommended that no further action is taken at this time with regard to the provision of a pedestrian facility on the A83 Chalmers Street, Ardrishaig. A copy of the Draft Study is included in Appendix D of this report. The conclusions of this report have been reviewed and are considered to be reasonable.

Whilst identified as a problem by Stakeholders, it is considered that this problem has been addressed through the previous study and is therefore not considered further in this report.

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[16] Scotland TranServ: *A83 Ardrishaig: Pedestrian Crossing Feasibility Study (Draft); July 2012*

Erines

Figure 2-26 below highlights the location of the problems identified at Erines.

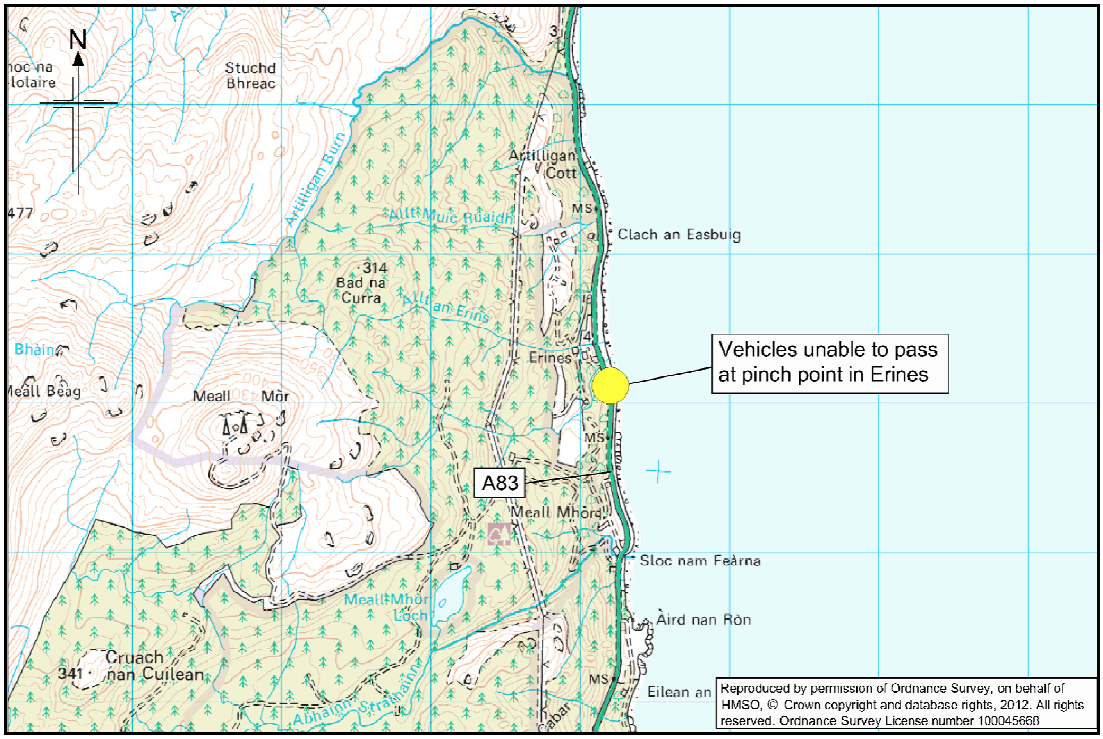

Figure 2-26: Identified problems at Erines

2.5.20 Problem: Vehicles unable to pass at pinch point at Erines;

Figure 2-27: A83 at Erines[17]

Stakeholders have identified the pinch point in the road at Erines as a significant issue. The Erines Road Improvement Feasibility Study prepared by Jacobs Babtie for Bear Scotland in March 2006 identified:

[17] Jacobs Babtie: *A83 Erines Road Improvement Feasibility Study, March 2006*

"The existing A83 trunk road at Erines has a maximum width of 5 metres over a 750m section. This reduces to less than 4.5 metres in width at the most constrained location. The horizontal and vertical alignments also combine to result in substandard visibility. Consequently, the standard of the existing road is not sufficient to permit the free flow of two-way traffic."

Five accidents have occurred within the vicinity of the pinch point at Erines over a five year period from 2007 to 2011. These included four slight injury accidents and one serious injury accident. Only one of these accidents occurred within the pinch point and the road width was not recorded as a contributory factor.

Figure 2-28: A83 at Erines[18]

Tarbert

Figure 2-29 below highlights the location of the problems identified at Tarbert.

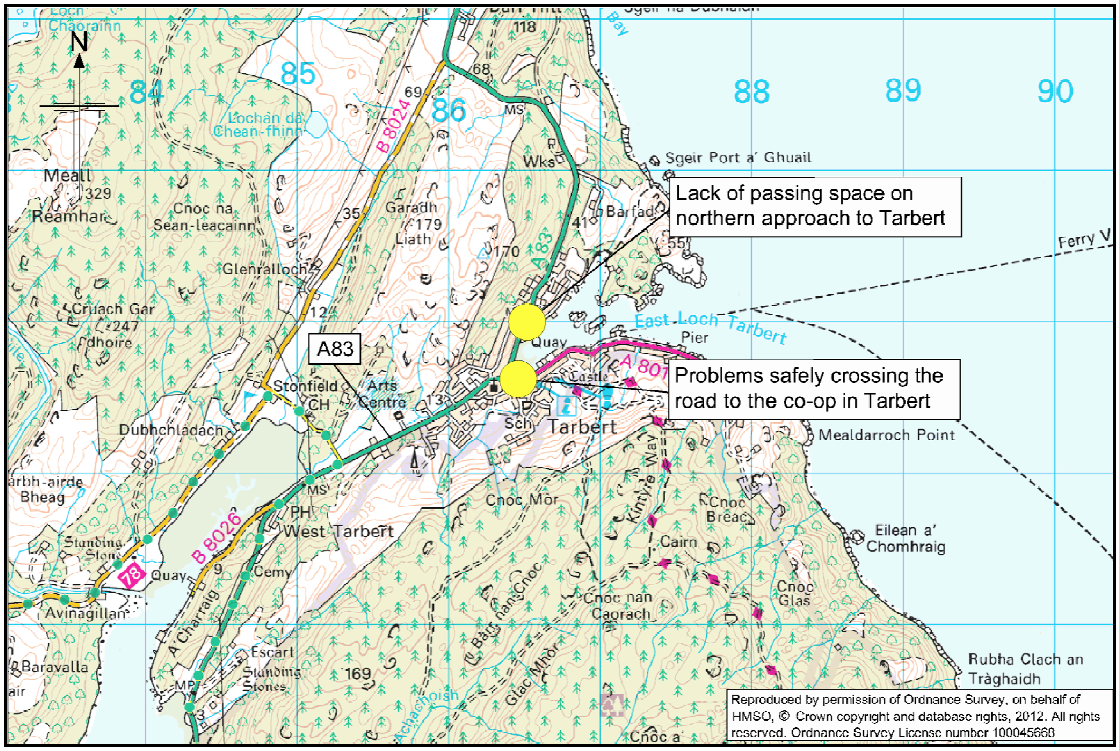

Figure 2-29: Identified problems at Tarbert

[18] Jacobs Babtie: *A83 Erines Road Improvement Feasibility Study, March 2006*

2.5.21 Problem: Lack of space for two vehicles to pass on the approach to Tarbert from the north (Barmore Road):

Stakeholders identified the A83 at Barmore Road, leaving Tarbert to the north as a constraint point where two vehicles were unable to pass without utilising the verge or footway. The footway provided at this stretch also narrows at the pinch points. One slight injury accident has been recorded within the vicinity of the pinch point between 2007 and 2011 involving a single vehicle losing control on a west surface.

Stakeholders have advised that there are also planned residential and retail developments on Barmore Road, which are likely to increase the pedestrian demand at this location.

Figure 2-30: Barmore Road looking north from Tarbert[19]

Figure 2-31: Barmore Road looking south towards Tarbert[20]

2.5.22 Problem: Safely crossing the road to the Co-op in Tarbert:

The lack of pedestrian crossing provision in Tarbert, particularly for people crossing between the designated parking areas around the harbour and the shops was

[19] Image taken from Transport Scotland's SERIS database.
[20] Image taken from Transport Scotland's SERIS database.

highlighted as a problem by stakeholders at the workshop. However no accidents have been recorded at the junction between 2007 and 2011.

A Draft Pedestrian Crossing Feasibility Study[21] covering Barmore Road and Campbeltown Road at this location was completed for Transport Scotland by Scotland TranServ and submitted in July 2012. This study utilised the guidance set out in Local Transport Note (LTN) 1/95 Assessment of Pedestrian Crossings and assessed the site layout, pedestrian and vehicle trip levels and safety records for the area.

The study reported that there had been no personal injury accidents in the 5 year period between January 2007 and December 2011 at this location and that traffic and pedestrian count information suggested that there are sufficient gaps in the traffic patterns to allow safe passage across Barmore Road and Campbeltown Road.

The study recommended that no additional provision for pedestrians is provided at this time. A copy of the Draft Study is included in Appendix D of this report.

Although traffic flows and pedestrian flows are relatively low when compared with the assessment criteria, there are several other factors that affect safe pedestrian crossing at this location.

One of the main pedestrian desire lines between the designated parking areas at the harbour and the main shops including the Co-Op is adjacent to the northern edge of the junction of Campbeltown Road/Barmore Road/Harbour Street/Kintyre Street. The main A83 Trunk Route enters the town from the south on Campbeltown Road and exits on Barmore Road via a 90^0 turn at the junction. Visibility between vehicular traffic travelling northbound around this corner and pedestrians crossing from east to west is therefore limited.

On a recent site visit, it was noted that although Campbeltown Road and Barmore Road, outside the Co-Op are marked with double yellow lines, several vehicles were parked illegally on Barmore Road as shown in the photographs below. Pedestrians crossing Barmore Road from the Co-Op to the designated parking areas were noted having to pass between parked cars before crossing the road, thus further reducing the effective available visibility at this location. The issue of parked cars at this location did not exist and therefore was not recorded and assessed in the previous assessment carried out by Scotland TranServ.

Junction looking west towards Campbeltown Road

Junction looking north on Barmore Road

[21] Scotland TranServ: *A83 Tarbert Pedestrian Crossing Feasibility Study (Draft)*; July 2012

Barmore Road looking towards the junction

Barmore Road at the junction

Figure 2-32: A83 at Barmore Road/Campbeltown Road, Tarbert

2.6 Other Problems

In addition to the problems detailed above, stakeholders at the workshop identified some additional problems on the route that are related to the existing maintenance and operation of the route and are not considered further as part of this study. These problems are listed below for completeness:

Whole Route Issues

2.6.1 Problem: Poor visibility, obscured road signs and damage to vehicles from overhanging trees and overgrown vegetation

Stakeholders at the workshop in Inveraray identified a significant increase in vegetation on the route over recent years resulting in damage to vehicles from overhanging branches and reduced visibility levels.

2.6.2 Problem: Lengthy or no diversion routes available during road closures

Over the last two years, emergency closures have resulted in the route being closed at various locations on 39 occasions for a total of 261 hours. These closures have varied in duration between 35 minutes and just under 3 days. The majority of these closures are attributed to landslide related incidents at the Rest and be Thankful. On the remainder of the route, just over 8 hours of emergency closures were on sections of the route where there is no alternative diversion route for all vehicles and 16 hours of emergency closures were on sections of the route where there are no suitable diversion route for HGVs.

2.6.3 Problem: Excessive duration of incident related road closures

The duration of road closures on the route is generally related to the length of time it takes to complete statutory investigations and procedures, or to recover vehicles that are blocking the roads. There is therefore limited scope to reduce this time.

Inveraray

2.6.4 Problem: Pinch point at the bridge over the River Aray to the north of Inveraray

This location was identified as a pinch point prior to the consultation event however, the stakeholders at the event agreed that the traffic signals controlling the bridge worked well and there were no issues with the operation of the bridge.

2.6.5 Problem: Vibration of buildings within Inveraray

This issue was identified by a stakeholder at the event in Inveraray however, there is no evidence to suggest that the vibration of buildings in Inveraray due to traffic movement through the town is excessive.

2.6.6 Problem: Abnormal loads require whole width of road when passing through Inveraray

The movement of abnormal loads through Inveraray was identified as an issue at the Stakeholders meeting. The movement of abnormal loads is however, subject to advance planning arrangements with the Roads Authorities and local police forces, which determines suitable movement times, routes and the requirement for escort vehicles.

Minard

2.6.7 Problem: Standing start up hill from Minard for HGVs when stopped at lights

The signal controlled pinch point at Minard was also identified prior to the stakeholder event as a potential issue however, in general stakeholders agreed that the signal control worked well. Individual stakeholders identified that the signal control could be improved to reduce the need for southbound HGVs to progress up the hill from a standing start at the traffic signals.

Lochgilphead

2.6.8 Problem: 30mph limit leaving Lochgilphead to the north is unsuitable

Stakeholders considered that the extents of the 30mph limit in Lochgilphead are unsuitable. It would appear that the extents of the 30mph speed limit were determined during the planning stage of the new school however subsequently, the walking routes to the school were altered and therefore the reasons for extending the 30mph limits to their current location were no longer applicable.

Additional Issues

An additional issue was raised by stakeholders relating to bus passengers having to alight at Ardgartan visitors centre as there are no facilities for buses to turn at the Rest and be Thankful. A scheme to provide bus turning facilities at the Lochgoilhead road end, which will address this issue, is currently being progressed by Argyll and Bute Council.

Table 2-3 below summarises the other problems detailed above and additional steps that are being taken outwith this study,

Problem	Next Steps
Poor visibility, obscured road signs and damage to vehicles from overhanging trees and vegetation.	The Trunk Road Maintenance Company is responsible for the maintenance of trees and vegetation on the route and has taken on board the problems raised by stakeholders.
Lengthy or no diversion routes available.	Transport Scotland is currently working to provide The Old Military Road as a temporary diversion route for closures on the Rest and be Thankful. Information provision relating to closures and diversion routes will continue to be monitored and revised as appropriate.
Excessive duration of road closures	The duration of road closures following road accidents is a result of statutory investigation procedures and recovery operations that are required.
Pinch point over the River Aray bridge.	No action required.
Vibration of buildings within Inveraray	No action required.
Abnormal loads require the whole width of the road when passing through Inveraray.	The movement of abnormal loads, by their nature, require to be planned in advance. Their movement also includes escort vehicles and often police vehicles to warn oncoming traffic.
Standing start for HGVs at pinch point.	The signals at the pinch point could be re-configured to give priority to southbound traffic where possible. This could be completed during routine maintenance.
30mph limit leaving Lochgilphead to the north is unsuitable.	A national speed limit review of the Trunk Road Network has recently been published by Transport Scotland. No change to the speed limit on this stretch of road has been recommended.
Bus facilities at the Lochgoilhead Road End	Argyll and Bute Council are currently progressing a scheme to address this issue.

Table 2-3: Summary of Other Problems and Next Steps

3 OBJECTIVES

3.1 Introduction

This section of the report details the transport planning objectives for the study and presents hierarchical objectives which are relevant to the A83 that are detailed in National and Regional policies and guidance documents.

3.2 Transport Planning Objectives

A set of draft transport planning objectives was presented to the stakeholder workshop at Inveraray on 22 August 2012. These route specific objectives align with the key themes that are set out in national and regional policy and guidance. Following discussions within the break-out groups at the stakeholder workshop, these objectives were accepted as set out below:

- Provide a long term solution to address landslide impacts at the Rest and be Thankful;
- Improve journey time reliability by reducing the frequency and impact of road closures;
- Improve operating conditions on the A83;
- Reduce accident rates and severity on the A83;
- Improve pedestrian and cycling amenities in the settlements on the A83; and
- Deliver environmental benefits where possible, and minimise necessary environmental impacts to an acceptable level.

The first objective has been addressed through the Part A Report from this study. A83 Rest and be Thankful. The last objective from the list above is incorporated through the appraisal process, within the 'environment' STAG criteria, and is therefore considered to be included.

The third objective from the list above: 'Improve operating conditions on the A83' has been adopted as an overarching strategic objective for the route appraisal. The remaining three objectives are identified as the transport planning, sub objectives for the study, against which the options are appraised.

Strategic Objective: Improve operating conditions on the A83.

Objective 1: Improve journey time reliability by reducing the frequency and impact of road closures.

Objective 2: Reduce accident rates and severity on the A83.

Objective 3: Improve pedestrian and cycling amenities in the settlements on the A83.

Table 3-1 below identifies how the transport planning objectives detailed above relate to the problems that were identified in Chapter 2.

Problem Number	Identified Problem	Objective 1	Objective 2	Objective 3
1	Road width less than 6m requires closure for maintenance	✓		
2	Road is not to DMRB standards across most of its length	✓	✓	✓
3	Lack of overtaking opportunities in the route		✓	
4	Infrequent and poor standard lay-bys		✓	
5	Pinch points between Tarbet and Arrochar	✓	✓	✓
6	Risk of accidents on the sharp bend at Tarbet Tearooms		✓	
7	Risk of accidents due to poor alignment and visibility at Ardgartan		✓	
8 *	Risk of accidents on the bend at the Rest and be Thankful car park		✓	
9	Poor road condition and effective narrowing between Dunderave and Inveraray		✓	
10	Accident risk at Strone Point north of Inveraray		✓	
11	Pedestrians on the River Aray bridge		✓	✓
12	Poor signage for the Dalmally road in Inveraray		✓	
13	Pedestrian and vehicle conflicts within Inveraray			✓
14	Confusing road layout past the church on Main Street, Inveraray		✓	
15	Dangerous turn for traffic leaving Furnace (north end of village), especially for buses		✓	
16	Speeding in the 40mph limits at Minard		✓	
17	Standing start for southbound HGVs at traffic signals at pinch point in Minard	✓		
18	Speeding in the 40mph limits at Lochgair		✓	
19	Speeding on entry to Ardrishaig from the 40mph limit		✓	
20 *	Lack of safe crossing points in Ardrishaig			✓
21	Pinch point at Erines	✓	✓	
22	Lack of space for two vehicles on the approach to Tarbert from the north (Barmore Road)	✓	✓	✓
23	Problems safely crossing the road in Tarbert			✓

* Problem addressed through separate study and not considered further in this report.

Table 3-1: Identified Problems and Transport Planning Objectives

3.3 National and Regional Objectives

National and regional objectives are detailed in a number of policy and guidance documents. These are:

- National Transport Strategy;
- Strategic Transport Projects Review;
- Hi-Trans Regional Transport Strategy;
- Adopted Argyll and Bute Local Plan;
- Emerging Argyll and Bute Local Plan Main Issues Report; and
- Argyll and Bute Local Transport Strategy.

3.3.1 National Transport Strategy

The Scottish Government's Purpose is to focus government and public services on creating a more successful country, with opportunities for all of Scotland to flourish, through increasing sustainable economic growth. This is translated to five strategic objectives for a safer and stronger; smarter; wealthier and fairer; greener; and healthier Scotland.

The following Key Strategic Outcomes (KSOs) from Scotland's National Transport Strategy (NTS) are most relevant to the A83 and are used as the basis for delivering improvement to transport in Scotland in response to the Scottish Government's purpose and strategic objectives:

- Improve journey times and connections between our cities and towns and our global markets to tackle congestion and provide access to key markets - wealthier and fairer, safer and stronger; and
- Reduce emissions to tackle climate change - safer and stronger, wealthier and fairer.

3.3.2 Strategic Transport Projects Review (STPR)

The Strategic Transport Projects Review (STPR) was conducted between 2006 and 2008 and covered the strategic transport network in Scotland. The following specific objectives were established by the STPR with respect to the Glasgow to Oban/Fort William Corridor (Corridor 7), which includes the A83:

- To provide improved road standards and overtaking opportunities; and
- To reduce accident severity to the national average.

The A83 was identified, under Intervention 5, as one of a number of routes which generally performed well and therefore did not need specific interventions to address corridor specific issues in order to meet the established objectives.

However, the STPR recognised that there is a need to maintain and safely operate the corridors listed under Intervention 5 in the context of a route management strategy. The STPR also highlighted that this may be achieved through localised improvements targeted to bring the physical condition and safety standards of these corridors to a level which will support the expected levels of traffic during the period of the review.

3.3.3 HITRANS Regional Transport Strategy

The vision of HITRANS Regional Transport Strategy (2008) for the Highlands and Islands is: ''enhancing the area's viability – enhancing its place competitiveness and thereby attracting and retaining people in the area and making it a more attractive place in which to live, to work, to conduct business and to visit.''

The HITRANS strategy states that to accomplish this, a suitable multi-modal transport system is required.

Ten horizontal themes were developed to concentrate action and investment to work towards their vision during the next fifteen years. Those relevant to the A83 route are:

- Active travel – promoting the long term development of walking and cycling across the region to reduce the use of cars for short journeys and to contribute towards good health.
- Freight transport – assisting freight transport to shift mode from road to less environmentally damaging rail and sea.
- Locally significant network and maintenance of the area's roads - developing a programme of investment to improve and maintain the locally significant rural road network which has suffered from under-investment in the past.
- Mainstream passenger transport. – preparing a strategy for investment in the region's bus services.
- Ports, ferries and waterway transport – preparing a strategy for investment in ports and ferries.
- Cost of transport and travel – developing initiatives for reducing the cost of transport and travel.
- Environmental impacts – develop ways to reduce and mitigate the climate change impact of travelling in, to and from the region.

The principle objective of HITRANS is to generate sustainable economic growth across the region by improving the interconnectivity across the area to destinations and strategic services. This is undertaken through the support of Local Authorities, Scottish Government and other important public and private sector partners to create an enhanced transport network across the Highlands and Islands.

HITRANS aim is to *"improve journey reliability connecting Argyll and Bute to Glasgow via the trunk roads and the West Highland Line"* in addition to *''improving mainland road connections and sea crossings to the Western Isles"*. It has also identified priorities for improving the regionally significant network, such as upgrading the connections to the Argyll islands from the mainland.

HITRANS also aim to improve and create more integrated transport services to increase the tourist and business usage of public transport. Subsequently they want to provide high quality public and freight transport services and be considered as one of the leading regions in reference to intelligent transport systems.

3.3.4 Adopted Argyll and Bute Local Plan

The Local Plan supported seven strategic issues that were recognised by the Structure Plan including *''encouraging the further regeneration of the West of Argyll and the islands given their ''fragile'' status and the need for further investment to counter economic and geographic disadvantages"*.

An Action Plan was produced in conjunction with the Local Plan to provide a priority framework for delivering key elements of the plan including Allocations; Areas For Action; Potential Development Areas; Development Road Actions and Traffic Management Actions.

3.3.5 Emerging Argyll and Bute Development Plan Main Issues Report

''Improving our Connectivity and Infrastructure Together'' is one of the key themes within the Main Issues report for the emerging Argyll and Bute Development Plan, which is currently being developed. It concerns such issues as the need to integrate new developments with existing infrastructure and making the necessary improvements to the transport network to make public transport and other modes of private and freight transport more attractive as a means of travel.

Some of the key transport issues which are directly related to the A83 and are considered within the LDP include:

- To focus investment on our road network where it can achieve the best impact;
- Improving accessibility to key services and facilities through better integration of land use and transport and the path network;
- Continue to advocate improvement of our strategic links; life line ferry and air services; trunk roads A82, A85, A83; bus and rail services;
- Ensuring significant new development contributes to improving our transport infrastructure;
- Climate Change; reduce emissions and safeguard transportation routes from impacts of climate change (e.g. flooding of coastal routes, increased landslip risk):

''The mitigation of impacts such as flooding and landslip, particularly on strategic routes and links to our remote communities' is considered as the main transport issue within the LDP.

3.3.6 Argyll and Bute Local Transport Strategy

The vision for the current Argyll and Bute Local Transport Strategy is to enable a vibrant Argyll and Bute. To achieve this, the LTS has adopted the following objectives:

- Encourage a growing and sustainable economy in Argyll and Bute;
- Improve people's transport experience;
- Manage the effect of transport on Argyll and Bute's rich natural environment;
- Improve accessibility for all our communities; and
- Improve journey safety and personal security for everyone in Argyll and Bute.

4 OPTION GENERATION, SIFTING AND DEVELOPMENT

4.1 Option Generation

This section of the report details the options that have been developed which could potentially address the evidence-based problems detailed in Section 2 and potentially meet the objectives listed in Section 3. These potential options have been developed utilising recommendations in previous reports, opportunities that were identified at the Stakeholder Workshops and additional options that have been developed to specifically address the problems identified.

Several reports and studies, as detailed in Section 2 of this report, have been completed for various parts of the A83 in the past few years. These reports detail a number of options that potentially address many of the evidence-based problems that are highlighted in Section 2 of the report.

With regard to the 'whole route' issues and minor improvement type schemes, it should be noted that the proposed cross section for potential options that were developed in previous reports, is not necessarily consistent with a standard cross section at all locations due to varying constraints. In developing a final design for these options, consideration should be given to adopting a consistent cross section width of 7.3m carriageway and 1m hard strips on either side, where it can be realistically achieved.

Any departure from standards will require an independent review and approval by Transport Scotland's Standards Branch and, if approved, usually requires some compensatory mitigation to be put in place.

4.1.1 Whole Route

Three options have been identified which affect the whole route rather than specific locations on the route. These are:

1. **Develop a programme to bring the cross section of the route up to DMRB standard.**

The road has been identified as being below standard, in terms of alignment and width across parts of the route. This option would involve widening the route to a standard 7.3m cross section with 1m wide strips on each side.

2. **Develop 2+1 sections on the route.**

In this option, 2+1 sections would be provided at key locations on the route to improve overtaking opportunities.

3. **Provide additional lay-bys, and improve existing lay-bys on the route.**

A desktop review of the lay-by provision on the route has identified that, to comply with DMRB, 13 additional or re-located lay-bys would be required on the route. In addition, several of the existing lay-bys would require upgrading to bring them up to DMRB Type A standards.

4.1.2 Tarbet to Ardgartan

The 6.7km section between Tarbet and Ardgartan has been identified as having several problems, including sections of poor alignment and various pinch points along the route. The following options have been developed which could potentially address the issues:

4. Provide additional signing and lining and improved high friction surface treatment on the bend at Tarbet tearooms.

This option involves the following improvements:

- Overlaying a high friction road surfacing at this section of the A83 to reduce the risk of vehicles skidding while navigating the bend;
- Improving the road signage by placing warning signs on the approach to this bend which will increase driver awareness of the bend ahead and encourage them to reduce their speed; and
- Improved road markings e.g. road markings warning motorists to reduce speed and rumble strips on the approach to the bend which encourage motorists to slow down.

5. Improve the visibility on the bend at Tarbet Tearooms.

This option involves improving visibility on the existing bend. This would require maintaining the same alignment but acquiring additional land in order to increase the verge width on the inside of the bend. This would improve motorists' forward visibility on the approach to the bend from its current sub-standard stopping sight distance of less than 30m to a stopping sight distance of up to 50m. However it should be noted that this stopping sight distance remains sub standard and would require approval from Transport Scotland Standards Branch. The layout is indicated in Drawing No B1557610/Option 5/6 in Appendix C.

No discussions on this option have taken place with Transport Scotland's Standards Branch at this stage. Any departure from standards would require an independent review and approval by Transport Scotland's Standards Branch and, if approved, usually requires some compensatory mitigation to be put in place.

6. Re-align the bend at Tarbet tearooms.

This option involves a realignment of the bend in Tarbet village at Tarbet Tearooms. This would involve the provision of a larger horizontal radius curve at this location, eliminating the existing sharp bend. This option would require the acquisition of additional land in order to construct the new alignment and would probably also require the promotion of a road order as the works would be off line. The current radius of this bend is 30m which is a non-standard radius with stopping sight distance of less than 30m. The desirable minimum horizontal radius for a design speed of 50kph is 180m. However, developing a bend of this radius is not practical at this location due to the large amount of land that would be required. Consideration could be given to the implementation of a 90m horizontal radius curve for this location. This is two steps below desirable minimum standard and would increase Stopping Sight Distance to a minimum of 50m. To achieve this curve, superelevation of 7% is required and transition curves would need to be provided to allow for the gradual application of superelevation within the transition curve length. It is estimated that such a realignment would consist of 155m of standard 7.3m wide single carriageway, constructed offline which would require the acquisition of

additional land. A potential alignment for this option is indicated in Drawing No B1557610/Option 5/6 in Appendix C.

No discussions on this option have taken place with Transport Scotland's Standards Branch at this stage. Any departure from standards would require an independent review and approval by Transport Scotland's Standards Branch and, if approved, usually requires some compensatory mitigation to be put in place.

7. Provide a replacement railway bridge between Tarbet and Arrochar to widen the road and footway to standard width.

This option comprises the replacement of the existing railway bridge with a new wider structure which will eliminate the pinch point on the A83 and provide sufficient width for the full carriageway cross-section and pedestrian footways.

8. Widen the footway and create a pinch point in the road at the railway bridge between Tarbet and Arrochar.

This option introduces a priority control system at the railway bridge, whereby, the road is reduced to a single lane of traffic under the bridge. Traffic approaching the bridge would be controlled using give way markings in one direction. This system would allow additional space for a wider pedestrian footpath to be constructed. Appropriate road signage and road markings would be required to inform motorists on approach to the bridge of the system that is in place.

9. Develop off-road signed footpaths between Tarbet and Arrochar.

This option would provide a new off-road footway for pedestrians and cyclists, therefore, eliminating the need for such road users to pass underneath the existing railway bridge. This option would require the acquisition of additional land in order to construct a new section of footpath to the west of the existing bridge which would tie into the existing Arrochar -Tarbet link path. This would allow pedestrians to cross beneath the railway line using the subway at Arrochar and Tarbet railway station and then rejoin the footpath on the A83. Works would include the construction of approximately 100m of new footpath, in addition road signs would be required to divert pedestrians along the new route. A potential alignment for this option is indicated in Drawing No B1557610/Option 9 in Appendix C.

10. Provide additional signing and lining and improved high friction surface treatment at the bend at Ardgartan.

This option involves the following improvements:

- Overlaying a high friction road surfacing at this section of the A83 to reduce the risk of vehicles skidding while navigating the bend.
- Improving the road signage by placing additional warning signs on the approach to this bend which will increase driver awareness of the sharp bend ahead and encourage them to reduce their speed.
- Improving road markings e.g. road markings warning motorists to reduce speed and rumble strips on the approach to the bend which encourage motorists to slow down.

11. Improve visibility on the bend at Ardgartan.

This option involves improving the visibility along this section of the road. This can be achieved by acquiring additional land and widening the verge on the inside of the bend through this section. This would improve motorists' forward visibility on the approach to the bend from its current sub-standard stopping sight distance of less than 85m to a stopping sight distance of 120m therefore, providing improved forward visibility to motorists navigating the bend and also to vehicles entering or exiting the Ardgartan Caravanning and Camping site. The layout is indicated in Drawing No B1557610/Option 11/12 in Appendix C.

No discussions on this option have taken place with Transport Scotland's Standards Branch at this stage. Any departure from standards would require an independent review and approval by Transport Scotland's Standards Branch and, if approved, usually requires some compensatory mitigation to be put in place.

12. Re-align the bend at Ardgartan.

This option would involve the realignment of the road at this location to eliminate the sharp bend. The current horizontal radius at this bend is approximately 230m which is 4 steps below desirable minimum standard. The desirable minimum horizontal radius for a design speed of 100kph is 720m, however, this radius is simply not a practical solution at this location due to the large amount of land that would need to be acquired in order to construct it and due to the difficult topography at this location. Consideration could be given to the implementation of a 360m horizontal radius curve for this location which would increase stopping sight distance to 120m and give improved visibility at this location. However it should be noted that this stopping sight distance remains sub-standard at two steps below the desirable minimum and would therefore require approval from Transport Scotland Standards Branch. To achieve this curve, superelevation of 7% is required and transition curves would need to be provided to allow for the gradual application of superelevation within the transition curve length. Additional land would be required for this option. In addition a new access for the Ardgartan Caravanning and Camping site would be required onto the realigned section. An indicative alignment for this option is shown in Drawing No B1557610/Option 11/12 in Appendix C.

No discussions on this option have taken place with Transport Scotland's Standards Branch at this stage. Any departure from standards would require an independent review and approval by Transport Scotland's Standards Branch and, if approved, usually requires some compensatory mitigation to be put in place.

4.1.3 Clachan to Inveraray

13. Implement the remaining elements of Phase 1 and 2 of the Dunderave Improvement Scheme.

This option involves full implementation of the remaining Scotland TranServ proposals for Dunderave Phase 1 and Phase 2. This option covers approximately 5 km of the A83 from Ardgenavan to approximately 1.37km west of Dunderave Castle. The works, as developed by Scotland TranServ comprise an improved carriageway cross section to a 6.5m carriageway with 0.5m westbound verge and 2.0m eastbound verge, full resurfacing works, improved drainage, additional safety barrier, additional kerbing and signing and lining works. Additional land would be required to accommodate the construction of the road improvements and a traffic

management plan would also need to be put in place during the construction of the works.

Refer to comments in Section 4.1 with regard to a consistent cross section. Discussions would also be required with Transport Scotland's Standards Branch. Any departure from standards would require an independent review and approval by Transport Scotland's Standards Branch and, if approved, usually requires some compensatory mitigation to be put in place.

14. Re-align the route at the bend at Strone Point.

This option involves a realignment to eliminate the sharp bend at Strone Point. The current horizontal radius at this bend is approximately 90m which is six steps below desirable minimum standard for a 100kph design speed. The desirable minimum horizontal radius for a design speed of 100kph is 720m, which would result in approximately 1.7km of offline carriageway realignment. However, this radius is simply not a practical solution due to the difficult topography at this location; the existing ground at the apex of the bend is approximately 150m higher than the existing ground at the tie-ins. Consideration could be given to the implementation of a 180m horizontal radius for this location which would increase stopping sight distance to 70m. This is one step below the absolute minimum horizontal radius and three steps below the absolute minimum stopping sight distance. However, it would deliver an improvement in forward visibility at this location, and could be supplemented with low-cost accident reduction measures such as high-friction surfacing and appropriate signage.

No discussions on this option have taken place with Transport Scotland's Standards Branch at this stage. Any departure from standards would require an independent review and approval by Transport Scotland's Standards Branch and, if approved, usually requires some compensatory mitigation to be put in place.

The acquisition of additional land would be required in order to construct the alignment. A potential layout for this option is indicated in Drawing No B1557610/Option 14/15 in Appendix C.

15. Re-aligned road on new structure over Loch Shira from Strone Point to Inveraray.

This option comprises a new bridge structure spanning Loch Shira to eliminate the bend at Strone Point. The structure would span over 1200m connecting the A83 from Strone Point to a location north of the town of Inveraray. A potential alignment for the bridge is indicated in Drawing No B1557610/Option 14/15 in Appendix C.

16. Provide a pedestrian footbridge across the River Aray to the north of Inveraray.

This option would involve the construction of a new pedestrian bridge over the River Aray on the north-western side of the existing bridge with a connecting section of footpath to the A83 on the north-eastern side. This option would require the acquisition of additional land to construct a pedestrian footbridge of approximately 90m in length, in addition to approximately 60m of new footpath connecting to the A83. The potential location of this option is indicated in Drawing No B1557610/Option 16/17/18 in Appendix C.

17. Provide a footway on the road bridge over the River Aray.

This option involves the provision of a pedestrian footway on the existing bridge over the River Aray. Currently there is a one way system of traffic in place on the bridge controlled by traffic signals with no designated pedestrian access. The available carriageway width on the bridge varies from 5.9m to 6.23m. This would allow sufficient space to accommodate a single carriageway of 3.5m with a 2.0m footway for pedestrians. The work involved in this option would require development of a 2.0m wide kerbed footway on the bridge, which was continued to the lay-by to the north of the bridge. The potential revised layout is indicated in Drawing No B1557610/Option 16/17/18 in Appendix C.

18. Develop a viewpoint for Inveraray Castle.

This option involves the provision of a new pedestrian walkway between the lay-by 40m to the north of the bridge to a new viewing area of the castle adjacent to the River Aray near the bridge. This option would allow people to park at the lay-by and to view Inveraray Castle from the viewing area without having to use the bridge,. This option would involve the acquisition of additional land to construct approximately 110m of pedestrian footway and also to construct a viewing area adjacent to the River Aray. The potential route is indicated in Drawing No B1557610/Option 16/17/18 in Appendix C.

19. Improve signing to the Dalmally Road in Inveraray.

This option would provide improved directional signage for the A819 Dalmally Road from the A83 Trunk Road junction by increasing the size of the directional sign for Oban and Crianlarich giving it at least as much prominence as the local car park direction sign on the same post.

20. Provide additional signage and markings at the church in Inveraray.

This option would improve the visibility of existing signs and markings and provide additional no-entry signs at the church on Main Street, Inveraray.

4.1.4 Furnace

21. Re-locate bus stops.

This option involves relocating the bus stops from the village of Furnace onto the A83, thereby removing the requirement for buses to navigate the turn into and out of the village of Furnace. This option may require the acquisition of addition land in order to construct new bus stops and allow for road widening on the A83. In addition, suitable drop kerb provision would be required to form a crossing point of the A83.

22. Re-model the junction at the north of the village of Furnace to improve visibility for vehicles emerging from the village, especially buses.

This option would provide an improved vehicle turning path on approach to the junction by providing a wider carriageway layout. This will give longer vehicles more room to turn and therefore, allow them to approach the A83 perpendicularly which will give them improved visibility of oncoming traffic. This option would require the acquisition of addition land in order to construct a widened carriageway on the

approach to the A83. As these works would be on the local road network, out with the control of the Trunk Road Authority, these works would require to be progressed in conjunction with Argyll and Bute Council. The proposed option includes:

- Widening of the carriageway on the side road at the approach to the junction with the A83 to accommodate a wider inside curve radius.
- Improved road markings.

The potential extent of these works is indicated in Drawing No B1557610/Option 22 in Appendix C.

4.1.5 Minard

23. Provide flashing 40mph warning signs on the A83 in the 40mph limit at Minard.

This option would provide 40mph flashing warning signs on the northbound and southbound carriageways within the 40mph limits at each side of Minard village.

4.1.6 Lochgair

24. Provide flashing 40mph warning signs on the A83 in the 40mph limit at Lochgair.

This option would provide 40mph flashing warning signs on the northbound and southbound carriageways within the 40mph limits at each side of Lochgair village.

4.1.7 Ardrishaig

25. Provide flashing 30mph warning signs in the 30mph limit on the north side of Ardrishaig.

This option would provide 40mph flashing warning signs on the southbound carriageway within the 30mph limit on the north side of Ardrishaig.

4.1.8 Erines

26. Implement the preferred scheme for widening the pinch point at Erines.

This option would involve implementing the recommendations of the A83 Erines Road Improvement Feasibility Report prepared by BEAR Scotland (2006). This report assessed a number of proposals for this section of the A83 and the preferred option involved a DMRB compliant cross section on the existing alignment. This option would provide an alignment that does not differ significantly from that currently provided. This option would address the issue of free flow of two way traffic and would go some way towards addressing the problem of vehicular safety by providing a wider carriageway. In order to widen this section of road the preferred option is to widen to the landward side of existing alignment.

The works proposed by this option include:

- Reconstruct the carriageway where possible without deviating from existing alignment;
- Widen the carriageway to 6m and provide 1m hardstrips on either side;
- Widen the verges to 1.5m on both sides and renew or provide new lengths of safety barrier where required;

- Provide adequate road signs and traffic markings to increase driver awareness;
- Install filter drains on one or both sides of the carriageway as required;
- Extend existing culverts where required;
- Works to seaward side embankment / retaining wall; and
- Works to landward side rock cutting.

Refer to comments in Section 4.1 with regard to a consistent cross section.

4.1.9 Tarbert

27. Widen Barmore Road leaving Tarbert to the north.

This option comprises the upgrade of approximately 280m of the A83 (Barmore Road) on the northern approach to Tarbert between the junction at Garvel Road and the junction with Lady Ileene Road to S2 (urban) single carriageway cross section with a footway on one side. The works would potentially include the following:

- Widen the carriageway to 7.3m;
- Provide a footway on one side;
- Provide adequate road signs and traffic markings to increase driver awareness; and
- Acquisition of land (mostly walls, gardens etc) on one or both sides

The potential layout is indicated in Drawing No B1557610/Option 27 in Appendix C.

No discussions on this option have taken place with Transport Scotland's Standards Branch at this stage. Any departure from standards would require an independent review and approval by Transport Scotland's Standards Branch and, if approved, usually requires some compensatory mitigation to be put in place.

28. Provide traffic signals at the pinch point on Barmore Road.

This option involves reducing the Barmore Road, Tarbert to a single lane of traffic between Garvel Road and the junction with Lady Ileene Road (280m) and providing traffic signals at each end to control the flow of vehicles. This system would alleviate the problem of vehicles not being able to pass and would allow additional space for improved pedestrian/cyclist facilities. Access to several properties on this stretch of the route would need to be maintained and this would be challenging under signal control. The extent of the potential signal controlled section is indicated in Drawing No B1557610/Option 28 in Appendix C.

No discussions on this option have taken place with Transport Scotland's Standards Branch at this stage. Any departure from standards would require an independent review and approval by Transport Scotland's Standards Branch and, if approved, usually requires some compensatory mitigation to be put in place.

29. Widen Barmore Road and leave a shorter section of narrow carriageway with priority control.

This option would involve carrying out partial widening on Barmore Road with the remaining narrow section being formalised as single lane with a 2m footway to one

side, controlled by priority signage. Appropriate road signage and road markings would be required to inform motorists on approach that this system is in place.

This would require the following works:

- Partial widening of the carriageway at various locations to 7.3m;
- Provide adequate road signs and traffic markings to identify give way areas and inform road users; and
- Acquisition of land (mostly walls, gardens etc) on one or both sides.

The potential layout of this option is indicated in Drawing No B1557610/Option 29 in Appendix C.

No discussions on this option have taken place with Transport Scotland's Standards Branch at this stage. Any departure from standards would require an independent review and approval by Transport Scotland's Standards Branch and, if approved, usually requires some compensatory mitigation to be put in place.

30. Pedestrian crossing provision on Barmore Road, Tarbert.

The development of suitable options to address pedestrian crossing issues in Tarbert was carried out giving cognisance to the following:

- A83 Tarbert Draft Pedestrian Crossing Feasibility Study (Scotland TranServ, July 2012);
- Site visit carried out on 6 September 2012; and
- Local Transport Note 2/95: The Design of Pedestrian Crossings.

In Tarbert, there are numerous pedestrian desire lines between the various shopping areas and parking facilities. Visibility on the majority of these desire lines is adequate, pedestrian and vehicle volumes are low and there have been no recorded pedestrian accidents in the area. Therefore, in line with the Scotland TranServ Pedestrian Crossing Feasibility Report, no pedestrian crossing provisions are required to service the majority of these areas.

As detailed in Section 2 of the report however, the site visit identified several changes on Barmore Road since completion of the Scotland TranServ report, particularly with regard to cars parking illegally on the east side of Barmore Road. In addition, vehicles travelling north have limited visibility of pedestrians crossing Barmore Road between the Co-op and the harbour.

When considering suitable pedestrian provision for this section of Barmore Road, the following parameters set out in LTN 2/95 have been considered:

- A signal controlled crossing should be located at least 20 metres from a junction;
- A zebra crossing should be located at least 5 metres from a junction; and
- For an 85th percentile approach speed, the desirable minimum visibility is 50m with an absolute minimum of 40m.

This location is located over 5 metres from the stop-line at the adjacent junction however, visibility for oncoming vehicles from Campbeltown Road is below the absolute minimum value of 40m and therefore zebra crossing and signal controlled crossings are not suitable for this location. In addition, Transport Scotland have

advised that they do not allow new zebra crossing facilities on the Trunk Road network.

The provision of a pedestrian island at this location would reduce the crossing distance to the width of a single lane of traffic at this location and hence improve crossing conditions for pedestrians. In addition, the island would reduce the available road space to pass illegally parked cars therefore discouraging this practice at the crossing location. A pedestrian island can be accommodated with a re-alignment of the eastern kerbline on Barmore Road as indicated in Drawing No B1557610/Option 30 in Appendix C. The design of the pedestrian island and, in particular street furniture including directional arrows on the island would need to consider the movement of abnormal loads from the wind turbine facility at Machrahanish northwards.

4.2 Option Sifting

Options have been developed which potentially address each of the problems identified in Section 2. The majority of the identified problems have only one or two potential options associated with them, all of which meet at least one of the transport planning objectives. Therefore an initial sift of the options against the transport planning objectives has not been carried out and all potential options have been progressed to the next stage in the appraisal process, which is discussed in Section 5.

5 APPRAISAL

5.1 Introduction

The 30 measures identified were subjected to a transport appraisal in accordance with Scottish Transport Appraisal Guidance.

Limited information was available to quantify the benefits of each of the options, therefore a single stage appraisal has been carried out using a seven point qualitative assessment with additional quantifiable benefits included where possible. Indicative cost ranges for each option based on a desk top assessment and previously available information have been developed.

The Appraisal Summary Tables are included in Appendix E and a summary of the appraisal is outlined in Table 5-1 within this section of the report.

5.2 Summary of Appraisals

The appraisal has been carried out against the following criteria:

Transport Planning Objectives:

- Strategic Objective: Improve operating conditions on the A83.
- Objective 1: Improve journey time reliability by reducing the frequency and impact of road closures.
- Objective 2: Reduce accident rates and severity on the A83.
- Objective 3: Improve pedestrian and cycling amenities in the settlements on the A83.

Implementability Appraisal:

- Technical;
- Operational;
- Financial; and
- Public.

STAG Criteria:

- Environment;
- Safety;
- Economy;
- Integration; and;
- Accessibility and Social Inclusion.

The problem which each option addresses is referenced in accordance with the problem ‘reference number’ as set out in Table 3-A. The options have been appraised against the STAG criteria utilising the standard seven point scale:

- Major Benefit ✓✓✓
- Moderate Benefit ✓✓
- Minor Benefit ✓
- No benefit or impact 0
- Minor Negative Impact X
- Moderate Negative Impact XX
- Major Negative Impact XXX

	Options	Problems Addressed	Objective 1	Objective 2	Objective 3	Environment	Safety	Economy	Integration	Accessibility and Social Inclusion	Rationale for Selection or Rejection of Option	Estimated Cost
1	Upgrade the route to DMRB standard throughout.	1, 2, 3, 4, 5, 6, 8, 9, 10, 14, 16, 20, 22	✓	✓	-	XXX	✓✓✓	XXX	0	✓	This option performs well against the transport planning objectives and STAG criteria, however, upgrading of the route to full DMRB cross sectional standard would not be cost effective given the volumes of traffic on the A83. It is therefore recommended that this option is not progressed. However, as individual sections of the route are upgraded as part of ongoing maintenance and programmed works, the cross sectional width of the route could be upgraded to current DMRB standards, providing value for money can be demonstrated.	>£250M
2	Develop 2+1 Sections on the route.	1, 3	✓	✓	-	X	-	✓	0	0	The option to provide 2+1 sections on the route demonstrates minor benefits against the planning objectives. Minor benefits have been recorded against the safety and economy STAG Critera but this option is expected to result in a minor impact against the environmental criteria. In general, this option would only provide benefits at a localised level. It is therefore recommended that this option is not progressed.	£2M-£5M per 2+1 section depending on length.

	Options	Problems Addressed	Objective 1	Objective 2	Objective 3	Environment	Safety	Economy	Integration	Accessibility and Social Inclusion	Rationale for Selection or Rejection of Option	Estimated Cost
3	Improved lay-bys.	4	-	✓	-	X	✓	0	X	0	Upgrading existing lay-bys and providing additional lay-bys across the whole route would not be cost effective and the appraisal demonstrates limited benefits against the planning objectives and STAG Criteria and a minor impact in environmental terms. It is therefore recommended that this option is not progressed. However existing lay-bys could be upgraded and additional lay-bys provided as part of routine maintenance or infrastructure schemes implemented across the route.	£1M-£5M
4	Improve signing, lining and surfacing on the bend Tarbet Tearooms	6	✓	✓	-	0	✓	0	0	0	This option performs well against the planning objectives and safety benefits are identified when appraised against the STAG Criteria. It is therefore recommended that this option is progressed.	£5K-£10K
5	Improve visibility on the bend at Tarbet Tearooms	6	-	-	-	X	✓	0	0	0	This option demonstrates limited benefits against the planning objectives or the STAG Criteria. The main reason for this is that existing recorded accidents at this site do not cite visibility as a cause. It is therefore recommended that this option is not progressed.	£50-£100K
6	Re-align bend at Tarbet Tearooms	6	✓	✓	✓	X	✓✓	0	0	0	This option performs well against the planning objectives and safety benefits are identified when appraising against the STAG Criteria. The additional benefits that this option provides over	£100K-£500K

	Options	Problems Addressed	Objective 1	Objective 2	Objective 3	Environment	Safety	Economy	Integration	Accessibility and Social Inclusion	Rationale for Selection or Rejection of Option	Estimated Cost
											Option 4 are however, limited and the cost is significantly higher, therefore this option is not considered to be cost effective and it is recommended that this option is not progressed.	
7	Replace railway bridge between Tarbet and Arrochar	5	-	-	✓	X	✓	0	0	0	Although this option performs well against two of the Transport Planning objectives, the measure is expected to have a marginal effect when appraised against the STAG Criteria. In addition, this measure would have a significant cost and implementation would require closure of both the road and rail line for a period of time. It is therefore recommended that this option is rejected.	£5M-£10M
8	Widen footway and narrow road into pinch point at the railway bridge between Tarbet and Arrochar	5	-	-	✓	0	✓	X	0	0	Although this option provides improvements for pedestrians at a localised pinch point, the measure has a negative impact against the economy STAG criteria. The measure would, in effect, create a further pinch point for vehicular traffic on the route. It is therefore recommended that this option is rejected.	£10K-£20K
9	Develop off-road footpaths between Tarbet and Arrochar	5	-	-	✓	0	0	0	0	0	The performance of this option is limited against the planning objectives and an overall neutral impact is demonstrated against the STAG Criteria therefore it is recommended that this option is not progressed.	£20K-£50K cost dependent on surface finish and land requirements

	Options	Problems Addressed	Objective 1	Objective 2	Objective 3	Environment	Safety	Economy	Integration	Accessibility and Social Inclusion	Rationale for Selection or Rejection of Option	Estimated Cost
10	Improve signing, lining and surfacing on the bend at Ardgartan Caravan Park	7	✓	✓	-	0	✓	✓	0	0	This option performs well against the planning objectives and safety benefits are identified when appraised against the STAG Criteria. It is therefore recommended that this option is progressed.	£5K-£10K
11	Improve visibility on the bend at Ardgartan Caravan Park	7	✓	✓	-	X	✓✓	0	0	0	This option performs well against the planning objectives and safety benefits are identified when appraising against the STAG Criteria. The additional benefits in comparison to Option 10 are however, limited and this option has a significantly greater cost of implementation, therefore it is recommended that this option is not progressed.	£250K-£500K
12	Re-align bend at Ardgartan Caravan Park	7	✓	✓	-	XX	✓✓	0	0	0	This option performs well against the planning objectives and safety benefits are identified when appraising against the STAG Criteria. The additional benefits in comparison to Option 10 are however, limited and this option has a significantly greater cost of implementation, therefore it is recommended that this option is not progressed.	£500K-£1M
13	Implement Phase 1 and 2 of the Dunderave scheme (Scotland TranServ)	8	✓	✓	-	XX	✓✓	✓	0	0	This option performs well against the planning objectives and most of the STAG Criteria. Environmental impacts are identified; however these impacts can be managed, particularly during construction. It is therefore recommended that this option is progressed.	£5M-£10M

	Options	Problems Addressed	Objective 1	Objective 2	Objective 3	Environment	Safety	Economy	Integration	Accessibility and Social Inclusion	Rationale for Selection or Rejection of Option	Estimated Cost
14	Re-align bend at Strone Point	9	✓	✓	-	XX	✓✓✓	✓✓	0	0	This option performs well against the planning objectives and significant potential safety benefits and economic benefits related to cost savings from a reduction in accidents are identified when appraised against the STAG Criteria. This option has a moderate environmental impact although this impact could be managed. It is therefore recommended that this option is progressed.	£1M-£5M
15	Re-aligned road on new structure over Loch Shira from Strone Point to Inveraray	9	✓	✓	-	XXX	✓✓✓	XX	0	✓	This option performs well against the planning objectives and the safety STAG Criteria however, significant impacts are recorded against the environment STAG Criteria and this option would also have a significant cost of delivery. Similar benefits can be achieved from alternative schemes that have a significantly reduced environmental impact and cost therefore, it is recommended that this option is not progressed.	>£100M

	Options	Problems Addressed	Objective 1	Objective 2	Objective 3	Environment	Safety	Economy	Integration	Accessibility and Social Inclusion	Rationale for Selection or Rejection of Option	Estimated Cost
16	Pedestrian bridge across the River Aray to the east of the existing road bridge.	10	-	-	✓	X	0	0	0	0	The pedestrian issue at the River Aray is related to tourists using the existing bridge to take photographs of the castle rather than pedestrians using the bridge to cross the river. Although the pedestrian bridge could provide an alternative viewpoint for tourists towards the castle, some tourists may still utilise the existing bridge for this purpose. The option has limited benefits when assessed against the planning objectives and the STAG Criteria and therefore it is recommended that it is not progressed.	£50K-£100K
17	Footway on existing road bridge across the River Aray	10	-	-	✓	0	X	0	0	✓	This option has limited benefits when assessed against the planning objectives and the STAG Criteria. In addition, the option could attract additional pedestrians onto the bridge, this increasing the risk of pedestrian vehicle conflicts. It is therefore recommended that this option is not progressed.	£20K-£50K
18	Development of a viewpoint for Inveraray Castle.	10	-	-	✓	X	0	0	0	0	This option provides limited benefits against the planning objectives and the STAG Criteria and may create additional safety issues with significant additional use of the lay-by facilities to the north of the existing road bridge. It is therefore recommended that this option is not progressed.	£20K-£50K

	Options	Problems Addressed	Objective 1	Objective 2	Objective 3	Environment	Safety	Economy	Integration	Accessibility and Social Inclusion	Rationale for Selection or Rejection of Option	Estimated Cost
19	Improved signage at the A819 junction in Inveraray	11	-	✓	-	✓	✓	0	0	0	This option meets the overall strategic planning objective and demonstrates slight safety, economic and environmental benefits in the STAG Criteria. It is also straightforward and low cost to implement. It is therefore recommended that this option is progressed.	<£5K
20	Improved signage at the church on Main Street, Inveraray	13	-	-	-	0	✓	0	0	0	This option meets the overall strategic planning objective and demonstrates safety benefits in the STAG Criteria. It is also straightforward to implement. It is therefore recommended that this option is progressed.	<£5K
21	Re-locate bus stops from Furnace village to the A83 thereby eliminating the need for buses to turn off the A83	14	-	✓	-	✓	✓✓/X	0	0	X	This option meets some of the planning objectives and provides limited environmental and safety benefits against the STAG Criteria. There are however impacts related to pedestrian safety and accessibility and social inclusion. It is therefore recommended that this option is not progressed.	£20K-£50K
22	Re-model the junction at the north of Furnace village to improve visibility for vehicles emerging from the village, especially buses.	14	-	✓	-	X	✓	0	0	0	This option performs well against the overall objective and demonstrates moderate benefits in the safety STAG Criteria. It is therefore recommended that this option is progressed. As this option is located outwith the Trunk Road Network, it would require to be progressed by Argyll and Bute Council. Minor environmental impacts are anticipated.	£20K-£50K

	Options	Problems Addressed	Objective 1	Objective 2	Objective 3	Environment	Safety	Economy	Integration	Accessibility and Social Inclusion	Rationale for Selection or Rejection of Option	Estimated Cost
23	Provide flashing speed warning signs in the 40mph limit at Minard	15	-	✓	-	0	✓	0	0	0	This option meets the overall strategic planning objective and demonstrates safety benefits in the STAG Criteria. It is also straightforward to implement. It is therefore recommended that this option is progressed.	£5K-£10K
24	Provide flashing speed warning signs in the 40mph limit at Lochgair	17	-	✓	-	0	✓	0	0	0	This option meets the overall strategic planning objective and demonstrates safety benefits in the STAG Criteria. It is also straightforward to implement. It is therefore recommended that this option is progressed.	£5K-£10K
25	Provide flashing speed warning signs in the 30mph limit at the north side of Ardrishaig	18	-	✓	-	0	✓	0	0	0	This option meets the overall strategic planning objective and demonstrates safety benefits in the STAG Criteria. It is also straightforward to implement. It is therefore recommended that this option is progressed.	£5K-£10K
26	Implement the preferred scheme for widening the pinch point at Erines.	1, 20	✓	✓	-	XX	✓	0	0	0	This option performs well against the planning objectives and the STAG Criteria with the exception of environment. The environmental impacts of the scheme would be managed. Although the scheme would involve removal of some of the rockface to provide space to widen the road, this would utilise tried and tested methods. Traffic management would require to be managed carefully to minimise any periods of closure. It is therefore recommended that this option is progressed.	£5M-£10M

	Options	Problems Addressed	Objective 1	Objective 2	Objective 3	Environment	Safety	Economy	Integration	Accessibility and Social Inclusion	Rationale for Selection or Rejection of Option	Estimated Cost
27	Widen narrow section of A83 on Barmore Road Tarbert to standard width with footway	21	✓	✓	✓	XX	✓✓	✓	0	✓	Although this option performs well against some of the planning objectives and STAG Criteria, there is a moderate environmental impact and a need to utilise existing privately owned land on either side of the existing roadway resulting the need for CPO. The additional benefits that this option offers over alternatives are limited and therefore it is recommended that this option is not progressed.	£500K-£1M
28	Provide signal control of existing pinch point on Barmore Road, Tarbert and widen footway	21	✓	✓	✓	0	✓✓	X	0	✓	This option performs well against the planning objectives and some of the STAG Criteria however, the excessive length of the signal controlled section will result in delays to road users. It is therefore recommended that this option is not progressed.	£50K-£100K
29	Widen either side of pinch point on Barmore Road, Tarbert and provide either priority or signal control over shorter pinch point section.	21	✓	✓	✓	XX	✓	0	0	✓	This option performs well against the planning objectives and most of the STAG Criteria however, there is a negative environmental impact and the need to utilise land outwith the control of the roads authority. These issues would require to be carefully managed. On balance, the impacts can be controlled and therefore it is recommended that this option is progressed.	£500K-£1M

	Options	Problems Addressed	Objective 1	Objective 2	Objective 3	Environment	Safety	Economy	Integration	Accessibility and Social Inclusion	Rationale for Selection or Rejection of Option	Estimated Cost
30	Pedestrian crossing provision on Barmore Road, Tarbert	22	-	-	✓	0	✓✓	0	0	✓	This option performs well against one of the planning objectives and demonstrates safety and accessibility benefits against the STAG Criteria. It is therefore recommended that this option is progressed.	£20K-£50K

Table 5-1: Appraisal against Planning Objectives and STAG Criteria

5.3 Implementation Risk

Following the appraisal, 13 options are identified as meeting the appraisal criteria and offering sufficient benefits to be considered further.

Table 5-2 below provides an initial high level review of potential issues which may impact on the implementation of each option with regard to significant technical or statutory risks. Funding issues are not considered. This is an initial risk review and is not an exhaustive list of all risks.

Option No	Option Title	Implementation Risk
4	Improve signing, lining and surfacing at the bend at Tarbet Tearooms.	No significant risk identified.
10	Improve signing, lining and surfacing at the bend at Ardgartan Caravan Park.	No significant risk identified.
13	Implement Phase 1 and 2 of the Dunderave Scheme (Scotland TranServ)	This option involves utilising land on the existing rock face side or towards the lochside in places with potential environmental and technical risks. There may also be a requirement to promote a road order for this option. Further assessment and detailed design required.
14	Re-align the bend at Strone Point	This option would be subject to further assessment and detailed design. The realignment may require cutting into the rock on the inside of the existing bend. Land that is currently out with the existing road boundary would be required. There may also be a requirement to promote a road order for this option.
19	Improved signage at the A819 junction in Inveraray.	No significant risk identified.
21	Improved signage at the church on Main Street, Inveraray	No significant risk identified.
22	Re-model the junction at the north of Furnace village to improve visibility for vehicles emerging from the village, especially buses.	This option would require land out with the existing road boundary. As it is out with the Trunk Road Network, it would require collaboration with Argyll and Bute Council.
23	Provide flashing speed warning signs in the 40mph limit at Minard	No significant risk identified.
24	Provide flashing speed warning signs in the 40mph limit at Lochgair	No significant risk identified.
25	Provide flashing speed warning signs in the 30mph limit at the north side of Ardrishaig	No significant risk identified.
26	Implement the preferred scheme for widening the pinch point at Erines	The road widening would require significant rock cutting and may require land not currently within the road boundary. Further assessment and detailed design required.
29	Widen narrow section of A83 on Barmore Road, Tarbert to standard width and provide priority control over the remaining narrow section.	Land acquisition required out with the existing road boundary. A road order may also be required to progress this option. Further assessment and detailed design required.
30	Pedestrian crossing provision on Barmore Road, Tarbert.	No significant risk identified.

Table 5-2: High Level Risks to Delivery

6 CONCLUSIONS

6.1 Option Summary

Table 6-1 provides a summary of potential options along the A83 Trunk Road, which have been appraised, mainly qualitatively, in terms of meeting the objectives and performance against the appraisal criteria. Given the different range and type of potential interventions and the specific problem which each one may address, a relative comparison of one intervention against another is not always appropriate.

The potential options have, therefore, been grouped into common themes to allow a general overview of options which address similar types of issues. Options under the grouping of 'minor improvement schemes' address recognised pinch points and road casualty cluster points on the route. The potential quantifiable benefits relating to each of the minor improvement schemes mainly relate to potential cost savings from reduced casualty numbers and/or casualty severity. The positive and negative impacts are presented using the seven point scale detailed above. The assessment indicates that measures to realign the bend at Strone Point potentially provide the greatest benefits, followed by the intervention at Dunderave, although it should be noted that a quantified economic assessment has not been undertaken at this stage.

Potential options such as upgrading the whole route to a standard level of cross-section, or providing upgraded and additional lay-bys, in line with current Design Manual for Roads and Bridges (DMRB) standards, were also considered in the appraisal. Whilst these potential options were not taken forward within this study, consideration should be given to upgrading the standard of sections of the route, particularly with regard to cross section and lay-by provision, as part of ongoing maintenance and upgrade programmes. The rationale for implementing such interventions would need to be clear. In addition, in order to investigate further the issue of pedestrian casualties and facilities in Inveraray, consideration should be given to conducting a feasibility study.

Theme	Option	Estimated Cost	Environment	Safety	Economy	Integration	Accessibility and Social Inclusion	Potential Delivery
Pedestrian Measures	Provision of a pedestrian crossing island on Barmore Road, Tarbert	£20K-£50K	0	✓✓	0	0	✓	M
Minor Improvement Schemes	Re-alignment of the bend at Strone Point	£1M-£5M	XX	✓✓✓	✓✓	0	0	L
	Implement Phase 1&2 of the Dunderave Scheme	£5M-£10M	XX	✓✓	✓	0	0	L
	Implement the preferred scheme for widening the pinch point at Erines	£2M-£5M	XX	✓	0	0	0	L
	Widen the pinch point at Barmore Road, Tarbert and provide priority control in remaining section	£500K-£1M	XX	✓	0	0	✓	L

Theme	Option	Estimated Cost	Environment	Safety	Economy	Integration	Accessibility and Social Inclusion	Potential Delivery
Measures to Improve Information	Improved signage on the A819 junction in Inveraray	<£5K	✓	✓	0	0	0	S
Safety Improvement Measures	Improve signing, lining and surfacing on the bend at Tarbet tearooms	£5K-£10K	0	✓	0	0	0	M
	Improve signing, lining and surfacing on the bend at Ardgartan Caravan Park	£5K-£10K	0	✓	✓	0	0	M
	Improved signage at the church on Main Street, Inveraray	<£5K	0	✓	0	0	0	S
	Re-model the junction at the north of the village of Furnace to improve visibility for vehicles emerging from the village, especially buses	£20K-£50K	X	✓	0	0	0	L
Speed Control Measures	Flashing speed warning signs in the 40mph limit at Minard	£5K-£10K	0	✓	0	0	0	S
	Flashing speed warning signs in the 40mph limit at Lochgair	£5K-£10K	0	✓	0	0	0	S
	Flashing speed warning signs in the 30mph limit at the north of Ardrishaig	£5K-£10K	0	✓	0	0	0	S

✓✓✓ Major Benefit
✓✓ Moderate Benefit
✓ Minor Benefit
0 Neutral
X Minor negative Impact
XX Moderate Negative Impact
XXX Major Negative Impact

Potential Delivery:
S – Short Term
M – Medium Term
L – Long Term

Table 6-1: Infrastructure Measures

6.2 Conclusions

The potential options identified in this study align with the approach recommended in the STPR, which recognised the need to maintain and safely operate the road in the context of a route management strategy. The potential options comprise a series of localised improvements to address the evidence based problems on the route.

The measures range from the implementation of improved direction or warning signs, which are relatively inexpensive and straightforward to implement, to minor improvement schemes that address specific pinch points and provide a greater level of benefit. The rationale for taking forward any option for further development and for implementation would need to be clear and assessed against other competing priorities for the trunk road budget. For example, the minor improvement schemes, if developed further, would require additional assessment, planning and design work.

Minor improvement schemes are generally managed and implemented on behalf of Transport Scotland by the Trunk Road Operating Companies.

6.3 Monitoring and Evaluation

In line with STAG, any potential options that are progressed require monitoring and evaluation against the planning objectives set for the study.

6.3.1 Monitoring and Evaluation of Injury Accidents

In Scotland, annual monitoring of injury accidents is carried out on the Trunk Road Network. As part of this monitoring process, locations where three or more injury related accidents have occurred in the previous three year period are identified through the moving cursor programme (MCP). Where common themes in these accidents are identified, potential improvement measures are developed by the Trunk Road Operating Company for that route.

On the A83, locations identified previously in the MCP were considered in the Route Accident Reduction Plans produced by Scotland TranServ. The measures detailed in this plan have been delivered and monitoring of these locations will continue as part of the MCP.

In relation to this study, accidents on the bends at Tarbet and Ardgartan following implementation of measures including improved signing, lining and surface treatment should be monitored in order to determine if the measures are effective in reducing accidents at these locations. If this is not the case, additional engineered measures may need to be considered subject to available funding.

6.3.2 Monitoring Road Closures

Road closures on the route, resulting in long alternative diversion routes affect journey times and subsequently have an effect on the economy of Argyll, Kintyre and Cowal. Road closures are recorded and monitored by the Trunk Road Maintenance Company in terms of nature of the closure, duration etc.

The majority of the road closures on the route in the most recent years have been attributed to landslides on the section of the A83 at the Rest and be Thankful. Part A of this report detailed potential measures to address this problem and closures on this section and the remainder of the route will continue to be monitored.

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Appendix A Summary of Lay-by Provision

Lay-By Reference Number	Location		Side of Carriageway	Spacing between Lay-Bys	General Lay-by Type	Signage	Road Markings	Dimensions	Surface Condition	Additional Notes
	Easting	**Northing**								
No.1	229827	703980	Southbound	Start - No.1 >10km	Type B	No signage to identify lay-by	Dashed line on edge of carriageway	Approx 53m in length and 10.0m at widest point	Surface in good condition	Lighting columns at entrance to lay-by
No.2	218234	710882	Southbound	No.1 - No.2 >10km	Type B	'Parking' signpost immediately before lay-by	Dashed line on edge of carriageway	Approx 55m in length and 6.5m at widest point	Surface in good condition	
No.3	218476	711384	Southbound	No.2 - No.3 480m	Type B	No signage to identify lay-by	Dashed line on edge of carriageway	Approx 80m in length and 4.7m at widest point	Surface in good condition	Bus Stop at lay-by
No.4	218476	711384	Northbound	Start - No.4 >10.5km	Type B	No signage to identify lay-by	Dashed line on edge of carriageway	Approx 80m in length and 4.5m at widest point	Surface in good condition	Bus Stop at lay-by
No.5	219318	712351	Northbound	No.4 - No.5 1.2 km	Type B	'Parking' signpost immediately before lay-by	Dashed line on edge of carriageway	Approx 40m in length and 3.5m at widest point	Surface in poor condition	
No.6	218367	712282	Southbound	No.3 - No.6 2.7km	Type B	'Parking' signpost in advance (200m) and immediately before lay-by	Dashed line on edge of carriageway	Approx 55m in length and 3.5m at widest point	Surface in good condition	
No.7	215465	710350	Southbound	No.6 - No.7 3.5km	Type B	'Parking' signpost in advance (1/4mile), No sign immediately before lay-by	Solid line on carriageway edge	Approx 45m in length and 6m at widest point	Poor surface condition, gravel material	
No.8	209959	709166	Northbound	No.5- No.8 12.6km	Type B	'Parking' signpost in advance (1/4mile), and immediately before lay-by	Dashed line on edge of carriageway	Approx 56m in length and 3.5m at widest point	Surface in good condition	

Lay-By Reference Number	Location		Side of Carriageway	Spacing between Lay-Bys	General Lay-by Type	Signage	Road Markings	Dimensions	Surface Condition	Additional Notes
	Easting	Northing								
No.9	208536	707180	Southbound	No.7 - No.9 10.29km	Type B	No signage to identify lay-by	Dashed line on edge of carriageway	Approx 60m in length and 3.0m at widest point	Surface in good condition	
No.10	202798	702815	Northbound	No.8 - No.10 >13km	Type B	No signage to identify lay-by	Dashed line on edge of carriageway	Approx 55m in length and 3.5m at widest point	Surface in poor condition	
No.11	201691	699770	Southbound	No.9 - No.11 >13.5km	Type B	No signage to identify lay-by	Dashed line on edge of carriageway	Approx 90m in length and 2.7m at widest point	Surface in poor condition	
No.12	185621	687443	Southbound	No.11 - No.12 >15km	Type B	No signage to identify lay-by	Dashed line on edge of carriageway	Approx 25m in length and 2.5m at widest point	Surface in ok condition	
No.13	185071	683492	Northbound	No.10 - No.13 >23km	Type A	No signage to identify lay-by	Dashed line on edge of carriageway	Approx 40m in length and 3.0m at widest point	Surface in poor condition, loose material	Not identified on OS mapping
No.14	184900	680160	Southbound	No.12 - No.14 7m	Type B	No signage to identify lay-by	Dashed line on edge of carriageway	Approx 50m in length and 5.0m at widest point	Surface in very poor condition, pot holes etc	
No.15	184993	679750	Southbound	No.14 - No.15 390m	Type B	No signage to identify lay-by	Dashed line on edge of carriageway	Approx 26m in length and 3.0m at widest point	Surface in reasonable condition	
No.16	185208	679105	Northbound	No.13 - No.16 4.2km	Type B	No signage to identify lay-by	Dashed line on edge of carriageway	Approx 48m in length and 4.0m at widest point	Surface in reasonable condition	
No.17	185176	679128	Southbound	No.15 - No.17 740m	Type B	No signage to identify lay-by	Dashed line on edge of carriageway	Approx 15m in length and 2.5m at widest point	Surface in reasonable condition	

Lay-By Reference Number	Location		Side of Carriageway	Spacing between Lay-Bys	General Lay-by Type	Signage	Road Markings	Dimensions	Surface Condition	Additional Notes
	Easting	Northing								
No.18	185692	678832	Southbound	No.17 - No.18 490m	Type A	'Parking' signpost immediately before lay-by	Dashed line on edge of carriageway	Approx 100m in length and 4.5m at widest point	Surface in very poor condition, pot holes etc	
No.19	185947	677595	Southbound	No.18 - No.19 1.2km	Type B	No signage to identify lay-by	Dashed line on edge of carriageway	Approx 40m in length and 6m at widest point	Surface in very poor condition, pot holes etc	
No.20	185983	676751	Southbound	No.19 - No.20 810m	Type B	No signage to identify lay-by	Dashed line on edge of carriageway	Approx 45m in length and 4m at widest point	Surface in reasonable condition	
No.21	186260	673260	Southbound	No.20 - No.21 >3km	Type B	'Parking' signpost immediately before lay-by	Dashed line on edge of carriageway	Approx 32m in length and 4m at widest point	Surface in good condition	
No.22	186150	671352	Southbound	No.21 - No.22 2.5km	Type B	No signage to identify lay-by	Dashed line on edge of carriageway	Approx 25m in length and 5m at widest point	Surface in very poor condition, pot holes etc	
No.23	186712	670294	Southbound	No.22 - No.23 1.5km	Type B	No signage to identify lay-by	Dashed line on edge of carriageway	Approx 40m in length and 4.5m at widest point	Surface in good condition	
No.24	179799	659475	Northbound	No.16 - No.24 10.5km	Type B	No signage to identify lay-by	Solid line on carriageway edge	Approx 50m in length and 3.5m at widest point	Surface in very poor condition, overgrown, loose material	

Appendix B Stakeholder Consultation Workshop – Summary of Discussions

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TRANSPORT SCOTLAND

A83 Trunk Road Route Study

Stakeholder Consultation Workshop: Summary of Discussion

Inveraray 22 August 2012

30 August 2012

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1 Introduction

1.1 Purpose of the Workshop

What	A83 Trunk Road Route Study Stakeholder Workshop
When	Wednesday 22 August 2012 (10:00 – 15:30)
Where	Loch Fyne Hotel, Inveraray
Who	Jacobs, Transport Scotland and Stakeholders

The objective of this workshop was to provide stakeholders with an opportunity to discuss the issues along the A83 Trunk Road and allow them to contribute their views on any ideas or possible solutions that might help remedy those issues. A set of draft objectives for the study was also presented and discussed and suggestions for changes or additions invited.

1.2 Format of the Workshop

Before the workshop: Stakeholders who had confirmed their attendance at the event were provided with a copy of a briefing note prior to the workshop. This briefing note detailed the objective of the workshop, the agenda, the structure of the workshop, draft study objectives and further engagement. A copy of the briefing note is included in **Appendix A.**

At the workshop: Following a welcome and introductions, Graham Edmond, Head of Network Maintenance for Transport Scotland, provided an update on the current work that is ongoing at the Rest and be Thankful. This update included discussions on the installation of netting at the landslip sites and the proposed use of the Old Military Road as a temporary emergency diversion route during closure periods.

A variety of questions were introduced from the attendees and responses provided by Transport Scotland representatives.

Transport Scotland (Gordon Ramsay) provided a general overview of the A83 Trunk Road Study, advising that the study would appraise a series of potential options to address the landslide problem at the Rest and be Thankful and for the wider route and these options would be further discussed with the Taskforce.

Following the introductory presentations, 'Session One' was undertaken whereby participants split into four break out groups. Each group was led by a representative from Jacobs and a representative from Transport Scotland. A list of all attendees and groups is included in Section 2 of this paper.

Stakeholders were asked to discuss their views in relation to the following:

- *What are the issues related to the landslide closures on the A83 Rest and be Thankful that affect you?*
- *What are the consequences related to the issues identified above?*
- *Are there any potential solutions to address the issues identified above? and*
- *What problems would these potential solutions mitigate?*

Stakeholders were also asked for their views on the draft objectives that had been developed.


Break out groups in discussion

Following the 'Session One' break out groups, feedback was provided to the full stakeholder group by Jacobs staff or a nominated representative of the group and questions/comments were invited from stakeholders.

The participants returned to the same groups to participate in 'Session Two'. In this session, stakeholders were asked to consider the whole A83 Trunk Road between Kennacraig and Tarbet and again discuss their views in relation to issues, consequences, potential solutions and what problems the potential solutions would mitigate. Stakeholders were also asked to rank the issues in order of priority.

Break out groups in discussion

Feedback was again provided to the full stakeholder group following completion of the break out sessions followed by a question and answer session.

A summary of the output from each workshop session is included in Section 3.

After the workshop: Comment forms were made available at the end of the day for stakeholders to provide any additional information following the event. These forms should be submitted to us no later than Friday 14 September. A copy of the feedback form is included in Appendix B.

2 Workshop Attendees

John Buchanan (Friends of the Rest) Garret Corner (Inveraray Community Council) Mike Dean (Citylink Coaches) David Eaglesham (Road Haulage Association) Mary Haggarty (Arrochar & Tarbet CommunityCouncil) Andrew Mclure (Strathclyde Fire & Rescue) Alan Reid MP Gordon Ross (Western Ferries) Cllr John Semple Andrew Wilson (Mid-Argyll Chamber of Commerce) Robbie Brown (Caledonian Macbrayne) Kathleen Cameron (Tourist Guide) Cllr George Freeman Danny Halliday (West Coast Motors) Tony Jarvis (Highlands & Islands Enterprise) Iain MacInnes (Lochgoil Community Council) Peter McKerral (Forestry Contractors) Mike Masters (Furnace Community Council) Robert Pollock (Argyll & Bute Council) Roland Stiven (Timber Transport Forum) Graeme Herd (Jacobs) Veronica Allan (Transport Scotland) Helen Bradley (Jacobs) Keith Murray (Transport Scotland)	Bob Chicken (Tarbert & Skipness Community Council) Gavin Dick (Argyll & the Islands Tourism) Gordon Donaldson (Forestry Commission) Alastair Henderson (Caledonian Macbrayne) Cllr Donald Kelly Peter MacDonald (Strathclyde Police) Mary MacGugan (West Loch Fyne Jane MacLeod (Mid-Argyll Chamber of Commerce) Community Council) Paul Robertson (Strathclyde Police) John Semple (National Farmers Union) Jim Smith (Argyll & Bute Council) John Wrigley (Scotland Transerv) Cllr Roddy McCuish Ian Liddell (Lochgilphead Community Council) Leonard McNeill (West Loch Fyne Community Council) Alan Bell (Loch Lomond and the Trossachs National Park) David Duthie (HI-TRANS) Edward Laughton (Ardrishaig Community Council) Kirsty Robb (Argyll Timber Transport Group) Callum Robertson (Argyll & Bute) Mike Story (Argyll & the Islands Tourism) Rebecca McClenaghan (Jacobs) Gordon Ramsay (Transport Scotland) Graeme McQuaker (Jacobs) Andy Anderson (Transport Scotland)

3 Summary of Workshop Outputs

3.1 Introduction

Representatives from Jacobs recorded the various comments made by the stakeholders, within the break out groups. All comments were then collated, and grouped into a series of common themes. The sections below present the key issues relating to the Rest and be Thankful and the remainder of the Trunk Road

3.2 Draft Study Objectives

A set of draft study objectives were presented and discussed at the various break out groups. The draft objectives are listed below:

- Provide a long term (permanent) solution to address landslide impacts at the Rest and be Thankful;
- Improve journey time reliability by reducing the frequency and impact of road closures;
- Improve operating conditions on the A83;
- Reduce accident rates and severity on the A83;
- Improve pedestrian and cycling amenities in the settlements on the A83; and
- Deliver environmental benefits where possible, and minimise necessary environmental impacts to an acceptable level.

The above draft objectives will be refined over the next few weeks to reflect the specific problems identified and discussed as part of the stakeholder engagement session.

3.3 Summary of Discussion Groups

Appendix C provides a summary of the output from the discussions during the first break out session at the stakeholder workshop, and Appendix D contains details from the second session. This output is presented in terms of the problems, causes, constraints and comments relating to particular issues and potential solutions, as raised by the workshop participants. The individual comments made have been collated and grouped by Jacobs to aid presentation and understanding.

The information within the tables in Appendices C and D reflects the discussion across the four break out groups and is presented as a record of the discussion. This information will be used to inform the study and is not meant to represent a complete list of options that will be considered as the study progresses.

4 Next Steps

Moving forward, the next steps in the project are to:

- consolidate outputs from this workshop with previous work and any other written submissions;
- progress the Stage 1 Appraisal;
- continue to report to the monthly A83 Taskforce meetings;
- conclude study by end of October 2012; and
- publish a final report by the end of the year.

Appendix A Briefing Note

A83 Trunk Road Route Study
Stakeholder Workshop: 22 August 2012

Information to aid participants

Please find below a general outline of the workshop and the agenda for the day. This information has been prepared to give you an understanding of the workshop structure and to outline what you can expect on the day in terms of your participation.

The project team look forward to meeting you and working with you in an open and collaborative forum.

1. Objective of the Workshop

Jacobs has been appointed by Transport Scotland to carry out an appraisal of the A83 Trunk Road. In this appraisal we have been asked to consider measures to manage the effects of landslips at the Rest and be Thankful and also to consider wider measures which would seek to remove traffic pinch points and improve pedestrian and cyclist safety in villages along the A83.

Stakeholder and community participation and consultation are key elements of this process and we really encourage you to provide your thoughts, insights and ideas to help inform this study.

The objective of the workshop is to look more closely at the issues along the route and identify any ideas or solutions that could help remedy those issues. We are also keen to agree a set of objectives with you which will help the appraisal process.

We have invited a wide range of organisations and individuals to the meeting in order to hear from as many different people as possible in order that we may learn and understand more about the issues on the route and to think about the possible solutions.

You will note that this is a workshop rather than a public meeting. This means we would really like you to participate in the discussions. There will be further opportunities to talk to the team after the workshop should you have any further questions or concerns.

Lunch will be provided on the day, and we ask that you inform us of any special dietary requirements that you may have.

2. Agenda

An indicative Agenda is set out below. Please note this is for guidance and may be subject to change in terms of detailed timings and structure as we finalise our plans in the lead up to the workshop.

9:50 to 10:00 Registration

10.00 to 10.45 Introduction, Overview & Briefing

10.45 to 12.00 Session 1 – A83 Rest and Be Thankful

Discussion of the issues and identification of problems, followed by thoughts on the draft study objectives and identification of possible options and solutions.

12.00 to 12.30 Feedback

12.30 to 13.15 Lunch

13.15 to 12.30 Introduction to Session 2

13.30 to 14.45 Session 2 – A83 Tarbet-Lochgilpead-Kennacraig

Discussion of the issues and identification of problems, followed by thoughts on the draft study objectives and identification of possible options and solutions.

14.45 to 15.15 Feedback

15.15 to 15.30 Overview of Next Steps

3. Structure of Workshop

An indicative structure for the workshop is set out below. Please note this is for guidance and may be subject to change as we finalise our plans in the lead up to the workshop. Also on the day of the workshop we may adjust some of the details so that we can accommodate the evolving discussion.

The workshop will be hosted by representatives of Transport Scotland and Jacobs.
A Transport Scotland representative will provide a brief introduction, following which the programme for the day will be set out.

The first part of the morning session will consist of a short presentation by Jacobs staff on the appraisal process, highlighting the different aspects of the study; covering the Rest and be Thankful issues and also issues affecting areas along the remainder of the A83 Trunk Road.

Break out groups will then be used to facilitate discussion from the participants in each session. In addition to discussing the problems and opportunities, there will be a clear focus in each session on the discussion of well defined and robust objectives and potential solutions.

The first break out session will focus on the issues relating to the Rest and be Thankful section. Workshop participants will be encouraged to communicate the problems that are encountered as a result of the landslip closures and identify potential opportunities to improve the situation, both in the short term and longer term.

The afternoon session will concentrate on the issues relating to the whole of the A83 Trunk Road between Tarbet and Kennacraig. This will follow a similar structure to the morning session and participants will be encouraged to identify the causes and consequences of problems and other issues that are encountered along the length of the route, and again potential solutions.

4. Draft Study Objectives

The following draft study objectives have been identified and we would like to hear your thoughts on these on the day.

- Provide a long term solution to address landslide impacts at the Rest and be Thankful;
- Improve journey time reliability by reducing the frequency and impact of road closures;
- Improve operating conditions on the A83;
- Reduce accident rates and severity on the A83; and
- Improve pedestrian and cycling amenities in the towns on the A83.

The above objectives will be refined over the next few weeks to reflect the specific problems identified and discussed as part of the stakeholder engagement session.

5. Further Engagement

Whilst the workshop is a key component of the study, there will be further opportunities for stakeholders and interested parties to contribute to the study. All workshop participants will be issued with a form to provide additional comments, which can be submitted after the workshop. In addition, any further comments on the study can be submitted, after the workshop and for a reasonable period of time, via e-mail to A83trunkroadstudy@jacobs.com, or in writing to:

Evonne Baird
Jacobs UK Ltd
95 Bothwell Street
GLASGOW, G2 7HX

Appendix B Feedback Form

A83 Trunk Road Route Study

The A83 Trunk Road Route Study is being undertaken to identify existing issues on the A83 between Tarbet and Kennacraig and consider a range of improvement opportunities. The project team welcomes comments from stakeholders to help inform this study. Comments can be made in the space below, by email or in writing to the address given. Comments received by Friday 14 September 2012 will be considered as part of this study. However, please note it will not be possible for the project team to respond individually to comments received.

Comments:

Return to:
A83trunkroadstudy@jacobs.com (email address will become live on Friday 24 August 2012)
or
Evonne Baird, Jacobs UK Ltd, 95 Bothwell Street, Glasgow G2 7HX

Appendix C Summary of First Break-Out Session Discussions (Rest and be Thankful)

These tables summarise the issues and opportunities identified by participants during the first break-out session at the stakeholder event in Inveraray on 22 August 2012.

Problems	Causes	Constraints	Opportunities/Interventions
Closure of A83 at Rest and be Thankful	Landslide incidents or closure due to high risk of landslides.	Challenging topography. Geotechnical issues. Land ownership. Maintaining adequate diversion routes during construction. Landscape considerations. Affordability	Use of the Old Military Road for diversions. Utilise forestry road. Construction of a new route. Tunnelling. Provision of avalanche type rock/debris shelters. Removal of part of the hillside in a controlled manner. Re-introduction of livestock to the hillside to reduce the vegetation. Plant trees on the affected hillside. Improved ferry links to Cowal and Argyll.

Consequences of the Closure	Comments made by participants
Access to Glasgow and the central belt for shopping, hospital appointments and social requirements is reduced.	
Ageing population resulting from difficulty maintaining the population and reducing migration.	
Disruption to business. This includes hotels and other tourist facilities in Argyll and sawmills outwith Argyll that utilise forestry products from	

Consequences of the Closure	Comments made by participants
Argyll	
Economic costs to businesses in Argyll from additional fuel costs, drivers wages and other running costs.	
Closure of the Rest and be Thankful results in increased attendance times for the emergency services from alternative locations.	
External perception of Argyll as disconnected, peripheral and remote resulting from poor information giving negative messages.	Improve information promoting alternative routes.
Ferry connections missed resulting in a knock on effect to businesses on the islands.	
The hazard warning system flashes when there is an increased risk of landslide but drivers are unsure how to react when the warning is activated.	Review use of warning signs.
HGV/Bus may have insufficient driving hours to complete their journey.	Temporary relaxation of driving hours.
Closures and risk of closure due to landslides discouraging visitors from using the A83. High risk message being portrayed. Intense monitoring is making the situation worse.	Improve communication including promoting alternative routes into Argyll including use of the ferry service to Cowal. Toning down the high risk message.
Increased journey time due to road closure diversion. This increased journey time results in additional costs and can result in drivers not having sufficient driving hours to complete the journey.	
Increased risk of accidents due to the use of an unfamiliar diversion route with significantly longer driving times resulting in time pressures.	
Length of time to re-open the road following closure appears to be excessive as material needs to be removed and the slope made safe.	

Consequences of the Closure	Comments made by participants
Reduced passenger numbers on Campbeltown to Glasgow bus service during closures, reducing viability on non-subsidised service.	
Risk of material on lower slopes, below current road level, on the Rest and be Thankful slipping.	
Traffic queuing back onto road from ferry terminals at McInroes' Point and Hunter's Quay at times of increased traffic using ferry to Cowal to avoid A83 closure due to limited storage space at terminals.	
Traffic Scotland information slow to load on mobile devices and not specific to area.	Provide area specific information. Seek to improve suitability of web page for mobile devices.
Some school pupils travel to school through the landslip area and this is not viable when the route is closed.	
Uncertainty over future closures.	Improve information provision.
Viability of exporting timber from Argyll is reduced as the uncertainty over length of route is factored into pricing for the movement of timber resulting in reduced viability compared to other areas.	

Appendix D Summary of Second Break-Out Session Discussions (Tarbet to Kennacraig)

These tables summarise the issues and opportunities identified by participants during the first break-out session at the stakeholder event in Inveraray on 22 August 2012.

Problems	Causes	Constraints	Comments made by participants
Poor visibility, obscured road signs and damage to vehicles.	Uncut vegetation and overhanging trees.	Trees are not all owned by the roads authority.	Ongoing maintenance of roadside vegetation.
Lengthy or no diversion routes available.	Road closures due to accidents or other incidents.	Topography limits opportunities for suitable diversion routes.	Improve information provision.
Excessive duration of road closures	Serious/fatal road accidents. Requirement for accident investigation with specialist support from outwith the immediate area.	Limited specialist support within immediate area. Requirement to fully investigate road accidents.	Improve information provision.
Lack of overtaking opportunities on route	Road alignment. High level of HGV traffic. Driver frustration. Platooning traffic behind slow moving vehicles.	Physical constraints from rockfaces and the lochside. Cost.	Improve road layouts.
Lay-bys are infrequent and full of potholes	Poor maintenance		Improve existing laybys and provide additional laybys where required.
Pinch points between Tarbet and Arrochar.	Width of road through railway bridge	Road width/pedestrian provision through bridge.	
Sharp bend at Tarbet Hotel.	Poor road alignment	Land ownership/landscape	Improve road layout.

Problems	Causes	Constraints	Comments made by participants
Risk of accidents at Ardgarten	Poor alignment		Improve road layout. Provision of additional signage and surface treatment.
Bus passengers having to alight at Ardgarten visitors centre as there are no facilities for buses to turn at the Rest and be Thankful.	Lack of space for bus to turn.	Land issues	Argyll & Bute Council are progressing a scheme for a bus turning facility at this location.
Narrow road and potholes along the edge of road between Dunderave and Inveraray.	Road alignment.		Improve road layout.
Delays on River Aray Bridge	Tourists stopping to take photographs and pedestrians on bridge.	Width of bridge	Provide pedestrian viewpoint with a path from Inveraray Green. Provide additional pedestrian crossing of the river.
Poor signage for Dalmally Road in Inveraray.			Improve signage.
Pedestrian vehicle conflicts within Inveraray, particularly in the tourist season.	Trunk road passes directly through the main street in Inveraray, tourists and other pedestrians cross this road between shops, hotels, restaurants etc.	No clear single pedestrian desire line.	Investigate the requirement for formalised crossing facilities.
Vibration of buildings within Inveraray.	Heavy vehicles passing through the middle of the town.	Trunk road passes through the main street.	Consider bypass of Inveraray Additional Traffic Management measures

Problems	Causes	Constraints	Comments made by participants
Abnormal loads require whole width of road when passing through Inveraray.	Width of load vs width of road.	Tight corners through town.	Effective management of abnormal loads to minimise disruption.
Road layout at church through Inveraray.	Driver confusion/hesitation.	Narrow road width around church.	Improve signing.
Accident risk at Strone Point north of Inveraray.	Sharp bend in road.	Land ownership/landscape	Improve road layout/safety features.
Dangerous right turn from Furnace (northern end of village), especially for buses.	Poor visibility while turning out of village.	Available land	Improve road layout/safety features.
Speeding through 40mph at Minard	Straight section of road with 40mph limit past village.		Provide additional road markings/warning signs.
Standing start up hill from Minard for HGVs when stopped at lights.	Traffic lights at pinch point at red.		Re-configure traffic signals to give priority to traffic heading south.
Speeding on 40mph limit through Lochgair	Excessive speed		Improve signage Improve enforcement Introduce additional warning signs.
30mph limit leaving Lochgilphead is not suitable for location.	30mph limit implemented when school was built. Design altered resulting in no requirement for pupils to walk on this stretch.		Speed limit review has been carried out.

Problems	Causes	Constraints	Comments made by participants
Crossing the road safely in Ardrishaig.	Lack of crossing facilities		Consider providing some form of pedestrian crossing facilities.
Approach to Adrishaig is a 40mph and cars enter going too fast.			Reduce speed limit, incorporate traffic calming measures.
Vehicles unable to pass at pinch point at Erines.	Narrow road width.	Rockface on west side, loch side on east side of road.	Partial or complete widening. Improved signage and control of traffic through pinch point.
Problems safely crossing the road to the Co-Op in Tarbert	Lack of crossing facilities		Consider providing some form of pedestrian crossing facilities.
Lack of space for two vehicles to pass on the approach to Tarbert from the north.	Narrow road width.	Adjacent house boundaries next to roadway.	Improve road layout; Additional control of traffic.
Strategic timber route that allows forestry HGVs to avoid the centre of Tarbert not being used to full potential.	Adverse camber in road at junction with A83		Improve road layout.

Appendix C Option Layouts

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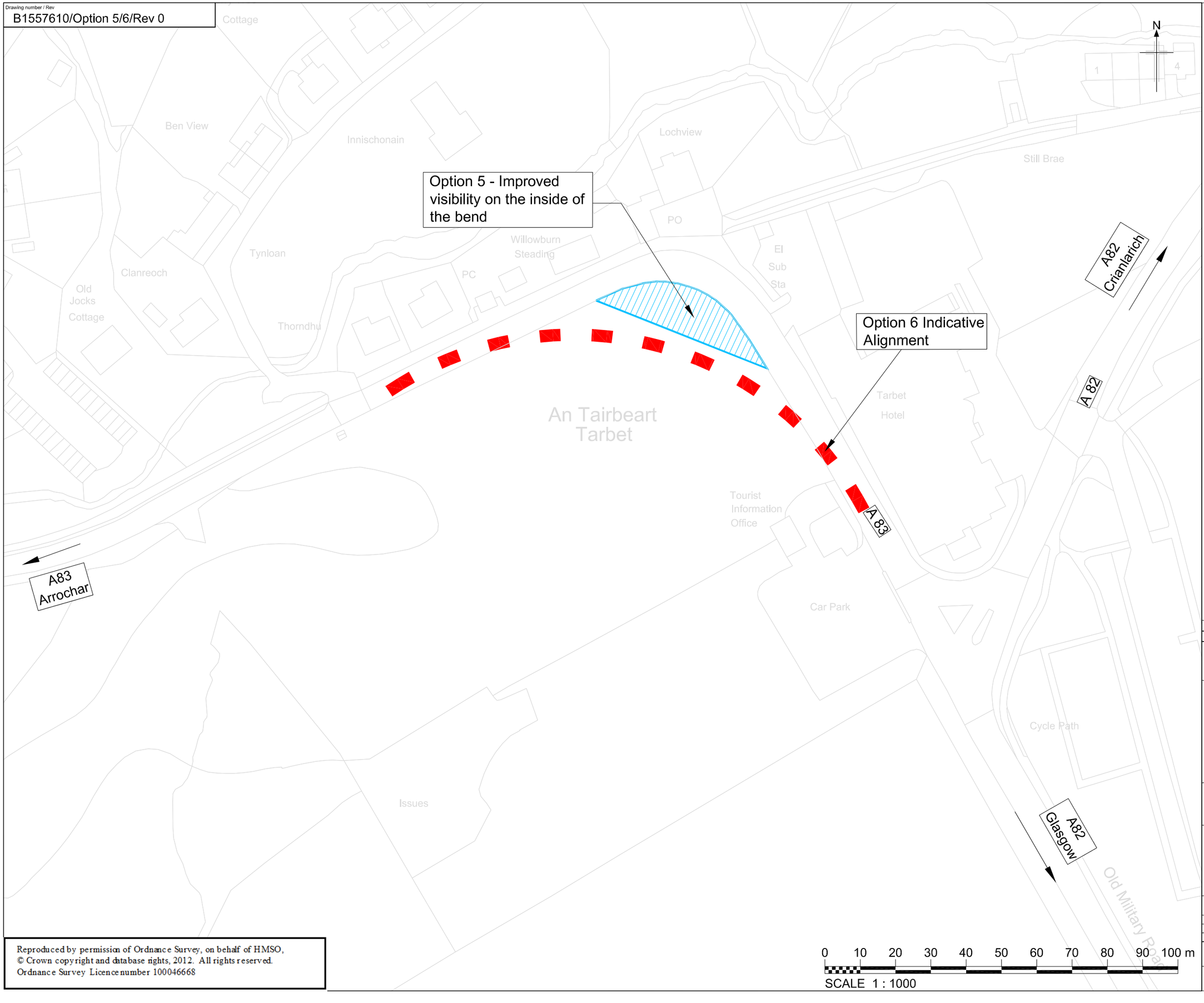
B1557610/Option 5/6/Rev 0



Note:

Any departure from standard would require an independent review and approval by Transport Scotland's Standards Branch and, if approved, usually requires some compensatory mitigation to be put in place.

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0	31/10/12	ISSUED WITH A83 TRUNK ROAD ROUTE STUDY REPORT PART B	KC	GMcQ	GAH	EHB

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Project
A83 TRUNK ROAD
ROUTE STUDY

Drawing title
Tarbet Options
Bend at Tarbet Tea Rooms
Options 5 & 6

Drawing status
CONSULTATION (DRAFT)

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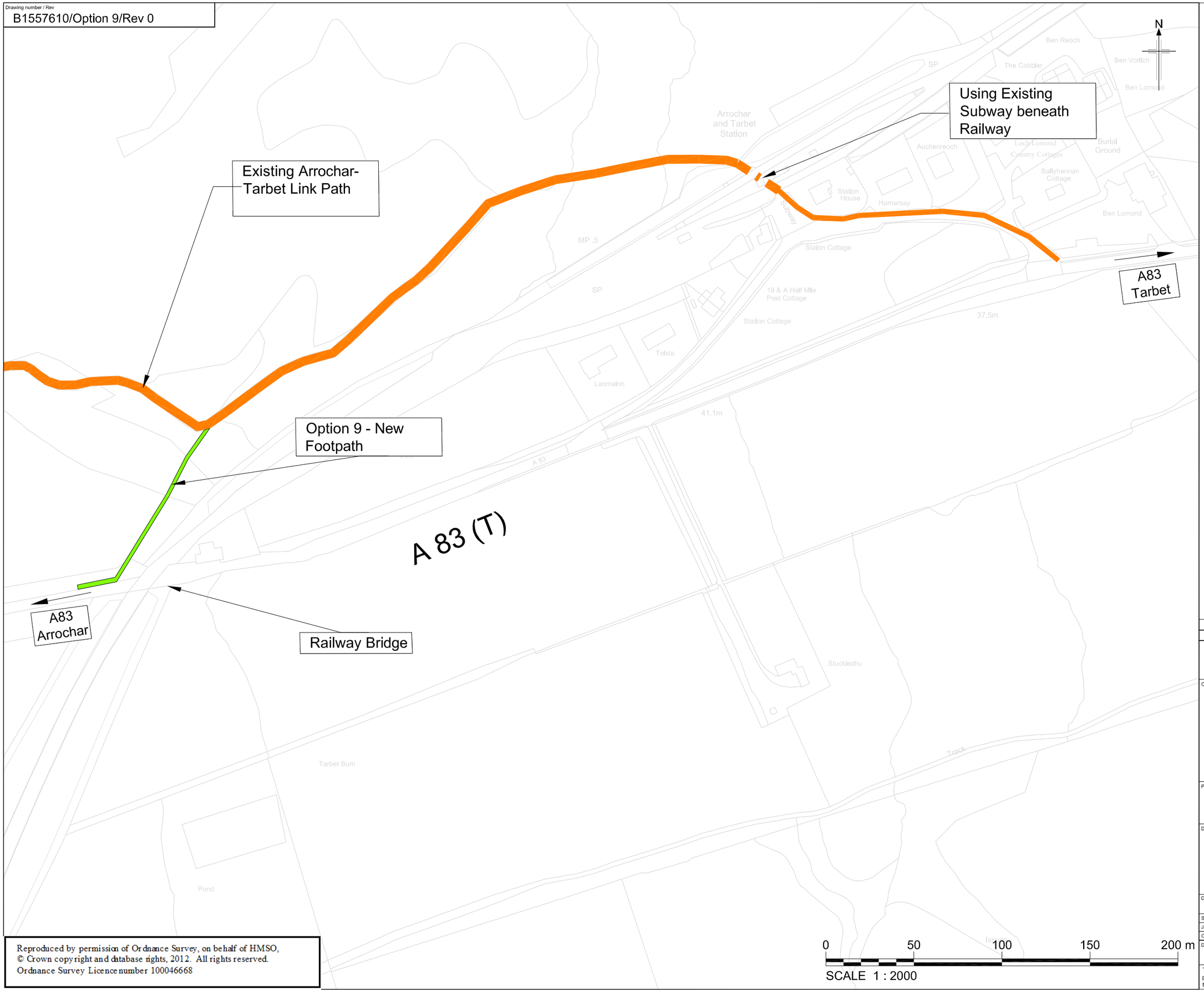
Client no.		

Drawing number: B1557610/Option 5/6 — Rev: 0

Drawing number / Rev
B1557610/Option 9/Rev 0



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Drawing title
Tarbet Options
Railway Bridge
Option 9

Drawing status
CONSULTATION (DRAFT)

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Client no.		

Drawing number
B1557610/Option 9

Rev
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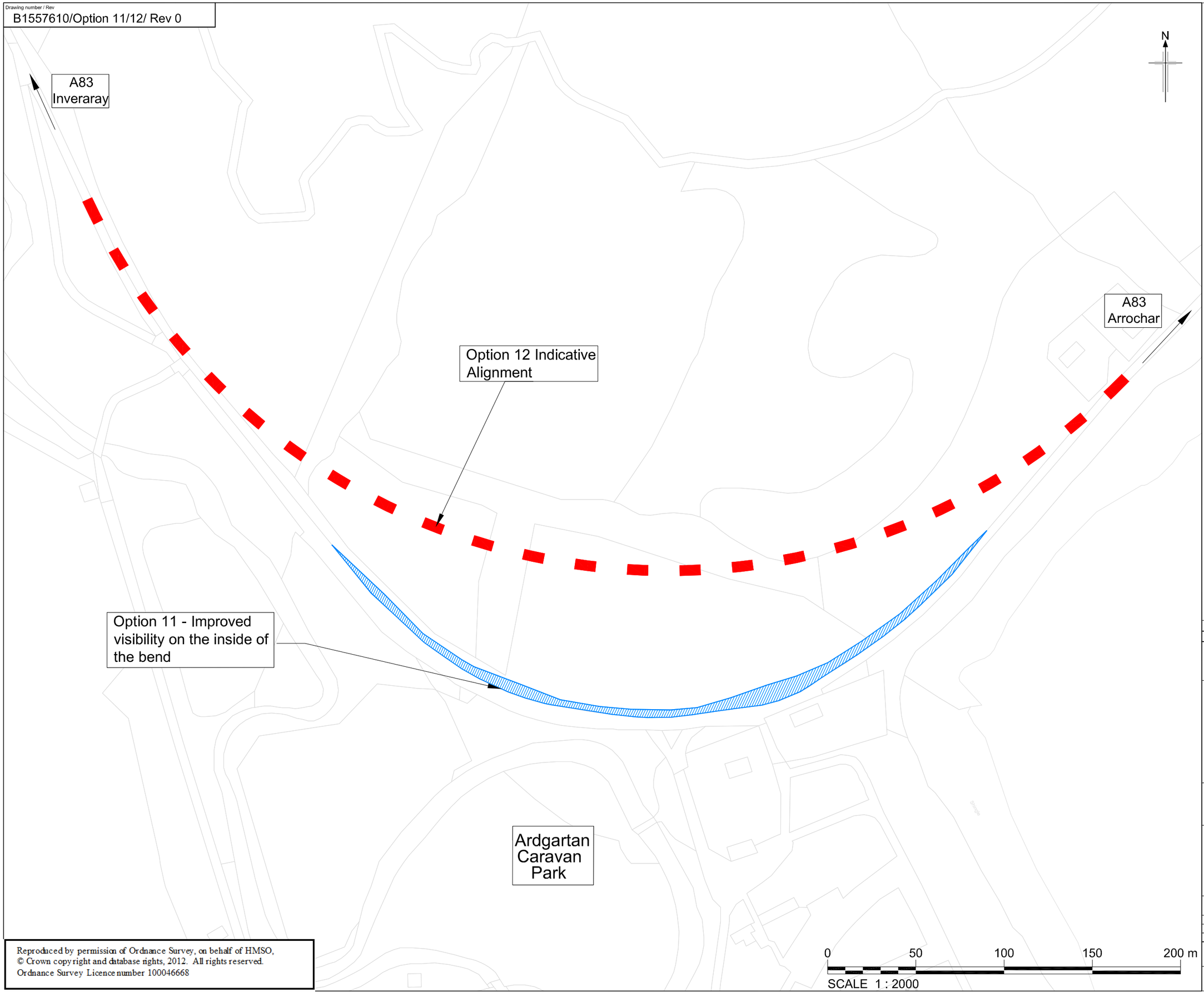
Drawing number / Rev
B1557610/Option 11/12/ Rev 0



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Drawing title
Ardgartan Options
Options 11 & 12

Drawing status
CONSULTATION (DRAFT)

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Drawing number
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Rev
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Drawing number / Rev

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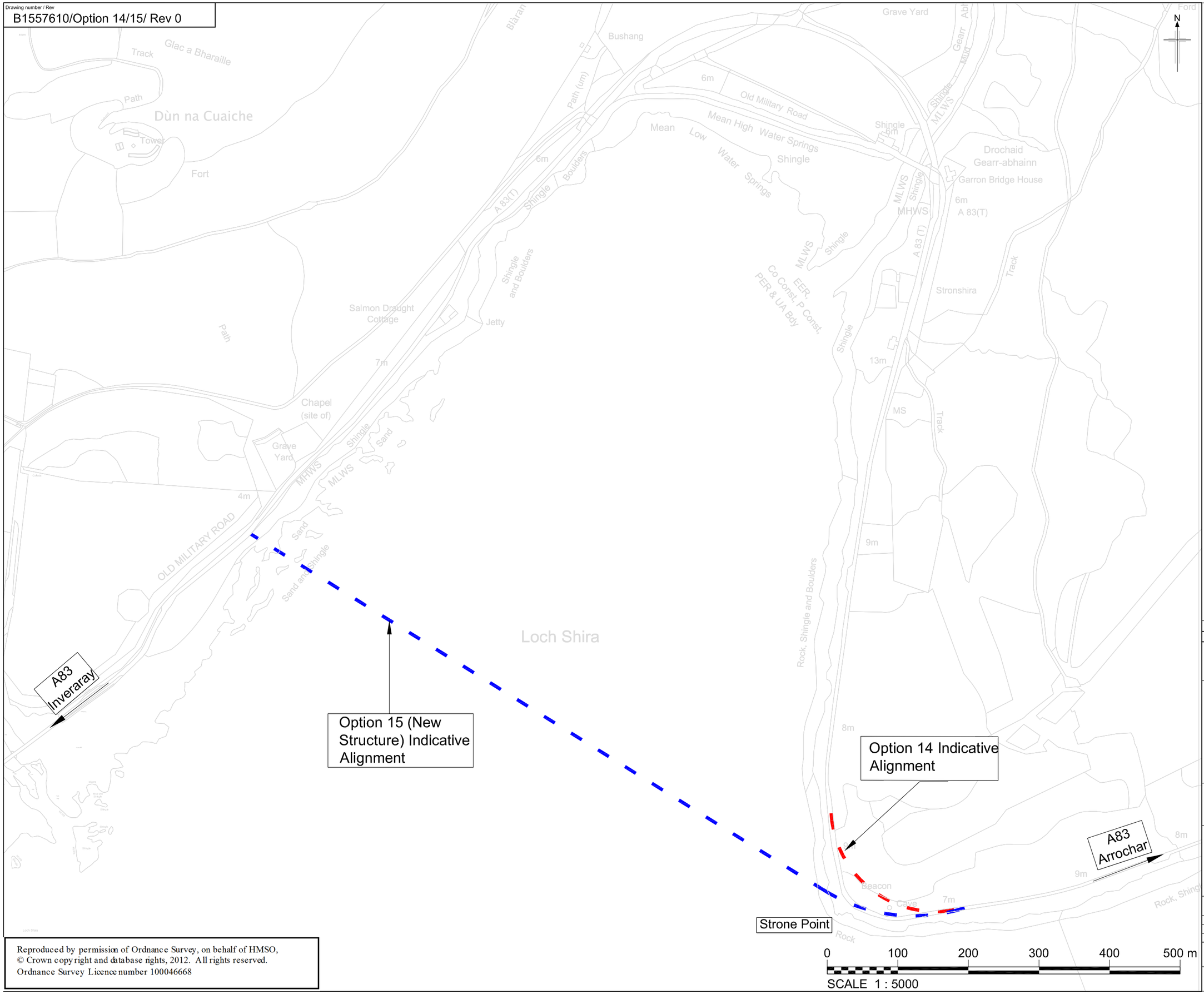

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Project

A83 TRUNK ROAD
ROUTE STUDY

Drawing title

Strone Point Options
Option 14 & 15

Drawing status

CONSULTATION (DRAFT)

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Client no.		

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Drawing number / Rev
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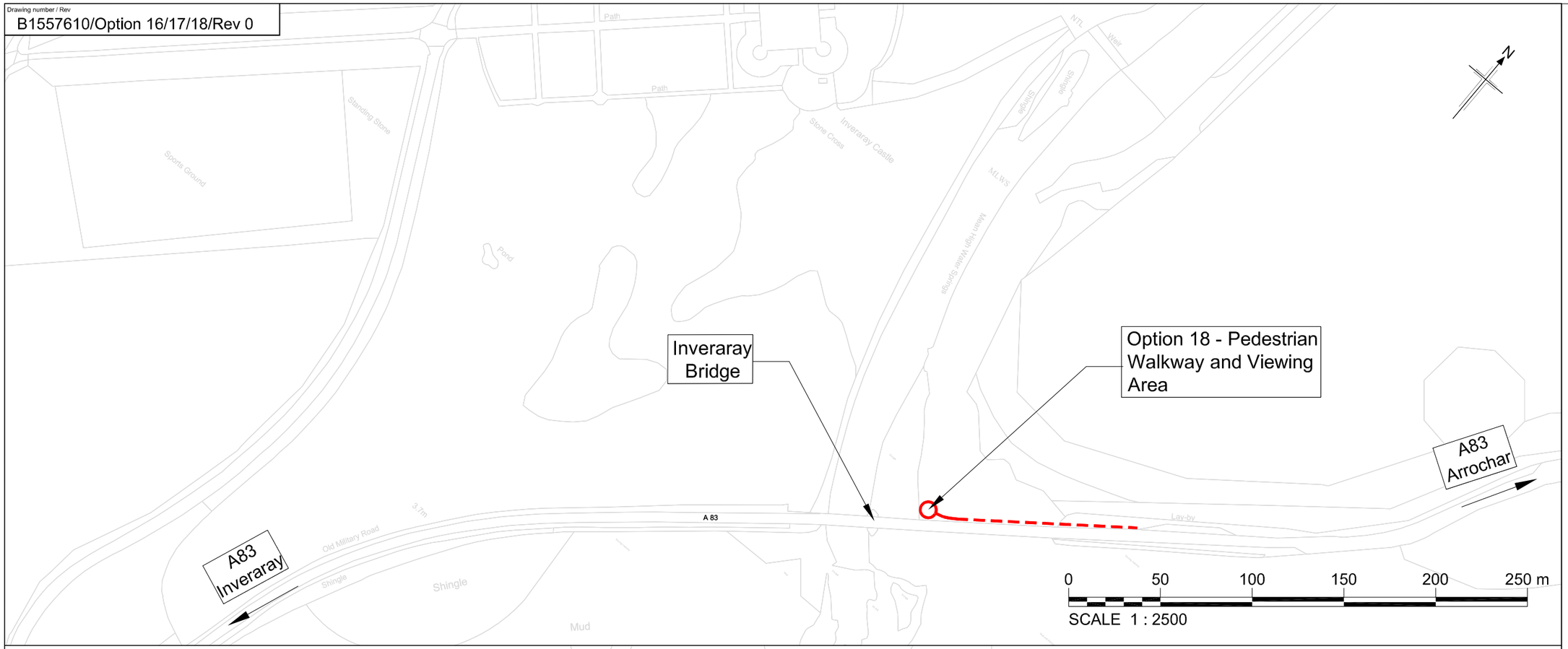

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Project
A83 TRUNK ROAD ROUTE STUDY

Drawing title
Inveraray Options
Options 16,17 &18

Drawing status
CONSULTATION (DRAFT)

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Client no.		

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B1557610/Option 16/17/18

Rev
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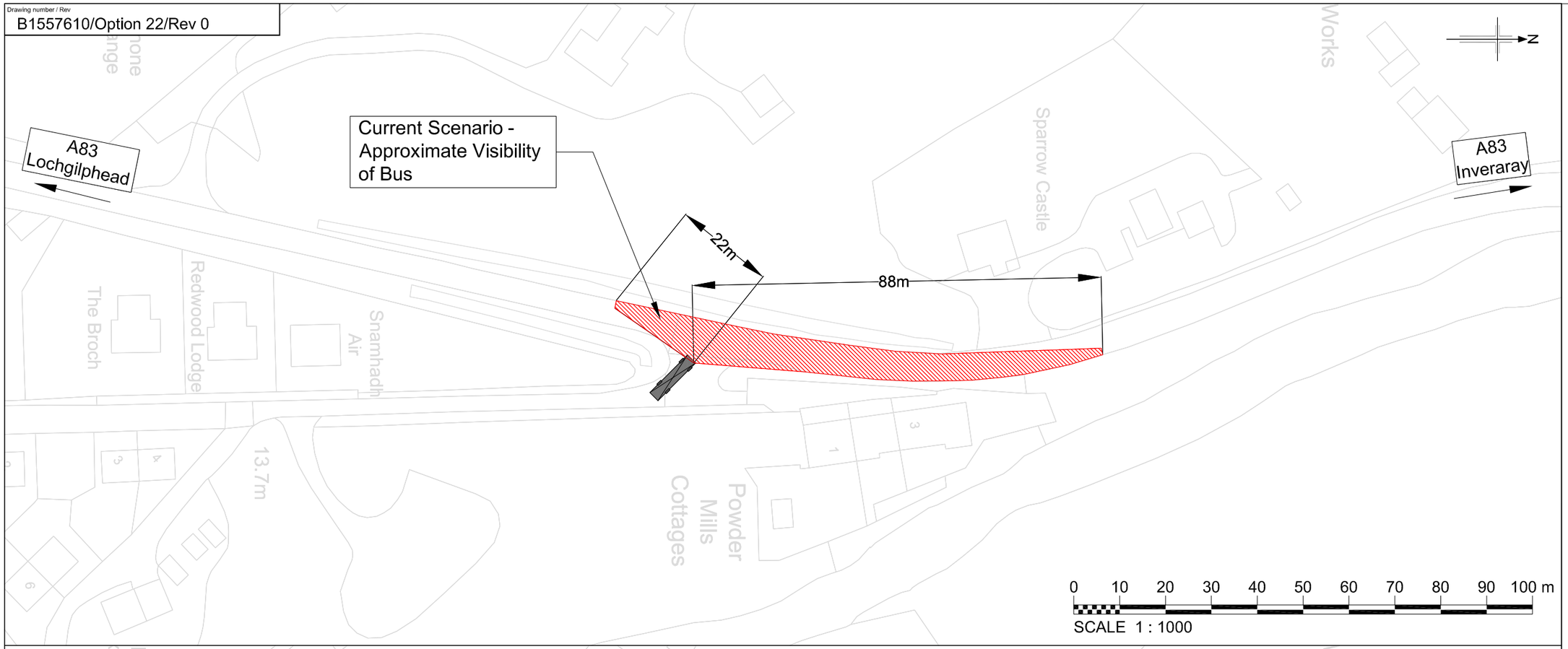
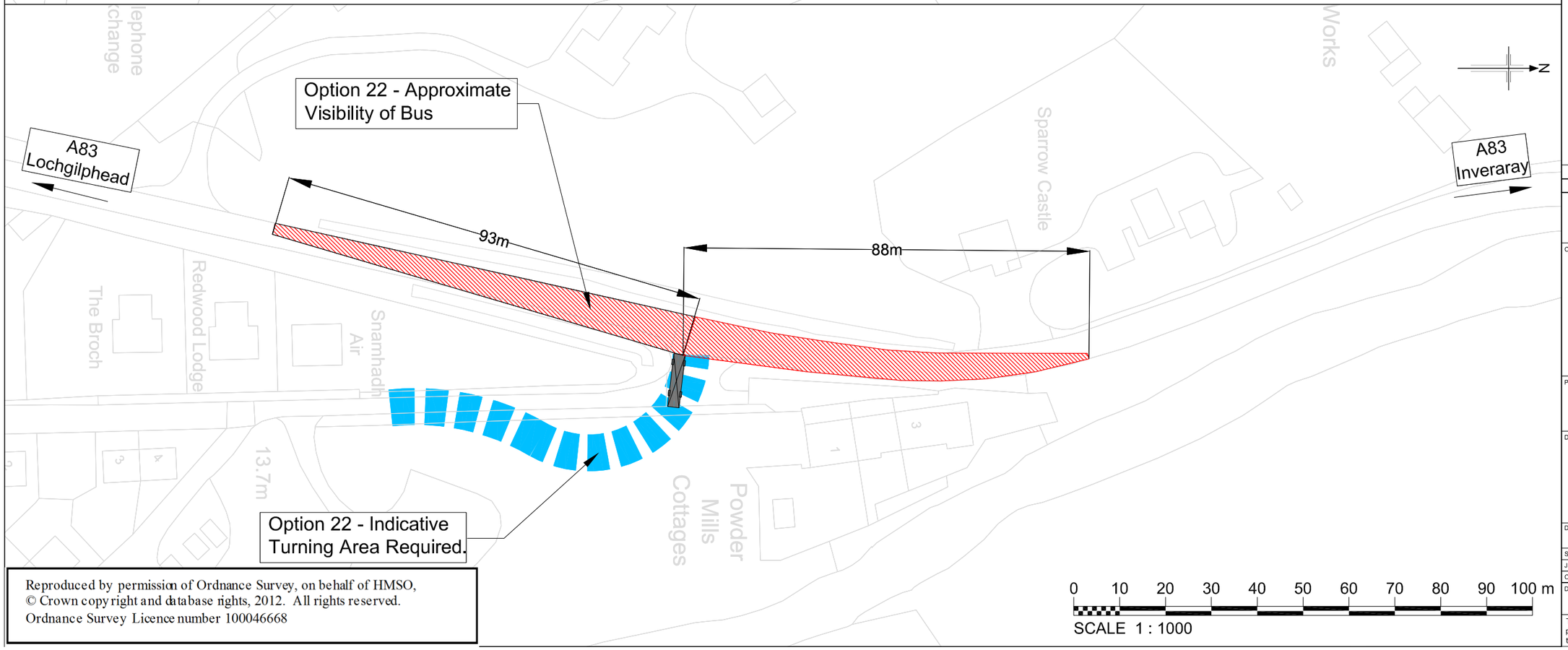
Drawing number / Rev
B1557610/Option 22/Rev 0





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Project
A83 TRUNK ROAD
ROUTE STUDY

Drawing title
Furnace Options
Existing Scenario and Option 22

Drawing status
CONSULTATION (DRAFT)

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Drawing number
B1557610/Option 22

Rev
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Drawing number / Rev

B1557610/Option 27/ Rev 0

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ROUTE STUDY

Drawing title

Tarbert Options
Barmore Road
Option 27

Drawing status

CONSULTATION (DRAFT)

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Jacobs No.	B1557610	
Client no.		

Drawing number

B1557610/Option 27

Rev 0

Drawing number / Rev

B1557610/Option 28/ Rev 0

Rev	Rev. Date	Purpose of revision	Drawn	Checkd	Rev'd	Apprv'd
0	31/10/12	ISSUED WITH A83 TRUNK ROAD ROUTE STUDY REPORT PART B	KC	GMcQ	GAH	EHB

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Client

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Project

A83 TRUNK ROAD
ROUTE STUDY

Drawing title

Tarbert options
Barmore Road
Option 28

Drawing status

CONSULTATION (DRAFT)

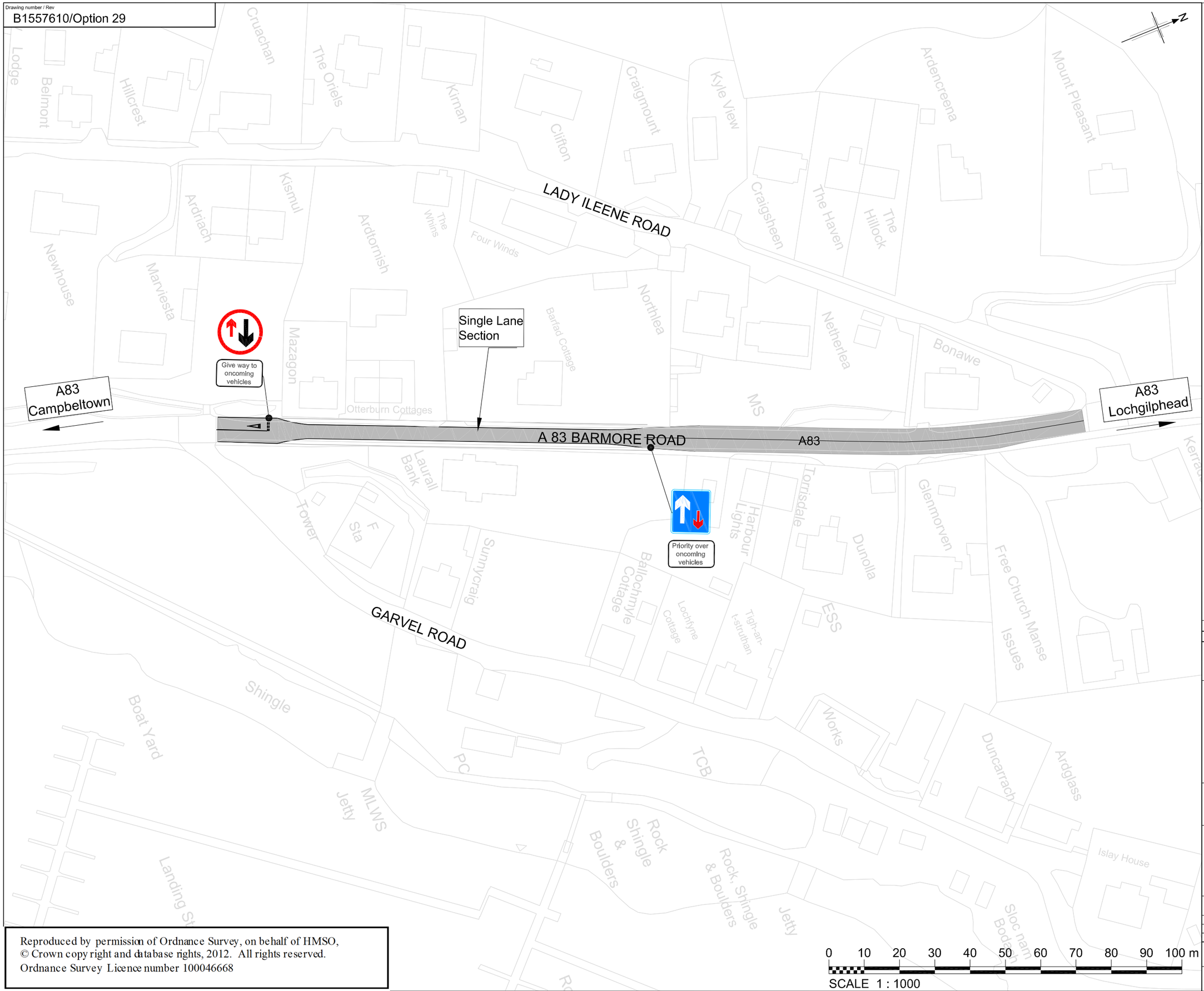
Scale	1:1000 @ A3	DO NOT SCALE
Jacobs No.	B1557610	
Client no.		

Drawing number

B1557610/Option 28

Rev 0

Drawing number / Rev
B1557610/Option 29



Rev	Rev. Date	Purpose of revision	Drawn	Checkd	Rev'd	Apprv'd
0	31/10/12	ISSUED WITH A83 TRUNK ROAD ROUTE STUDY REPORT PART B	KC	GMcQ	GAH	EHB

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Project
A83 TRUNK ROAD
ROUTE STUDY

Drawing title
Tarbert Options
Barmore Road
Option 29

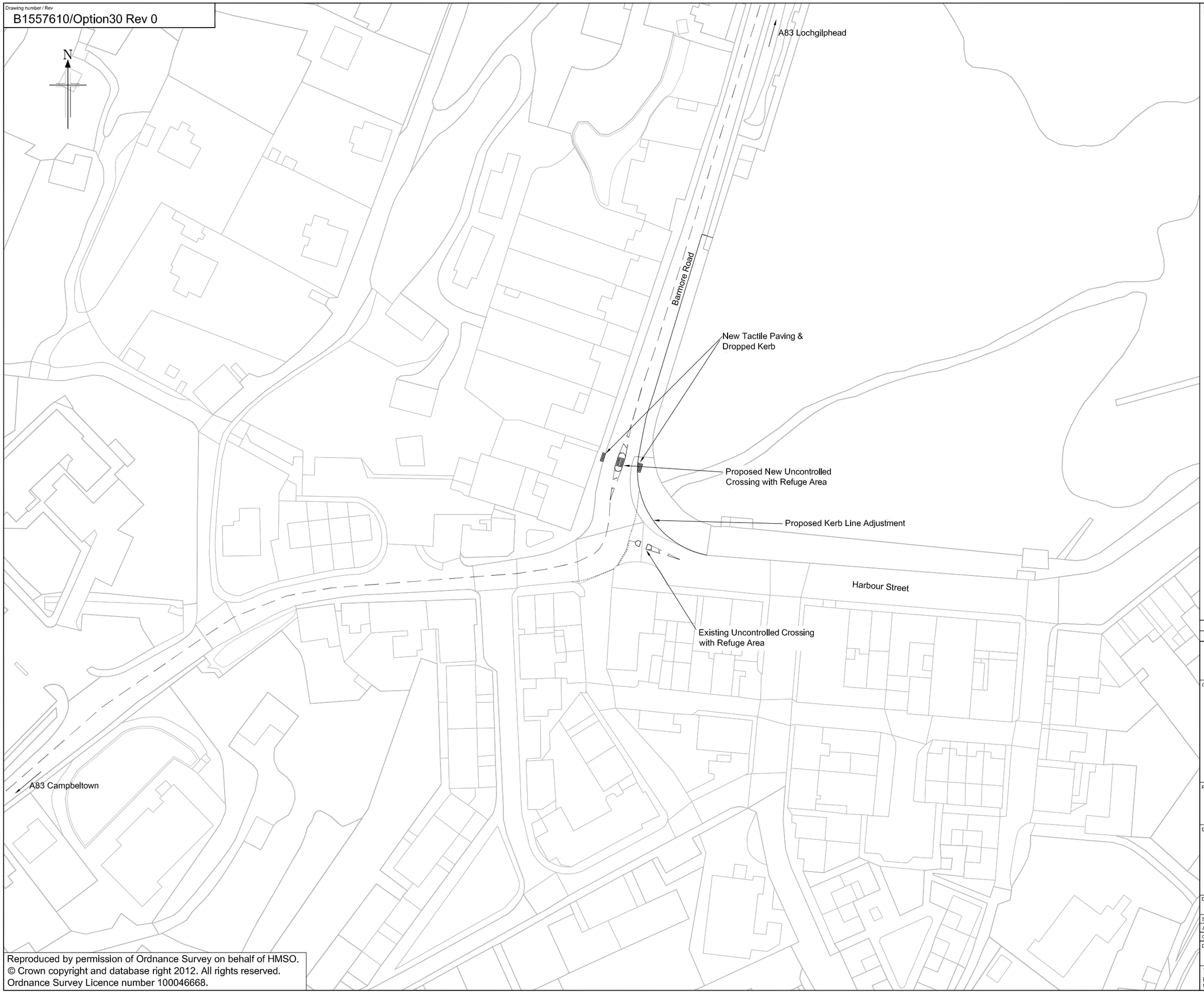
Drawing status
CONSULTATION (DRAFT)

Scale	1:1000 @ A3	DO NOT SCALE
Jacobs No.	B1557610	
Client no.		

Drawing number: B1557610/Option 29
Rev: 0

Drawing number / Rev

B1557610/Option30 Rev 0



Notes

1. The existing uncontrolled pedestrian crossing displayed on Harbour Street would require relocation if the kerb line was altered to the north side of the crossing.

Rev	Rev. Date	Purpose of revision	Drawn	Checkd	Rev'd	Apprv'd
0	31/10/2012	Issued with A83 Trunk Road Route Study Report Part B	KS	GMcQ	GAH	EHB

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A83 TRUNK ROAD
ROUTE STUDY

Drawing title

TARBERT PEDESTRIAN CROSSING OPTION 30

Drawing status

FOR INFORMATION

Scale	1:500 @ A1	DO NOT SCALE
Jacobs No.	B1557610	
Client no.		

Drawing number: B1557610/Option30 Rev 0

Appendix D Draft Pedestrian Crossing Feasibility Studies

A83 ARDRISHAIG

Pedestrian Crossing Feasibility Study

12/NW/0901/005

Transport Scotland

Buchanan House
58 Port Dundas Road
Glasgow
G4 0HF

Scotland Transerv

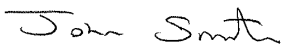
Broxden House
Broxden Business Park
Lamberkine Drive
Perth
PH1 1RA

ScotlandTranServ
A Balfour Beatty Mouchel Joint Venture

A83 ARDRISHAIG

Pedestrian Crossing Feasibility Study

12/NW/0901/005

	Name	Signature	Date
Prepared By	Andrew Hunter		July 2012
Checked & Reviewed by	Adam Lloyd		July 2012
Approved By	John Smith		July 2012
Issue Status	**DRAFT**		
Purpose of Issue	Client Approval		
Authorised for issue by			
WP Ref:	S:\Technical\Roads\AIP_Traffic\Works Code 0901\2012-13\ A83 Pedestrian Crossing Surveys\A83 Ardrishaig Report.doc		

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REGISTER OF AMENDMENTS

AMENDMENT No.	STATUS	DESCRIPTION OF ISSUE / AMENDMENTS	ORIGINATOR	CHECKER	APPROVED	DATE

ScotlandTranServ
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CONTENTS

		PAGE
	Executive Summary	1
1.	Introduction	2
2.	Site Description	2
3.	Traffic Survey Data	5
4.	Accident Analysis	6
5.	Assessment Framework	7
6.	Conclusions and Recommendation	9

APPENDICES

Appendix A Drawings:

Drawing No. 12/NW/0901/005/010 Location Plan

Appendix B Traffic Surveys

Appendix C Pedestrian Crossing Site Assessment Record

A83 ARDRISHAIG

Pedestrian Crossing Feasibility Study

12/NW/0901/005

EXECUTIVE SUMMARY

This report has been prepared by Scotland TranServ in response to an instruction issued by Transport Scotland to carry out a feasibility study into the provision of a Pedestrian Crossing on the A83 Chalmers Street, Ardrishaig. The instruction was in response to local concerns for the safety of pedestrians crossing Chalmers Street to and from the shops and commercial properties on the west side of the A83 and the car park on the east side of the A83. It is intended for this report to provide advice to Transport Scotland as to whether pedestrian crossing facilties are justified at this location using the guidance as set out in Local Transport Note: LTN 1/95 Assessment of Pedestrian Crossings.

There have been no personal injury accidents in the 5 year period between January 2007 and December 2011 at this location. Traffic and pedestrian count information suggests that there are sufficient gaps in the traffic patterns to allow safe passage across Chalmers Street.

It is recommended that no further action is taken at this time with regard to the provision of a pedestrian facility on the A83 Chalmers Street, Ardrishaig

1. INTRODUCTION

1.1 This report has been prepared by Scotland TranServ in response to an instruction issued by Transport Scotland to carry out a feasibility study into the provision of a Pedestrian Crossing on the A83 Chalmers Street, Ardrishaig. The instruction was in response to concerns for the safety of pedestrians crossing Chalmers Street between the shops and the car park. It is intended for this report to provide recommendations to Transport Scotland on whether a crossing is justified using the guidance given in Local Transport Note LTN1/95 The Assessment of Pedestrian Crossings.

2. SITE DESCRIPTION

2.1 Ardrishaig lies on the A83 approximately 3 kilometres south of Lochgilphead, as shown in Figure 1. The Crinan Canal eastern entrance is located to the south of the study area.

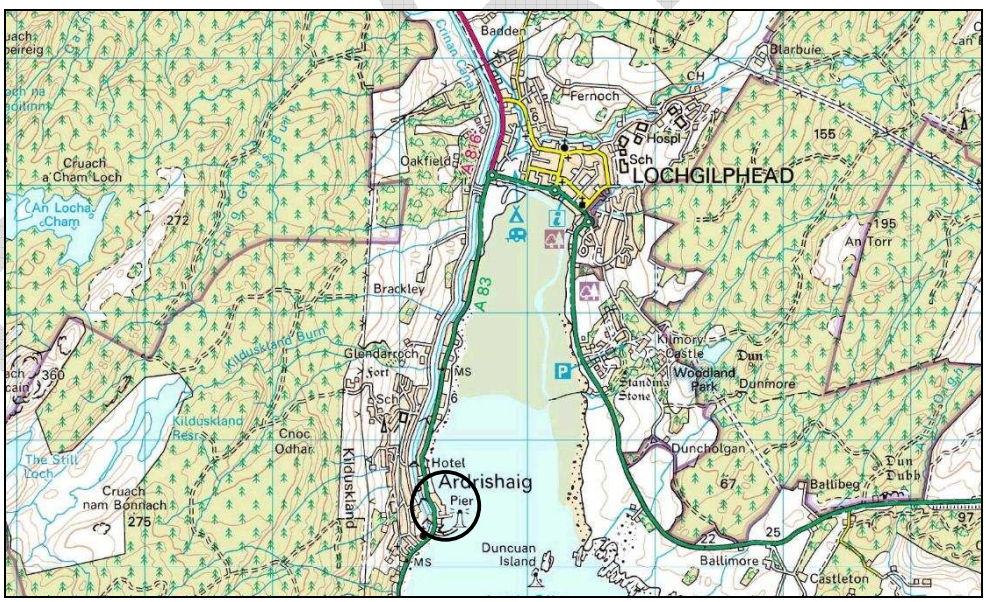


Figure 1 – Study Location (not to scale)

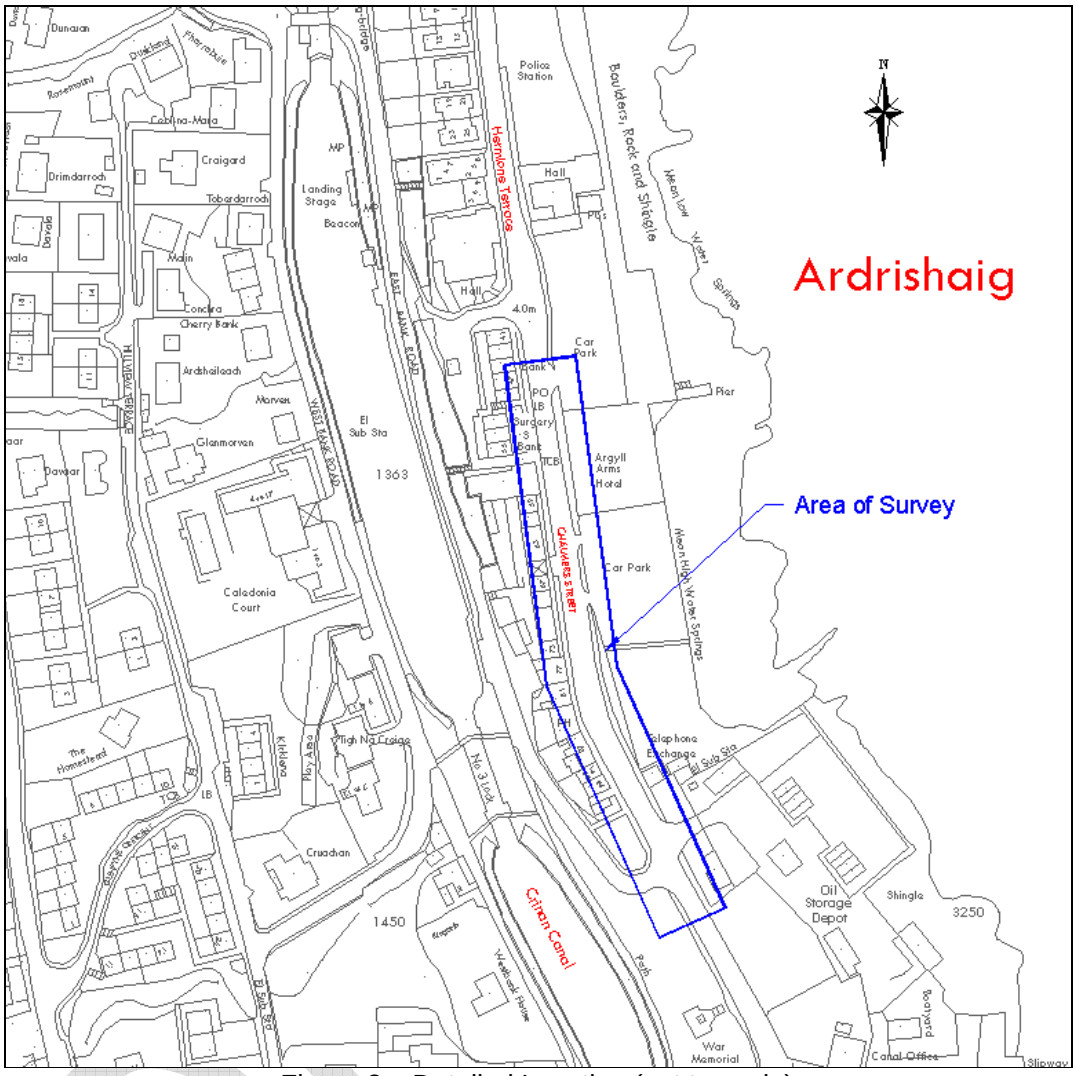


Figure 2 – Detailed Location (not to scale)

2.2 The study area, as shown in figure 2, is approximately 200 metres long commencing south of the junction of East Bank Road with the A83. The study area terminates on the north side of the access into the northerly most car park. There are shopping, commercial and residential properties adjacent to the west side of the A83, with car parking, a bus stop and tourist information services adjacent to the east side of the A83. The study area is subject to a 30mph speed limit and is street lit throughout.

2.3 The shopping area and car parks are shown in the photographs 1 and 2 below with a location plan being shown in Appendix 1.

Photograph 1 – A83 at shopping area and car parks looking northwards towards Lochgilphead

Photograph 2 – A83 at shopping area and car parks looking southwards towards Crinan Canal

3. TRAFFIC AND PEDESTRIAN SURVEY DATA

3.1 **Traffic Flows** - A traffic survey undertaken on 1 May 2012, in the area shown in figure 2, indicated that between the hours of 0700 and 1900hrs 4135 vehicles passed through the study area, 6.4% of these were heavy goods vehicles and 75 were public service vehicles. The average vehicular flow per hour over the 12 hour period is 345 vehicles.

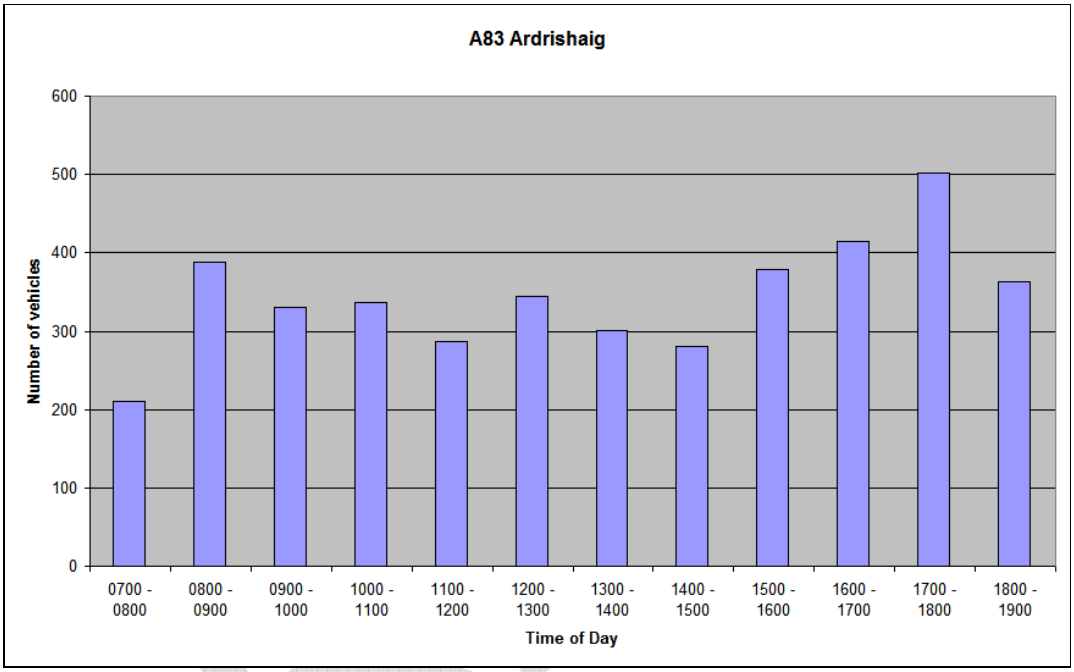


Figure 3 – Traffic Count Data

3.2 **Pedestrian Flows –** As shown in figure 4 overleaf, 499 pedestrians were observed crossing between the shopping area and the car parks during the hours between 0700 and 1900 on May 1st 2012. The average pedestrian flow per hour over the 12 hour period was 42 with the busiest hour for crossing movements being 12-1pm when 64 crossed. During this hour 345 vehicles travelled through the study area.

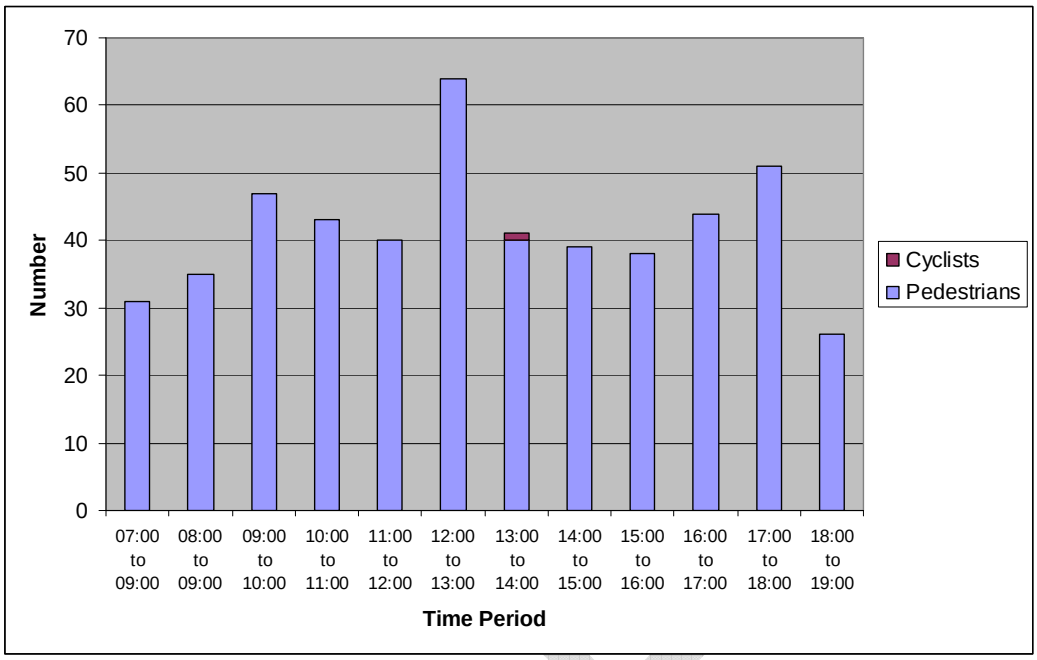


Figure 4 – Pedestrian count graph

3.3 **Traffic Speeds** - The speed limit through the study area is 30 mph; a speed survey on 1st of May 2012 indicated an 85th%ile speed through the study area of 26.3mph and a mean speed of 25.7mph.

0000-2400 Vehicle Flow	4868
Mean Speed	25.7
85%ile Speed	26.3
No. Vehicles > 30 MPH Limit	695
% Vehicles > 30 MPH Limit	14.3
No. Vehicles > 45 MPH	3
% Vehicles > 45 MPH	0.1

Table 1 – Speed Survey Information

4. ACCIDENT ANALYSIS

4.1 During the five year period 1st January 2007 to 31st December 2011 no personal injury accidents occurred within the study area.

5. ASSESSMENT FRAMEWORK

5.1 Tables 2 and 3, below, form the assessment framework based on the site assessment record (refer to appendix C) which records the details required to make a recommendation on the need for pedestrian facilities using the guidance in LTN 1.95.

Characteristic	*Data and Comments at 1st May 2012*
Location	The study area is located on the A83 Tarbet to Kennacraig Trunk Road in the village of Ardrishaig on Chalmers Street (Refer to Figure 2). The 2 lane single (S2) carriageway is 7.0m wide with footways of 2.0 metres wide on each side.
Highway Facilities	Road Lighting is to standard and no upgrade is needed. The road surface is in good condition and the skid resistance of the carriageway surface meets the current standards as set out in DMRB.
Visibility	There is good forward visibility throughout the study area. There is no on-street parking, which would reduce visibility, as there are waiting restrictions in place on the carriageway.
Complexity	There are 2 No. accesses to the car parks within the study area otherwise there are no significant features which would have an adverse effect on pedestrians crossing.
Crossing Traffic	499 pedestrians were observed crossing the carriageway within the study area, giving an average of 42 crossing pedestrians per hour. The busiest hour was between 12:00 and 13:00 when 64 people crossed the carriageway.
Vehicles	4135 vehicles passed through the study area between 07:00 and 19:00. 265 of the vehicles were HGV's and there were 75 buses. In the busiest pedestrian hour (12:00 to 13:00) 345 vehicles passed through the study area.
Road Accidents	There have been no personal injury accidents within the study area in the 5 years between 2007 and 2011 inclusive.

Table 2: Site Assessment Record Summary

Factor	Do Nothing	Refuge Island	Zebra Crossing	Signalled Crossing
Difficulty of Crossing, average wait in seconds	0 (able) and 10 (elderly)	0 (able) and 5 (elderly)	1 to 3 for all groups	1 to 3 for all groups after the end of the vehicle minimum green period
Vehicle Delay in peak periods	None	None	1 stop per minute of 10 seconds	1 stop per minute of 12 seconds
Road Capacity	Not reduced	Not reduced	17% reduction	20% reduction
Estimated Installation Costs	None	£7500	£25000	£45000
Estimated operating costs per annum	None	£250.00	£2500.00	£4500.00
Comments		Maximum island width of less than 1.0m due to road width	Not recommended by Transport Scotland to be used on the trunk road network	

Table 3: Options Assessment

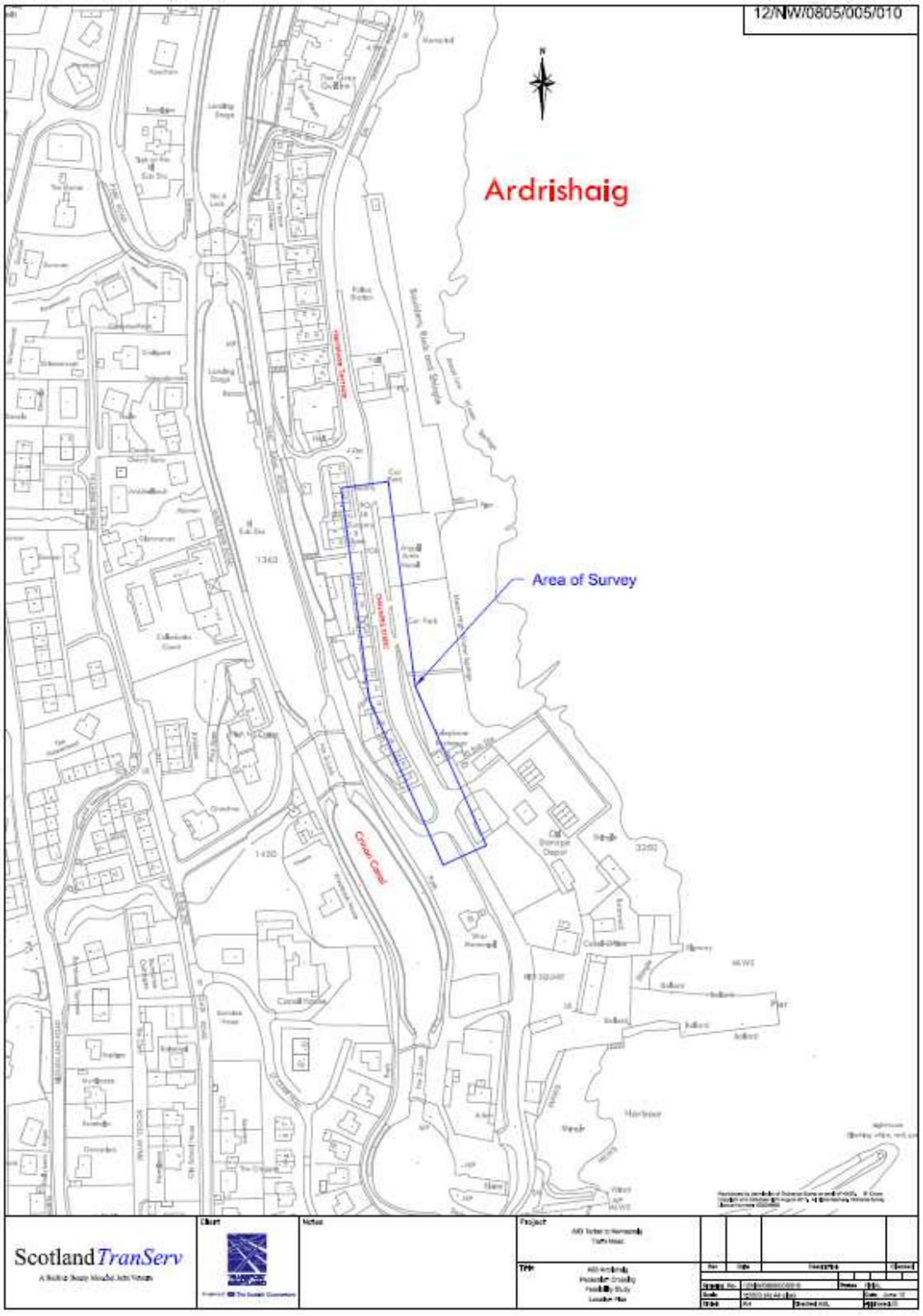
6. CONCLUSIONS AND RECOMMENDATION

6.1 Traffic flows and pedestrian crossing figures do not indicate that any pedestrians are unduly delayed from crossing the carriageway as there are sufficient gaps in the traffic to allow pedestrians to cross safely. Also, the lack of injury accidents does not support improvements to the pedestrian facilties in the study area.

6.2 It is recommended that no further action is taken at this time with regard to the provision of a pedestrian facility on the A83 Chalmers Street, Ardrishaig.

APPENDIX A

DRAWINGS



APPENDIX B

TRAFFIC SURVEYS

PEDESTRIAN COUNT FIGURES

TIME	Cyclist	Pedestrian	Grand Total
07:00 - 07:15	0	8	**8**
07:15 - 07:30	0	4	**4**
07:30 - 07:45	0	7	**7**
07:45 - 08:00	0	12	**12**
08:00 - 08:15	0	10	**10**
08:15 - 08:30	0	2	**2**
08:30 - 08:45	0	8	**8**
08:45 - 09:00	0	15	**15**
09:00 - 09:15	0	17	**17**
09:15 - 09:30	0	6	**6**
09:30 - 09:45	0	10	**10**
09:45 - 10:00	0	14	**14**
10:00 - 10:15	0	7	**7**
10:15 - 10:30	0	7	**7**
10:30 - 10:45	0	12	**12**
10:45 - 11:00	0	17	**17**
11:00 - 11:15	0	15	**15**
11:15 - 11:30	0	4	**4**
11:30 - 11:45	0	12	**12**
11:45 - 12:00	0	9	**9**
12:00 - 12:15	0	12	**12**
12:15 - 12:30	0	18	**18**
12:30 - 12:45	0	21	**21**
12:45 - 13:00	0	13	**13**
13:00 - 13:15	0	12	**12**
13:15 - 13:30	1	10	**11**
13:30 - 13:45	0	9	**9**
13:45 - 14:00	0	9	**9**
14:00 - 14:15	0	7	**7**
14:15 - 14:30	0	11	**11**
14:30 - 14:45	0	15	**15**
14:45 - 15:00	0	6	**6**
15:00 - 15:15	0	8	**8**
15:15 - 15:30	0	13	**13**
15:30 - 15:45	0	6	**6**
15:45 - 16:00	0	11	**11**
16:00 - 16:15	0	8	**8**
16:15 - 16:30	0	6	**6**
16:30 - 16:45	0	15	**15**
16:45 - 17:00	0	15	**15**
17:00 - 17:15	0	14	**14**
17:15 - 17:30	0	9	**9**
17:30 - 17:45	0	13	**13**
17:45 - 18:00	0	15	**15**
18:00 - 18:15	0	11	**11**
18:15 - 18:30	0	8	**8**
18:30 - 18:45	0	4	**4**
18:45 - 19:00	0	3	**3**
Grand Total	**1**	**498**	**499**

TRAFFIC COUNT FIGURES

A83 Ardrishaig - Manual Traffic Survey, Tuesday 1st May 2012

Produced by Streetwise Services Ltd.

Approach: A83

	Northbound								Southbound							
TIME	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0715	0	0	10	8	1	0	1	20	0	0	9	10	3	1	3	26
0715 - 0730	0	0	13	6	0	0	0	19	0	0	12	4	1	0	0	17
0730 - 0745	0	0	16	9	1	2	0	28	0	0	13	8	4	0	0	25
0745 - 0800	0	1	28	6	3	2	1	41	0	0	21	8	3	3	0	35
Hourly Total	0	1	67	29	5	4	2	108	0	0	55	30	11	4	3	103
0800 - 0815	1	0	24	4	1	2	0	32	0	0	17	11	3	0	1	32
0815 - 0830	0	0	29	5	0	0	0	34	0	1	28	11	3	3	3	49
0830 - 0845	1	0	57	5	0	0	3	66	0	0	34	10	3	1	0	48
0845 - 0900	0	0	59	6	2	2	1	70	0	1	49	4	1	0	2	57
Hourly Total	2	0	169	20	3	4	4	202	0	2	128	36	10	4	6	186
0900 - 0915	0	1	38	3	2	0	2	46	0	0	37	13	6	1	2	59
0915 - 0930	0	0	34	6	4	0	2	46	0	0	23	7	1	2	0	33
0930 - 0945	0	0	20	8	3	3	1	35	0	0	17	8	4	1	0	30
0945 - 1000	0	0	30	4	2	0	0	36	0	0	31	9	5	1	0	46
Hourly Total	0	1	122	21	11	3	5	163	0	0	108	37	16	5	2	168
1000 - 1015	0	0	29	9	1	2	1	42	0	1	28	6	2	0	1	38
1015 - 1030	0	0	22	7	1	5	1	36	0	0	36	9	4	0	1	50
1030 - 1045	1	1	38	2	1	0	2	45	0	0	38	5	1	1	0	45
1045 - 1100	0	0	34	4	1	1	1	41	0	0	33	4	1	0	1	39
Hourly Total	1	1	123	22	4	8	5	164	0	1	135	24	8	1	3	172
1100 - 1115	0	0	22	4	3	0	0	29	0	0	33	8	3	1	1	46
1115 - 1130	0	0	23	3	1	3	1	31	0	0	29	9	5	1	1	45
1130 - 1145	0	0	17	2	1	1	0	21	0	0	36	7	3	0	0	46
1145 - 1200	0	1	14	4	2	1	0	22	0	0	38	8	0	0	0	46
Hourly Total	0	1	76	13	7	5	1	103	0	0	136	32	11	2	2	183
1200 - 1215	0	0	15	5	2	0	0	22	0	0	47	9	4	0	2	62
1215 - 1230	0	0	35	5	2	1	1	44	1	0	39	3	0	0	1	44
1230 - 1245	0	0	26	8	2	1	0	37	0	0	40	7	0	2	0	49
1245 - 1300	0	0	27	2	0	2	0	31	0	2	43	7	3	0	1	56
Hourly Total	0	0	103	20	6	4	1	134	1	2	169	26	7	2	4	211
1300 - 1315	0	0	29	4	0	0	2	35	0	1	45	3	2	0	1	52
1315 - 1330	0	0	22	11	2	1	1	37	1	0	31	7	1	1	0	41
1330 - 1345	0	0	17	4	3	2	0	26	0	0	32	4	1	1	0	39
1345 - 1400	0	1	22	4	0	0	0	27	0	0	38	4	0	2	0	44
Hourly Total	0	1	90	23	5	3	3	125	1	1	146	18	4	4	1	175
1400 - 1415	0	0	18	2	4	2	0	26	0	1	34	1	1	1	1	39
1415 - 1430	0	2	25	5	1	0	1	34	0	0	30	6	5	2	0	43
1430 - 1445	0	0	19	4	3	1	1	28	0	0	29	2	1	1	1	34
1445 - 1500	0	1	25	5	2	0	0	33	0	1	36	4	2	0	0	43
Hourly Total	0	3	87	16	10	3	2	121	0	2	129	13	9	4	2	159
1500 - 1515	0	0	29	5	3	0	2	39	0	0	42	3	0	1	5	51
1515 - 1530	0	0	29	4	2	0	1	36	0	0	51	0	0	0	1	52
1530 - 1545	0	0	22	6	2	3	2	35	0	1	52	9	3	2	1	68
1545 - 1600	0	0	30	7	2	1	0	40	0	0	44	9	2	0	2	57
Hourly Total	0	0	110	22	9	4	5	150	0	1	189	21	5	3	9	228
1600 - 1615	0	1	25	6	4	1	3	40	0	0	36	8	4	1	1	50
1615 - 1630	0	2	30	9	2	2	1	46	0	1	60	4	2	0	0	67
1630 - 1645	0	0	30	8	1	1	1	41	1	0	69	10	1	2	0	77
1645 - 1700	0	1	27	5	1	1	0	35	0	1	50	6	1	0	1	59
Hourly Total	0	4	112	28	8	5	5	162	1	2	209	28	8	3	2	253
1700 - 1715	0	0	30	5	0	0	0	35	0	2	99	11	0	1	0	113
1715 - 1730	0	1	20	9	3	0	2	35	0	0	88	9	0	1	2	100
1730 - 1745	1	1	23	11	0	0	2	38	0	0	70	13	2	1	0	86
1745 - 1800	0	0	27	5	1	3	0	36	1	0	46	8	1	3	0	59
Hourly Total	1	2	100	30	4	3	4	144	1	2	303	41	3	6	2	358
1800 - 1815	0	0	26	7	5	1	1	40	0	0	50	9	0	1	0	60
1815 - 1830	0	1	34	2	2	1	1	41	0	0	46	5	0	1	0	52
1830 - 1845	0	1	20	3	0	5	0	29	0	0	49	9	0	0	0	58
1845 - 1900	0	0	27	2	0	0	0	29	0	0	48	6	0	0	0	54
Hourly Total	0	2	107	14	7	7	2	139	0	0	193	29	0	2	0	224
TOTAL	4	16	1266	258	79	53	39	1715	4	13	1900	335	92	40	36	2420

APPENDIX C

PEDESTRIAN CROSSING SITE ASSESSMENT RECORD

SITE CHARACTERISTICS

1.1	Site Location A83 Chalmers Street, Ardrishaig	Description	2 lane road with footways
		OS Grid Ref	185195,685601

1.2	Carriageway Type		Single
			Two way
		Number of Lanes	2

1.3	Carriageway Width	7.0	metres

1.4	Footway Width	E Side	2.0 metre
		W Side	2.0 metre

1.5	Refuge Island		No

1.6	Street Lighting Standard		
	BS5489 classification	Category A	
	Is lighting to above standard?		Yes
	Any re-arrangement necessary?		No
	Better lighting standard needed?		No
	Supplementary lighting needed?		No

1.7	Minimum visibility			
	Pedestrian to Vehicle	Direction Southbound	80	metres
		Direction Northbound	200	metres
	Vehicle to crossing	Direction Southbound	120	metres
		Direction Northbound	220	metres

1.8	Waiting/Loading/Stopping Restrictions		
	At prospective site		Yes
	Within 50metres of the site		Yes

1.9	Public Transport Stopping Points			
	At prospective site			No
	Within 50 metres of the site			Yes
	Relationship to crossing [in direction of travel]	Direction Southern		approach
		Direction Northern		exit

1.10	Nearby Junctions			
	Distance to nearest significant traffic junction.	Direction Southbound	110	metres
		Direction Northbound	250	metres

1.11	Other Pedestrian Crossings			
	Distance to next crossing	Direction 1	N/A	metres
		Direction 2	N/A	metres
		Zebra/Pelican/Puffin/Toucan/Other		

1.12	School Crossing Patrol			
	Distance if less than 100 metres		N/A	metres

1.13	Skid Risk		
	Does surface meet skid resistance requirements		Yes

1.14	Surroundings		
	(entrances within 100 metres)		
	Hospital/Sheltered Housing/ Workshop for disabled people		No
	School		No
	Post Office		Yes
	Railway/Bus Station		No
	Pedestrian Leisure Area		No
	Shopping Area		Yes
	Sports Stadium		No
	Entertainment Venue		Yes
	Junction with cycle route		No
	Equestrian Centre or junction with Bridle Path		No
	Others (e.g. Fire Station)		No

CROSSING TRAFFIC INFORMATION

2.1	Flow and Composition			
	Pedestrian Count	Number	499	per 12 hrs
	Prams/pushchairs		0	%
	Percent elderly		0.2	%
	Unaccompanied young children		0	%
	Severe mobility difficulties	Number per day		?
	Visually impaired	Number per day		?
	Crossing cyclists	Number per day		1
	Equestrians	Number per day		0
	Others	Number per day		-

2.2	Time to cross the road		
	(measured sample)		
	Able persons		6 secs
	Elderly or Disabled		12 secs
	(units as for selected method)		

2.4	Latent Crossing Demand			
	Estimate	Unlikely/number per		Unlikely

VEHICLE TRAFFIC INFORMATION

3.1	Flow and Composition			
	Vehicle Count	Number per	12 hrs	4135
	Cyclists	Number per	day	8
	Heavy goods vehicle			6.4%
	Public service vehicles	Number per	day	75

3.2	Vehicle Speed		
	85 percentile		27.1 m.p.h.
	Speed limit		30 m.p.h.

ROAD ACCIDENTS

4.1	Mean Personal injury Accident Frequency			
	Number per year at site (2007 - 2011)	P.I. accidents/year		0/5
	Number per year at an average local site (2007 – 2011)	P.I. accidents/year		1/5

A83 TARBERT

Pedestrian Crossing Feasibility Study

12/NW/0901/005

Transport Scotland

Buchanan House
58 Port Dundas Road
Glasgow
G4 0HF

Scotland Transerv

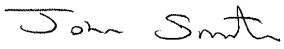
Broxden House
Broxden Business Park
Lamberkine Drive
Perth
PH1 1RA

ScotlandTranServ
A Balfour Beatty Mouchel Joint Venture

A83 TARBERT

Pedestrian Crossing Feasibility Study

12/NW/0901/005

	Name	Signature	Date
Prepared By	Andrew Hunter		19 July 2012
Checked & Reviewed by	Adam Lloyd		20 July 2012
Approved By	John Smith		23 July 2012
Issue Status	**DRAFT**		
Purpose of Issue	Client Approval		
Authorised for issue by	John Smith		
WP Ref:	Z:\Works Code 0901\2012-13\A83 Pedestrian Crossing Surveys\A83 Tarbert Report - AH amemded 23-07-2012.doc		

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REGISTER OF AMENDMENTS

AMENDMENT No.	STATUS	DESCRIPTION OF ISSUE / AMENDMENTS	ORIGINATOR	CHECKER	APPROVED	DATE

ScotlandTranServ
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1.	Introduction	2
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6.	Conclusions and Recommendation	12

APPENDICES

Appendix A Drawings:

Drawing No. 12/NW/0901/005/020 Location Plan

Appendix B Traffic Surveys

Appendix C Pedestrian Crossing Site Assessment Record

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A83 TARBERT

Pedestrian Crossing Feasibility Study

12/NW/0901/005

EXECUTIVE SUMMARY

This report has been prepared by Scotland TranServ in response to an instruction issued by Transport Scotland to carry out a feasibility study into the provision of Pedestrian Crossing facilties along the A83 on Barmore Road and Campbeltown Road in Tarbert. The instruction was in response to local concerns for the safety of pedestrians crossing the A83 in Tarbert near to the junction with the A8015 Harbour Street. It is intended for this report to provide recommendations to Transport Scotland on whether pedestrian crossing facilties are justified at this location using the guidance framework within Local Transport Note: *LTN 1/95 Assessment of Pedestrian Crossings*.

There have been no personal injury accidents in the 5 year period between January 2007 and December 2011 at this location. Traffic and pedestrian count information suggests that there are sufficient gaps in the traffic patterns to allow safe passage across both Barmore Road and Campbeltown Road.

It is recommended that no additional provision for the crossing of pedestrians is provided at this time.

ScotlandTranServ
A Balfour Beatty Mouchel Joint Venture

1. INTRODUCTION

1.1 This report has been prepared by Scotland TranServ in response to an instruction issued by Transport Scotland to carry out a feasibility study into providing pedestrian crossing facilties on the A83 in Tarbert

1.2 The instruction was in response to local concerns for the safety of pedestrians crossing Barmore Road and Campbeltown Road in the vicinity of the junction of the A83 and A8015 Harbour Street. It is intended for this report to provide recommendations to Transport Scotland on whether pedestrian crossing facilties are justified using the guidance framework given in Local Transport Note: *LTN 1/95 The Assessment of Pedestrian Crossings*.

2. SITE DESCRIPTION

2.1 Tarbert lies on the A83 approximately 22 kilometres south of Lochgilphead, as shown in Figure 1.

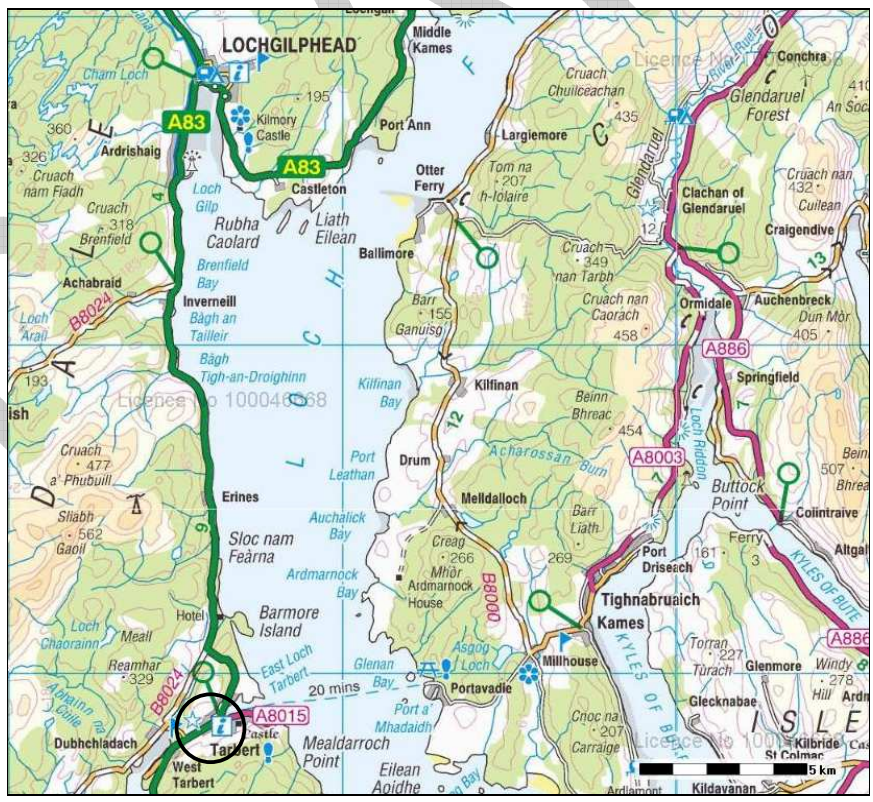


Figure 1 – Study Location (not to scale)

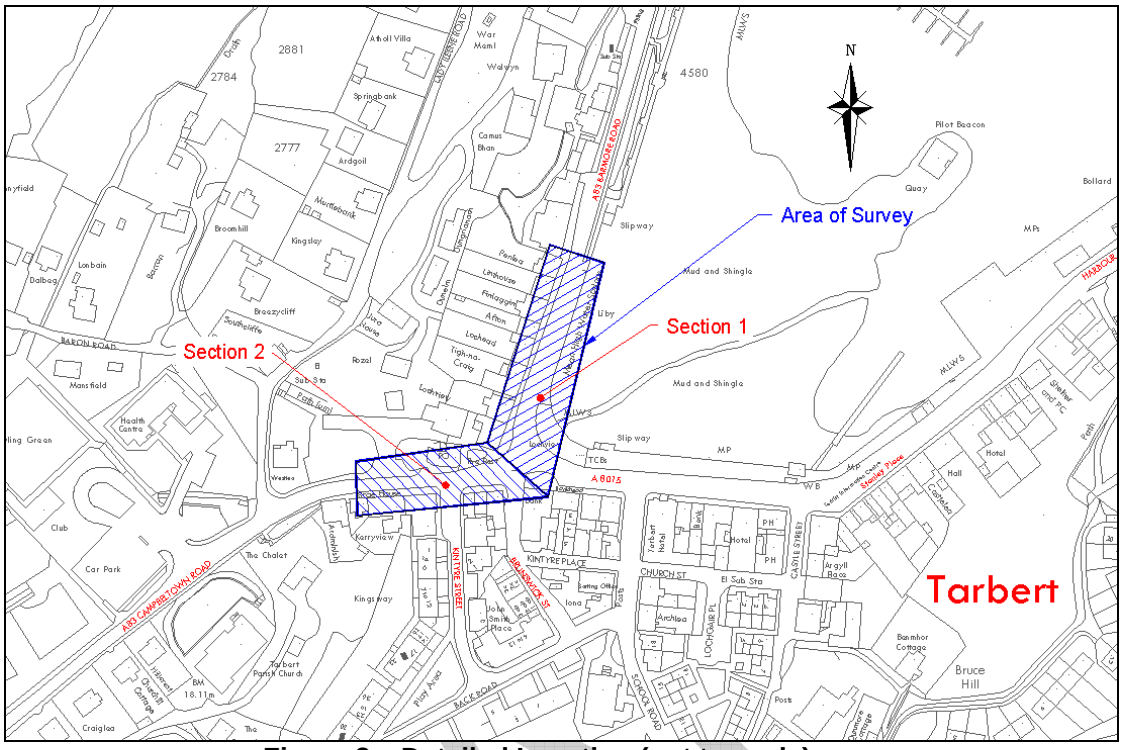


Figure 2 – Detailed Location (not to scale)

2.2 The study area, as shown in figure 2, is approximately 170m long and for the purposes of this study 2 sections will be examined within the overall study area. Section 1 is from the A8015 Harbour Street junction northwards on Barmore Road for a distance of approximately 95m. Section 2 extending westwards from the A8015 junction, along Campbeltown Road, for a distance of approximately 75m.

2.3 Section 1 is bounded by retail, commercial and residential properties on the west side of the street, with the harbour area and quayside on the east side. Section 2 is bounded by commercial premises on both sides of the carriageway. The study area is subject to a 30mph speed limit and is street lit throughout.

2.4 The locations are shown in photographs 1 and 2 below with a location plan being shown in Appendix A.

Photograph 1 – A83 Barmore Road looking northwards from the A8015 junction (Start of Section 1)

Photograph 2 – A83 Campbeltown Road looking west from the A8015 junction (Start of Section 2)

3. TRAFFIC AND PEDESTRIAN SURVEY DATA

3.1 Traffic and Pedestrian surveys were undertaken on 1 May 2012 between 07:00 and 19:00 hours for both sections and detailed in Appendix B.

Section 1 – Barmore Road

3.2 **Traffic Survey -** 2280 vehicles passed through the area with the average number of vehicles per hour being 190, as shown in figure 3a. Of the total number of vehicles 185 (8.1%) were heavy goods vehicles and 17 (0.7%) were public service vehicles. During the peak hour of 08:00 to 09:00 256 vehicles passed through the section.

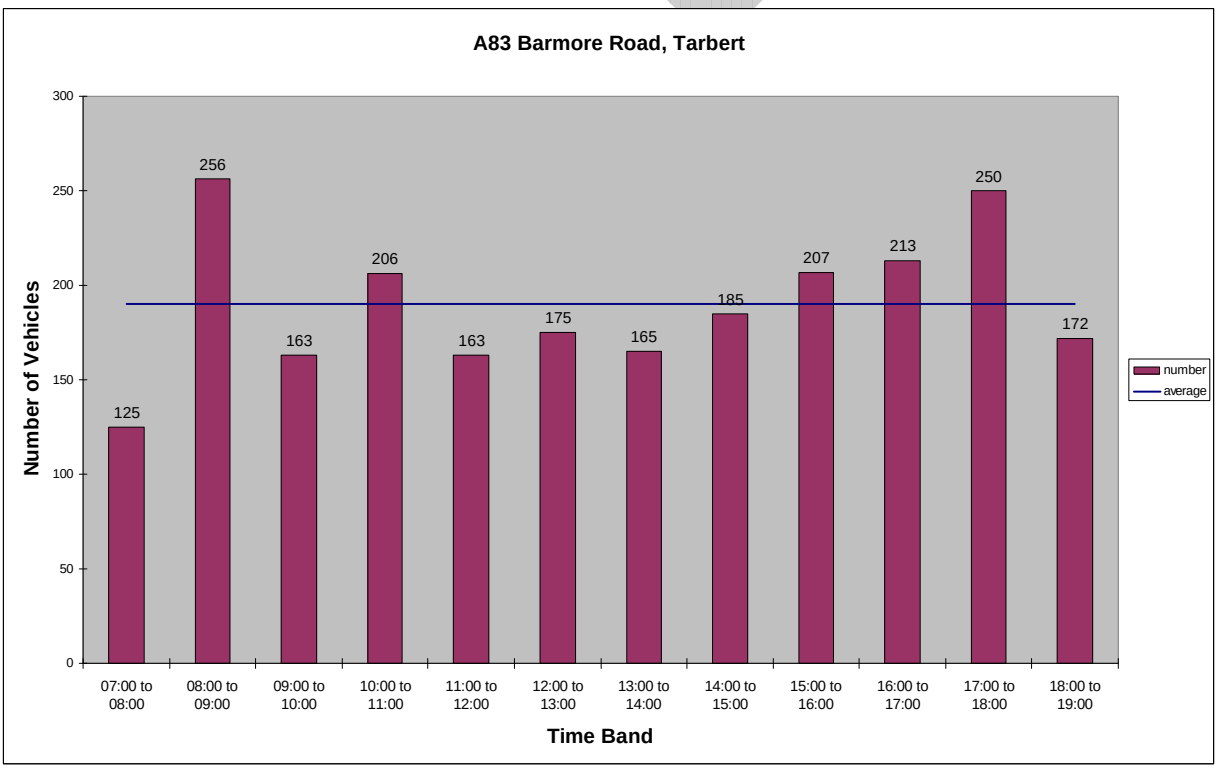


Figure 3a – 2-way Traffic Flows: Barmore Road (Section 1)

3.3 **Pedestrian Count -** As shown in figure 3b, 840 pedestrians were observed crossing the A83 during the hours between 0700 and 1900 on May 1st 2012. The average pedestrian flow per hour over the 12 hour period was 70 with the peak hour for crossing movements being 11am-12pm when 108 crossed. During this hour 163 vehicles travelled through the study area.

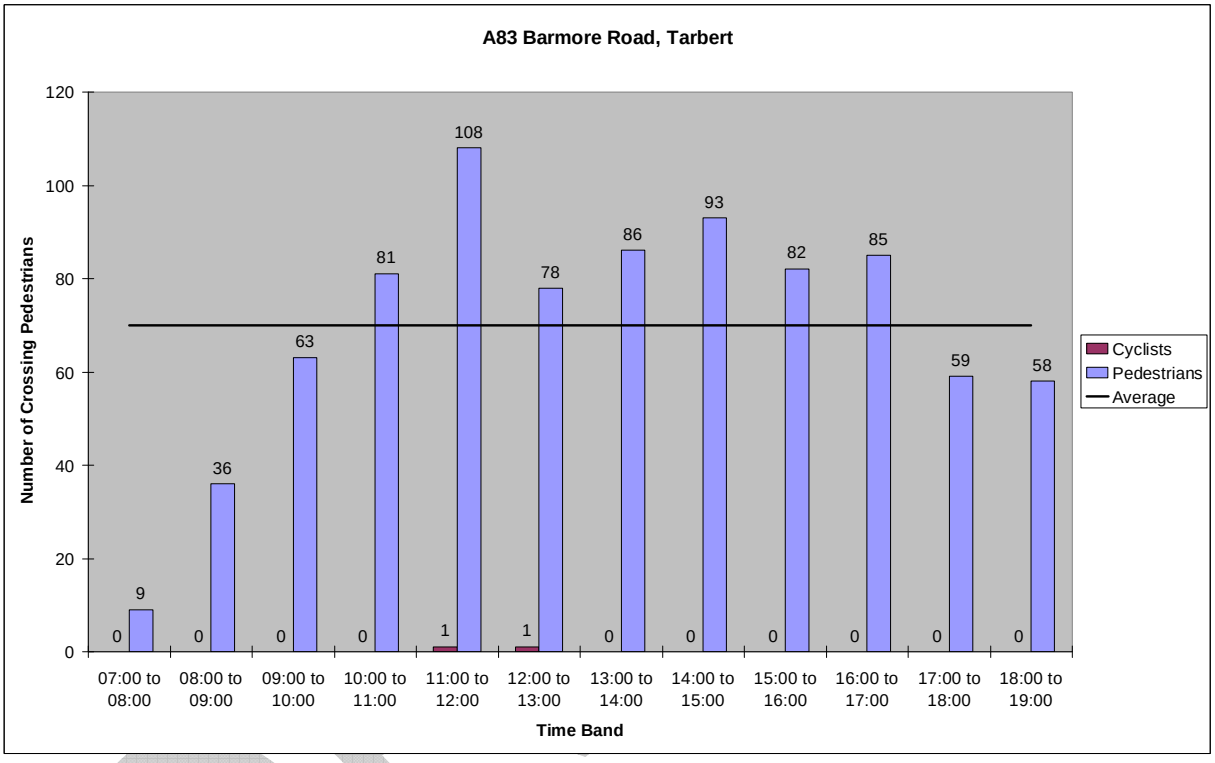


Figure 3b – Pedestrian Count Data: Barmore Road (Section 1)

3.4 **Traffic speeds –** The speed survey, summarised in Table 1, indicated an 85th%ile speed through the study area of 29.6mph and a mean speed of 25.2mph.

0000-2400 Vehicle Flow	2763
Mean Speed	25.2
85%ile Speed	29.6
No. Vehicles > 30 MPH Limit	338
% Vehicles > 30 MPH Limit	12.2
No. Vehicles > 45 MPH	2
% Vehicles > 45 MPH	0.1

Table 1 – Speed Survey Information – Barmore Road (Section 1)

Section 2 – Campbeltown Road

3.5 **Traffic Survey -** 2695 vehicles passed through the area with the average number of vehicles per hour being 225, as shown in figure 4a. Of the total number of vehicles 207 (7.7%) were heavy goods vehicles and 31 (1.2%) were public service vehicles. During the peak hour of 17:00 to 18:00 288 vehicles passed through the section.

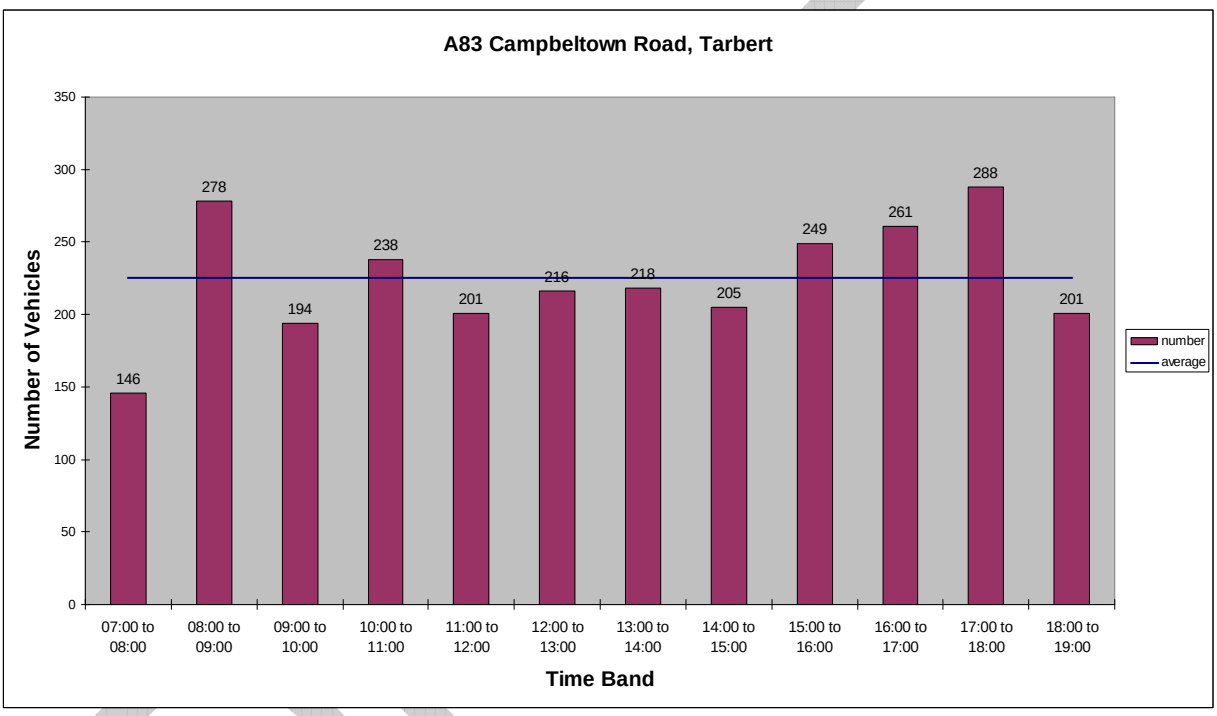


Figure 4a – Traffic Count Data: Campbeltown Road (Section 2)

3.6 **Pedestrian Count -** As shown in figure 4b, 707 pedestrians were observed crossing the A83 during the hours between 0700 and 1900 on May 1st 2012. The average pedestrian flow per hour over the 12 hour period was 59 with the peak hour for crossing movements being 11am-12pm when 82 crossed. During this hour 201 vehicles travelled through the study area.

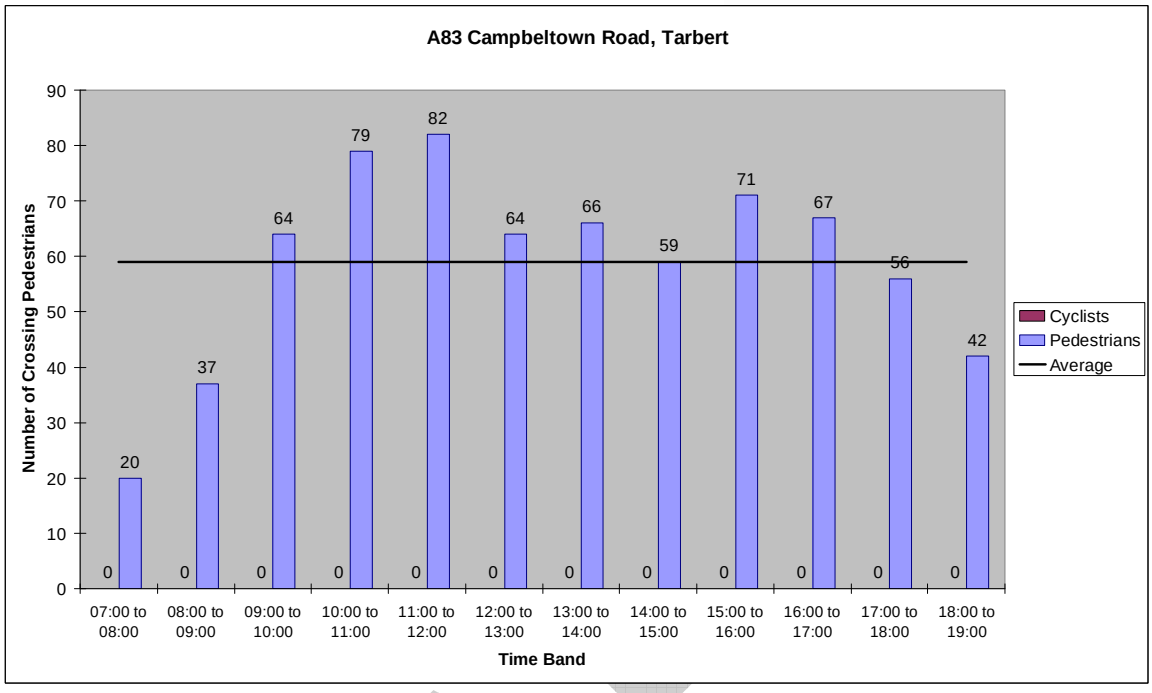


Figure 4b – Pedestrian Count Data, Campbeltown Road (Section 2)

3.7 **Traffic Speeds -** The speed survey, summarised in Table 2, indicated an 85th%ile speed through the study area of 25.9mph and a mean speed of 20.9mph.

0000-2400 Vehicle Flow	3338
Mean Speed	20.9
85%ile Speed	25.9
No. Vehicles > 30 MPH Limit	29
% Vehicles > 30 MPH Limit	0.9
No. Vehicles > 45 MPH	0
% Vehicles > 45 MPH	0.0

Table 2 – Speed Survey Information – Campbeltown Road (Section 2)

4. ACCIDENT ANALYSIS

4.1 During the five year period 1st January 2007 to 31st December 2011 no personal injury accidents occurred within the study area.

5. ASSESSMENT FRAMEWORK

5.1 **Section 1: Barmore Road.** Tables 3a and 3b, below, form the LTN 1-95 assessment framework based on the site assessment record (see appendix C), which records the details required to make a considered recommendation on the need for pedestrian facilities.

Characteristic	*Data and Comments at 1st May 2012*
Location	The 95m long section is located on the A83 Tarbet to Kennacraig Trunk Road in the village of Tarbert on Barmore Road (Refer to Figure 2).
Highway Facilities	The 2 lane single (S2) carriageway is 6.5m wide with footways of 2.0 metres wide on each side. Street Lighting is to standard. The road surface is in good condition.
Visibility	There is good visibility throughout the study area. There is no on-street parking due to existing waiting restrictions
Complexity	There is the junction with the A8015 Harbour Street at the southern end of the area, where the A83 turns west along Campbeltown Road.
Crossing Traffic	840 pedestrians were observed crossing the carriageway within the study area between 07:00 and 19:00 giving an hourly average of 70. The peak hour was between 11:00 and 12:00 when 108 people crossed the carriageway.
Vehicles	2280 vehicles passed through the study area between 07:00 and 19:00, giving an hourly average of 190 vehicles. 185 (8.1%) of the vehicles were HGV's and there were 17 (0.7%) buses. In the peak pedestrian hour (11:00 to 12:00) 163 vehicles passed through the study area.
Road Accidents	There have been no personal injury accidents within the study area in the 5 years between 2007 and 2011 inclusive.

Table 3a: Site Assessment Record Summary – Barmore Road (Section 1)

Factor	Do Nothing	Refuge Island	Zebra Crossing	Signalled Crossing
Difficulty of Crossing, average wait in seconds	0 (able) and 0 (elderly)	0 (able) and 0 (elderly)	1 to 3 for all groups	1 to 3 for all after the end of the vehicle minimum green period
Vehicle Delay in peak periods	None	None	1 stop per minute of 10 seconds	1 stop per minute of 12 seconds
Road Capacity	Not reduced	Not reduced	17% reduction	20% reduction
Estimated Installation Costs	None	£7500	£25000	£45000
Estimated operating costs per annum	None	£250.00	£2500.00	£4500.00
Comments		Maximum island width of less than 1.0m due to road width	Not recommended by Transport Scotland for use on the trunk road network	

Table 3b: Options Assessment – Barmore Road (Section 2)

5.2 Section 2: Campbeltown Road. Tables 4a and 4b, below, form the LTN 1-95 assessment framework based on the site assessment record (see appendix C), which records the details required to make a considered recommendation on the need for pedestrian facilities.

Characteristic	*Data and Comments at 1st May 2012*
Location	This 75m long section is located on the A83 Tarbet to Kennacraig Trunk Road in the village of Tarbert on Campbeltown Road (Refer to Figure 2).
Highway Facilities	The 2 lane single (S2) carriageway is 6.5m wide with footways of 1.5 metres wide on each side. Street Lighting is to standard. The road surface is in good condition.
Visibility	There is good visibility throughout the study area. There is no on-street parking due to existing waiting restrictions
Complexity	There is the junction with the A8015 Harbour Street at the eastern end of the area and 2 side street accesses to Brunswick and Kintyre Streets.
Crossing Traffic	707 pedestrians were observed crossing the carriageway within the study area, giving an hourly average of 59. The peak hour was between 11:00 and 12:00 when 82 people crossed the carriageway.
Vehicles	2691 vehicles passed through the study area between 07:00 and 19:00, giving an hourly average of 224 vehicles. 207 (7.7%) of the vehicles were HGV's and there were 31 (1.2%) buses. In the peak pedestrian hour (11:00 to 12:00) 201 vehicles passed through the study area.
Road Accidents	There have been no personal injury accidents within the study area in the 5 years between 2007 and 2011 inclusive.

Table 4a: Site Assessment Record Summary – Campbeltown Road (Section 2)

Factor	Do Nothing	Refuge Island	Zebra Crossing	Signalled Crossing
Difficulty of Crossing, average wait in seconds	0 (able) and 0 (elderly)	0 (able) and 0 (elderly)	1 to 3 for all groups	1 to 3 for all after the end of the vehicle minimum green period
Vehicle Delay in peak periods	None	None	1 stop per minute of 10 seconds	1 stop per minute of 12 seconds
Road Capacity	Not reduced	Not reduced	17% reduction	20% reduction
Estimated Installation Costs	None	£7500	£25000	£45000
Estimated operating costs per annum	None	£250.00	£2500.00	£4500.00
Comments		Maximum island width of less than 1.0m due to road width	Not recommended by Transport Scotland for use on the trunk road network	

Table 4b: Options Assessment – Campbeltown Road (Section 2)

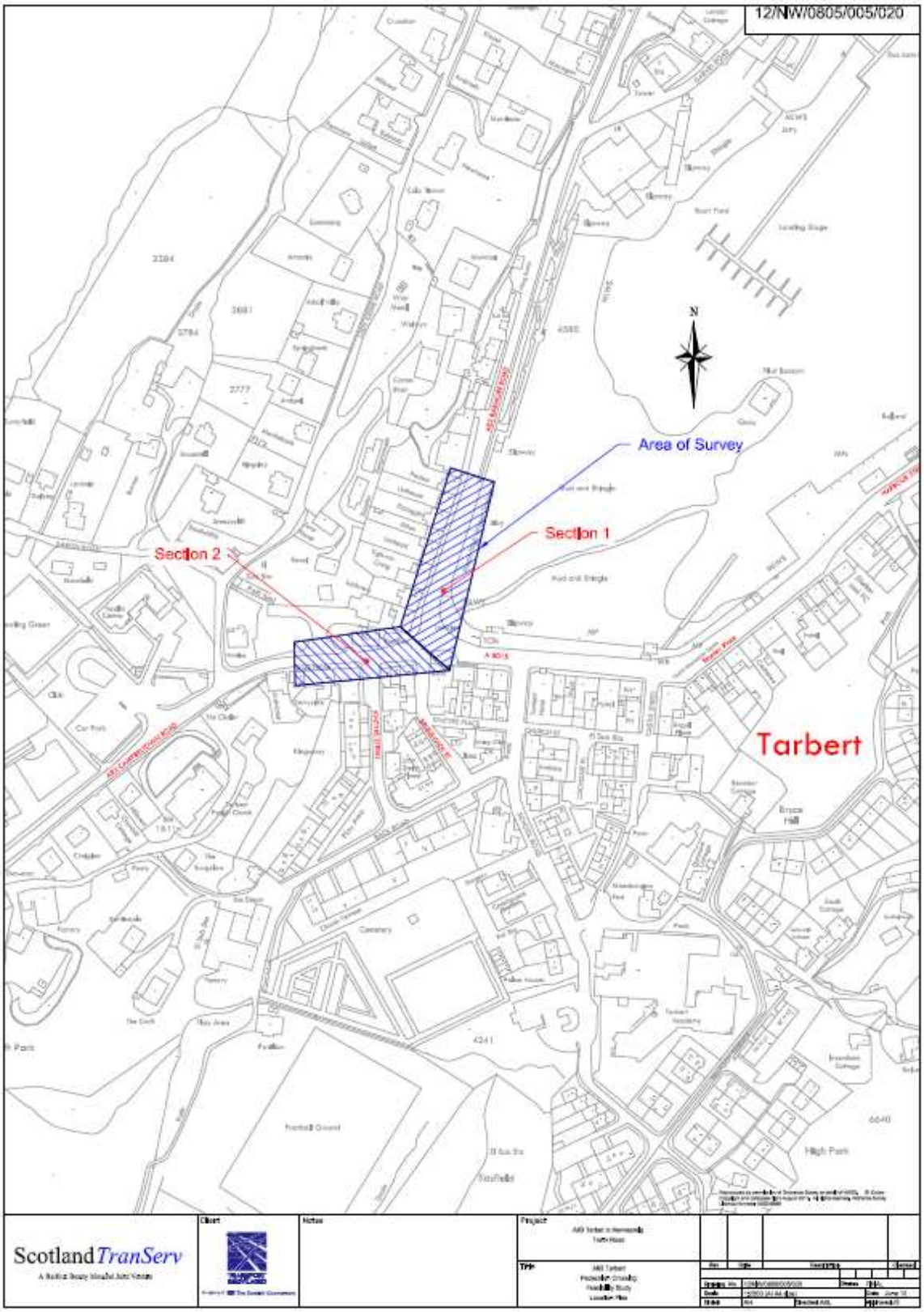
6. CONCLUSIONS AND RECOMMENDATION

6.1 Traffic flows, pedestrian crossing figures and the on-site assessment do not indicate that any pedestrians are unduly delayed from crossing the carriageway, as there are sufficient gaps within the traffic flow to allow pedestrians to cross safely. Also, the lack of injury accidents does not support improvements to the pedestrian facilties within the study area.

6.2 It is recommended that no further action is taken, at this time, with regard to the provision of pedestrian facilities on the A83 Trunk road, within the study area.

APPENDIX A

DRAWINGS


12/NW/0805/005/020
Area of Survey
Section 1
Section 2
Tarbert
N
Scotland TranServ
A Balfour Beatty Mouchel Joint Venture

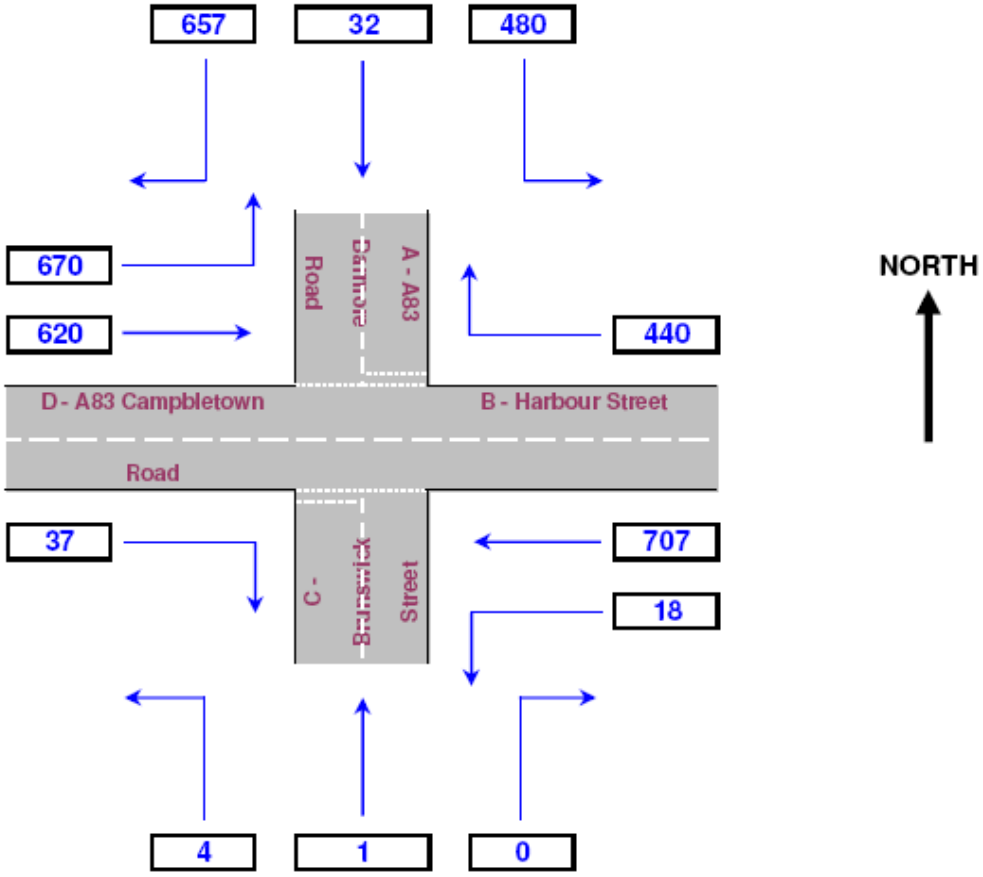
APPENDIX B

TRAFFIC SURVEYS

PEDESTRIAN COUNT FIGURES (Both Sections)

TIMEBIN	Cyclist	Pedestrian	Grand Total
07:00 - 07:15		3	3
07:15 - 07:30		5	5
07:30 - 07:45		6	6
07:45 - 08:00		14	14
08:00 - 08:15		8	8
08:15 - 08:30		19	19
08:30 - 08:45		15	15
08:45 - 09:00		42	42
09:00 - 09:15		34	34
09:15 - 09:30		34	34
09:30 - 09:45		44	44
09:45 - 10:00		46	46
10:00 - 10:15		55	55
10:15 - 10:30		48	48
10:30 - 10:45		50	50
10:45 - 11:00		60	60
11:00 - 11:15		51	51
11:15 - 11:30		60	60
11:30 - 11:45		66	66
11:45 - 12:00	1	67	68
12:00 - 12:15		64	64
12:15 - 12:30		46	46
12:30 - 12:45		50	50
12:45 - 13:00		40	40
13:00 - 13:15		82	82
13:15 - 13:30		48	48
13:30 - 13:45		42	42
13:45 - 14:00		40	40
14:00 - 14:15		43	43
14:15 - 14:30		51	51
14:30 - 14:45		46	46
14:45 - 15:00		49	49
15:00 - 15:15		48	48
15:15 - 15:30	1	44	45
15:30 - 15:45		57	57
15:45 - 16:00		50	50
16:00 - 16:15		58	58
16:15 - 16:30		49	49
16:30 - 16:45		45	45
16:45 - 17:00		56	56
17:00 - 17:15		44	44
17:15 - 17:30		43	43
17:30 - 17:45		35	35
17:45 - 18:00		23	23
18:00 - 18:15		32	32
18:15 - 18:30		30	30
18:30 - 18:45		31	31
18:45 - 19:00		30	30
Grand Total	2	2003	2005

TRAFFIC COUNT FIGURES



APPENDIX C

PEDESTRIAN CROSSING SITE ASSESSMENT RECORDS

Section 1 – Barmore Road

SITE CHARACTERISTICS

1.1	Site Location	Description	2 lane road junction with footways
	A83 Tarbert, Barmore Road (East of Junction)	OS Grid Ref	186402, 668665

1.2	Carriageway Type		Single
			Two way
		Number of Lanes	2

1.3	Carriageway Width	8.0	metres

1.4	Footway Width	E Side	5.0 metre
		W Side	2.0 metre

1.5	Refuge Island		No

1.6	Street Lighting Standard		
	BS5489 classification	Category A	
	Is lighting to above standard?		Yes
	Any re-arrangement necessary?		No
	Better lighting standard needed?		No
	Supplementary lighting needed?		No

1.7	Minimum visibility			
	Pedestrian to Vehicle	Direction Eastbound	40	metres
		Direction Westbound	138	metres
	Vehicle to crossing	Direction Eastbound	40	metres
		Direction Westbound	150	metres

1.8	Waiting/Loading/Stopping Restrictions		
	At prospective site		Yes
	Within 50metres of the site		Yes

1.9	Public Transport Stopping Points			
	At prospective site			No
	Within 50 metres of the site			No
	Relationship to crossing [in direction of travel]	Direction Southern		
		Direction Northern		

1.10	Nearby Junctions			
	Distance to nearest significant traffic junction.	Direction Southbound	21	metres
		Direction Northbound	269	metres

1.11	Other Pedestrian Crossings			
	Distance to next crossing	Direction 1	N/A	metres

		Direction 2	N/A	metres
		Zebra/Pelican/Puffin/Toucan/Other		

1.12	School Crossing Patrol			
	Distance if less than 100 metres		N/A	metres

1.13	Skid Risk		
	Does surface meet skid resistance requirements	Yes	No

1.14	Surroundings		
	(entrances within 100 metres)		
	Hospital/Sheltered Housing/ Workshop for disabled people		No
	School		No
	Post Office		Yes
	Railway/Bus Station		No
	Pedestrian Leisure Area		Yes
	Shopping Area		Yes
	Sports Stadium		No
	Entertainment Venue		Yes
	Junction with cycle route		No
	Equestrian Centre or junction with Bridle Path		No
	Others (e.g. Fire Station)		No

CROSSING TRAFFIC INFORMATION

2.1	Flow and Composition			
	Pedestrian Count	Number	1825	per 12 hrs
	Prams/pushchairs		0.7	%
	Percent elderly		0.2	%
	Unaccompanied young children		0	%
	Severe mobility difficulties	Number per day		4
	Visually impaired	Number per day		0
	Crossing cyclists	Number per day		2
	Equestrians	Number per day		0
	Others	Number per day		-

2.2	Time to cross the road		
	(measured sample)		
	Able persons		8 secs
	Elderly or Disabled		16 secs
	(units as for selected method)		

2.4	Latent Crossing Demand			
	Estimate	Unlikely/number per	unlikely	

VEHICLE TRAFFIC INFORMATION

3.1	Flow and Composition			
	Vehicle Count	Number per	12 hrs	2280

Heavy goods vehicle			**8.1%**
Public service vehicles	**Number per**	**day**	**17**

3.2	**Vehicle Speed**			
	85 percentile			**29.6 m.p.h.**
	Speed limit			**30 m.p.h.**

ROAD ACCIDENTS

4.1	**Mean Personal injury Accident Frequency**			
	Number per year at site (2007 - 2011)	**P.I. accidents/year**		**0/5**
	Number per year at an average local site (2007 – 2011)	**P.I. accidents/year**		**1/5**

Section 2 – Campbeltown Road

SITE CHARACTERISTICS

1.1	Site Location	Description	2 lane road junction with footways	
	A83 Tarbert, Campbeltown Road (West of Junction)	OS Grid Ref	186363, 668630	

1.2	Carriageway Type		Single	
			Two way	
		Number of Lanes	2	

1.3	Carriageway Width	6.5	metres

1.4	Footway Width	N Side	2.0 metre
		S Side	2.0 metre

1.5	Refuge Island		No

1.6	Street Lighting Standard			
	BS5489 classification		Category A	
	Is lighting to above standard?			Yes
	Any re-arrangement necessary?			No
	Better lighting standard needed?			No
	Supplementary lighting needed?			No

1.7	Minimum visibility			
	Pedestrian to Vehicle	Direction Eastbound	120	metres
		Direction Westbound	50	metres
	Vehicle to crossing	Direction Eastbound	130	metres
		Direction Westbound	50	metres

1.8	Waiting/Loading/Stopping Restrictions			
	At prospective site			Yes
	Within 50metres of the site			Yes

1.9	Public Transport Stopping Points			
	At prospective site			No
	Within 50 metres of the site			No
	Relationship to crossing	Direction Southern		
	[in direction of travel]	Direction Northern		

1.10	Nearby Junctions			
	Distance to nearest significant	Direction Southbound	15	metres
	traffic junction.	Direction Northbound	15	metres

1.11	Other Pedestrian Crossings			
	Distance to next crossing	Direction 1	N/A	metres

Direction 2	N/A	metres
Zebra/Pelican/Puffin/Toucan/Other		

1.12	School Crossing Patrol			
	Distance if less than 100 metres		N/A	metres

1.13	Skid Risk		
	Does surface meet skid resistance requirements		No

1.14	Surroundings		
	(entrances within 100 metres)		
	Hospital/Sheltered Housing/ Workshop for disabled people		No
	School		No
	Post Office		Yes
	Railway/Bus Station		No
	Pedestrian Leisure Area		Yes
	Shopping Area		Yes
	Sports Stadium		No
	Entertainment Venue		Yes
	Junction with cycle route		No
	Equestrian Centre or junction with Bridle Path		No
	Others (e.g. Fire Station)		No

CROSSING TRAFFIC INFORMATION

2.1	Flow and Composition			
	Pedestrian Count	Number	2005	per 12 hrs
	Prams/pushchairs		0.7	%
	Percent elderly		0.2	%
	Unaccompanied young children		0	%
	Severe mobility difficulties	Number per day		4
	Visually impaired	Number per day		0
	Crossing cyclists	Number per day		2
	Equestrians	Number per day		0
	Others	Number per day		-

2.2	Time to cross the road		
	(measured sample)		
	Able persons		8 secs
	Elderly or Disabled		16 secs
	(units as for selected method)		

2.4	Latent Crossing Demand			
	Estimate	Unlikely/number per	unlikely	

VEHICLE TRAFFIC INFORMATION

3.1	Flow and Composition			
	Vehicle Count	Number per	12 hrs	2691
	Heavy goods vehicle			7.7%
	Public service vehicles	Number per	day	31

3.2	Vehicle Speed		
	85 percentile		25.9 m.p.h.

Speed limit			**30 m.p.h.**

ROAD ACCIDENTS

4.1	**Mean Personal injury Accident Frequency**			
	Number per year at site (2007 - 2011)	**P.I. accidents/year**		**0/5**
	Number per year at an average local site (2007 – 2011)	**P.I. accidents/year**		**1/5**

JACOBS

Appendix E Appraisal Summary Tables

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**1. Upgrade route to DMRB standard throughout.**	Name of Planner:	Alasdair Graham
Proposal Description:	This option would involve widening the route to a standard 7.3m width and re-aligning the route to achieve desired horizontal and vertical alignment. It is anticipated that this option would be delivered in phases, with sections being upgraded as part of programmed maintenance on the route.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant >£250M Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£

Background Information	
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and landslides at the Rest and Be Thankful.
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.
Planning Objectives	

Objective:	Performance against planning objective:
Improve operating conditions on the A83.	This option would significantly improve operating conditions over the entire A83 trunk road, as the provision of a continuous DMRB standard road would enable maintenance to be carried out effectively, improve opportunities for overtaking, improve journey times and journey time reliability and improve safety on the route.
Improve journey time reliability by reducing the frequency and impact of road closures.	It is expected that the improved quality of the road would reduce accident rates and the subsequent need for road closures. In addition, provision of a consistent standard road width would reduce the duration that sections of the road require to be closed for maintenance purposes.
Reduce accident rates and severity on the A83.	Upgrading the road to current DMRB standards across the full extents of route would result in improved horizontal and vertical alignment and improved road width throughout. This would eliminate the current sharp bends and narrow stretches, thus providing increased opportunities for safe overtaking and improving visibility along the route. Subsequently it is expected that accident rates and severity on the A83 would be reduced.
Improve pedestrian and cycling amenities in the settlements on the A83.	This option would not affect pedestrian and cycling amenities in the settlements on the A83.
Rationale for Selection or Rejection of Proposal:	This option performs well against the transport planning objectives and STAG criteria, however, upgrading of the route to full DMRB cross sectional standard would not be cost effective given the volumes of traffic on the A83. It is therefore recommended that this option is not progressed. However, as individual sections of the route are upgraded as part of ongoing maintenance and programmed works, the cross sectional width of the route could be upgraded to current DMRB standards, providing value for money can be demonstrated.

Implementability Appraisal	
Technical:	The implementation of this option is expected to be fairly demanding due to several constraints along the route. Much of the trunk road is surrounded by topographical constraints, which may make upgrading the route to full DMRB standard fairly complex and expensive in areas. The necessary land acquisitions may also lead to technical difficulties. In addition, several sections of the route are within National Scenic Areas, Special Protected Areas, SSSIs and the Loch Lomond and The Trossachs National Park. This may increase the complexity of upgrading the route to full DMRB standards as there would be several factors which would have to be considered in order to minimise the environmental impact of the option. Implementation of parts of this option would require closure of the existing road for periods of time.
Operational:	Upgrading the route to full DMRB standards would enable the route to be maintained more effectively without the need for complete closures. Operational costs would be incorporated into the ongoing maintenance budgets for the route.
Financial:	The cost of implementing this option is estimated as in excess of £250M. Ongoing operation and maintenance costs of the A83 would be integrated into existing maintenance budgets for the route. This option is unlikely to increase maintenance costs over the existing situation. Costs associated with accidents on the route would be likely to reduce significantly.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time. Careful consideration of traffic management measures, during construction, would be required to minimise impact on road users.

STAG Criteria		
Criterion	**Assessment Summary**	**Supporting Information**
Environment:	*Major Negative Impact*	The A83 trunk road is situated within National Scenic Areas, SSSIs, Special Protected Areas and The Loch Lomond and The Trossachs National Park. Consequently the effect of carrying out any construction work on the route may create a notable impact on the protected environment. The nature of the works would involve the encroachment of the road onto the surrounding terrain which would detrimentally impact the surrounding environment.
Safety:	*Major Benefit*	There is a need to reduce accident rates and severity levels on the A83 trunk road. Upgrading the route to DMRB standards would assist in achieving this. Improving the route to full DMRB standards would eliminate the current sub-standard bends and narrow road widths which are considered hazardous for drivers.
Economy:	*Major Negative Impact*	This option could reduce journey times and increase the reliability of travel times, improving the viability of the movement of people and freight into and out of the area with a consequential benefit to the economy of Mid-Argyll and Kintyre. The improved route could also result in increased visitor levels to the area. A reduction in accidents over the whole route would reduce the economic impact of dealing with these accidents. However, the costs of achieving this would be way in excess of the benefits

		achieved and therefore this option would not deliver value for money.
Integration:	*Neutral*	This option would not affect transport integration. This option aligns with the objectives of the STPR for this corridor by improving road standards and overtaking opportunities and providing measures to reduce accident severity to the national average.
Accessibility and Social Inclusion:	*Minor Benefit*	This option would provide some benefits in accessibility to the settlements along the route as the improved carriageway width and alignment would increase opportunities for overtaking, hence reducing instances of road users being stuck behind slower moving vehicles. This would especially be the case for larger vehicles such as buses and HGVs. This could result in improved accessibility to/from the area. This option would not affect accessibility and social inclusion.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**2. Develop 2 + 1 sections on the route.**	Name of Planner:	Alasdair Graham
Proposal Description:	Provide 2+1 sections at key locations on the route.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £2M-£5M per section Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83.	The provision of 2+1 sections at key points on the route would provide additional opportunities for drivers passing slow moving vehicles safely, resulting in an expected reduction in journey times and accidents related to overtaking on the route, with an overall improvement in operating conditions. The benefits however are likely to be restricted to localised areas where 2+1 sections are implemented. The introduction of isolated sections of 2+1 could lead to driver confusion due to inconsistency of carriageway provision.
Improve journey time reliability by reducing the frequency and impact of road closures.	There is likely to be a reduction in closures due to overtaking related accidents in the areas where 2+1 sections are introduced. Over the whole route, the impact is however likely to be slight.
Reduce accident rates and severity on the A83.	A reduction in overtaking related accidents would be expected in the vicinity of the 2+1 sections. Since overtaking related accidents are occurring across the route as a whole, localised 2+1 sections would have a limited effect on the overall accident rates and severity on the route.
Improve pedestrian and cycling amenities in the settlements on the A83.	This option would not improve pedestrian and cycling amenities in the settlements on the A83.
Rationale for Selection or Rejection of Proposal:	The option to provide 2+1 sections on the route demonstrates minor benefits against the planning objectives. Minor benefits have been recorded against the safety and economy STAG Criteria but this option is expected to result in a minor impact against the environmental criteria. In general, this option would only provide benefits at a localised level. It is therefore recommended that this option is not progressed.
Implementability Appraisal	
Technical:	2+1 sections have been implemented at several locations on the Trunk Road network throughout Scotland. The locations that they can feasibly be implemented at, on the A83, are however, limited by the topography of the route and the adjacent hillsides and loch sides which bound the road along a significant part of its route. This may restrict the ability to provide 2+1 sections in key areas where there are currently limited overtaking opportunities.
Operational:	The route would continue to be maintained by the trunk road operating company.
Financial:	Implementation of 2+1 sections is estimated to cost between £2M and £5M per section. In order to provide benefits across the whole route, a number of 2+1 sections would be required. Operational costs would be incorporated into the ongoing maintenance budgets for the route. Costs associated with overtaking related accidents would be likely to reduce.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time. Careful

	consideration of traffic management measures, during construction, would be required to minimise the impact on road users.	
STAG Criteria		
Criterion	Assessment Summary	Supporting Information
Environment:	*Minor Impact*	This option could result in slightly increased overall speeds across the route resulting in a slight environmental impact. The option would require additional land for widening the road to create 2+1 sections.
Safety:	*Neutral*	This option would assist in improve safety, especially related to accidents involving overtaking manoeuvres. The benefits would however be limited as the improvements would be localised and the issues are currently experienced over the whole of the route. However, this could equally result in higher vehicle speeds along the route and potential driver confusion caused by the inconsistent carriageway provision.
Economy:	*Minor Benefit*	This option could improve some journey times by enabling safe overtaking of slower moving vehicles on the route resulting in improved journey time reliability. The benefits however would be limited due to the localised nature of the 2+1 sections and the significant cost of implementing sufficient 2+1 sections on the route in order to realise benefits across the whole route.
Integration:	*Neutral*	This option would not affect integration.
Accessibility and Social Inclusion:	*Neutral*	This option would not affect accessibility and social inclusion.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**3. Improved lay-bys.**	Name of Planner:	Alasdair Graham
Proposal Description:	-Provide additional lay-bys on the route; - Improve existing lay-bys to DMRB Type A standard; - Re-locate lay-bys that are located opposite each other; - Improve the surface of existing lay-bys; and - Improve signage and road markings in and on the approach to lay-bys.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £1M-£5M Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		
Planning Objectives			

Objective:	Performance against planning objective:
Improve operating conditions on the A83.	The provision of lay-bys in accordance with the DMRB Type A standard would improve operating conditions on the A83 by providing additional formal rest areas for drivers and passengers. Additionally, increased lay-by provision would provide additional opportunities for slow moving vehicles to pull over and allow following traffic to pass.
Improve journey time reliability by reducing the frequency and impact of road closures.	The option is unlikely to have a significant effect on journey times or road closures.
Reduce accident rates and severity on the A83.	The provision of additional lay-bys would encourage drivers to take breaks and would reduce the likelihood of accidents due to fatigue. This would however, be expected to have a negligible effect on overall accident rates and severity of accidents on the A83.
Improve pedestrian and cycling amenities in the settlements on the A83.	This option would not affect pedestrian and cycling amenities in the settlements on the A83.
Rationale for Selection or Rejection of Proposal:	Upgrading existing lay-bys and providing additional lay-bys across the whole route would not be cost effective and the appraisal demonstrates limited benefits against the planning objectives and STAG Criteria and a minor impact in environmental terms. It is therefore recommended that this option is not progressed. However existing lay-bys could be upgraded and additional lay-bys provided as part of routine maintenance or infrastructure schemes implemented across the route.
Implementability Appraisal	
Technical:	The various elements of this package would be implemented using proven methods and technology. There may be technical risks associated with the option because of the constrained nature of the road width. The surrounding landscape is expected to impact the amount of area that lay-bys can occupy and make constructing some of the lay-bys arduous.
Operational:	It is unlikely that any factors would adversely affect the operation of this option during its projected life. The route would continue to be maintained by the trunk road operating company.
Financial:	Implementation of this option in full is estimated to cost between £1M and £5M. Operational costs would be incorporated into the ongoing maintenance budgets for the route, however, an increased number of lay-bys on the route would result in an increased maintenance requirement.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time. Due to the level of tourist traffic on the route, enforcement to prevent long stay parking on the lay-bys may be required.
STAG Criteria	

Criterion	Assessment Summary	Supporting Information
Environment:	*Minor Negative Impact*	This option would have negligible impact on reducing emissions of CO_2 and other pollutants. However the construction works may result in a temporary minor reduction in water and soil quality. It is predicted that the affect on biodiversity, landscape and cultural heritage of the area would be negligible.
Safety:	*Minor Benefit*	Lay-bys should encourage drivers to take regular breaks, reducing the risk of driver fatigue and hence related accidents. The overall impact on accident levels on the route is however, likely to be low.
Economy:	*Neutral*	The provision of additional and improved lay-bys on the route would be beneficial to regular users and tourists. The additional lay-bys could be used by slow moving vehicles to pull over, thus reducing journey times for other users. The additional lay-bys would assist in the promotion of the area for visitors. However, the costs of achieving this would be high for the benefits achieved and therefore this option would be unlikely to deliver value for money.
Integration:	*Neutral*	This option would not affect integration.
Accessibility and Social Inclusion:	*Neutral*	This option would not affect accessibility and social inclusion.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**4. Improve signing, lining and surfacing at the bend at Tarbet Tearooms.**	Name of Planner:	Alasdair Graham
Proposal Description:	Provide additional signage, lining and improved high friction surface treatment at the bend at Tarbet tearooms.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £5K-£10K Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83.	This option would be expected to improve the operating conditions on the A83 at Tarbet Tea Rooms. The improved signage and lining should improve driver awareness of the road layout and the high friction surface should provide them with enhanced vehicle handling.
Improve journey time reliability by reducing the frequency and impact of road closures.	This option would be expected to reduce the risk of accidents which may subsequently lessen the need for road closures at this location.
Reduce accident rates and severity on the A83.	The provision of additional signage and lining should improve driver's awareness of the sharp bend and thus assist in reducing accident levels. The provision of a high friction surface would also improve vehicle handling on the bend, which should reduce the risk of accidents.
Improve pedestrian and cycling amenities in the settlements on the A83.	This option would not improve pedestrian and cycling amenities in the settlements on the A83.
Rationale for Selection or Rejection of Proposal:	This option performs well against the planning objectives and safety benefits are identified when appraised against the STAG Criteria. It is therefore recommended that this option is progressed.
Implementability Appraisal	
Technical:	There are no envisaged technical constraints associated with this option.
Operational:	No factors are anticipated to adversely affect the operation of this option during its projected life. The route would continue to be maintained by the trunk road operating company.
Financial:	Implementation of this option is estimated to cost between £5K and £10K. Maintenance would be carried out under existing Trunk Road Maintenance Company contracts.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time. Careful consideration of traffic management measures, during implementation, would be required to minimise the impact on road users.

STAG Criteria		
Criterion	Assessment	Supporting Information

	Summary	
Environment:	*Neutral*	The works would be undertaken within the existing carriageway boundary and therefore it is unlikely that there would be a notable impact on the surrounding environment. The effect of implementing warning signs on the environment would also be minimal.
Safety:	*Minor Benefit*	The improved signage and road markings would result in increased driver awareness and encourage safer driving. The high friction surface would result in improved vehicle handling.
Economy:	*Neutral*	Traffic flows would remain unaffected and there would be negligible impact on economic factors.
Integration:	*Neutral*	This option would not affect integration.
Accessibility and Social Inclusion:	*Neutral*	This option would not affect accessibility and social inclusion.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**5. Improve visibility on the bend at Tarbet Tea Rooms.**	Name of Planner:	Alasdair Graham
Proposal Description:	Increase the verge width on the inside of the bend at Tarbet Tea Rooms to increase visibility.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £50K-£100K Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83. Improve journey time reliability by reducing the frequency and impact of road closures. Reduce accident rates and severity on the A83. Improve pedestrian and cycling amenities in the settlements on the A83.	This option would be expected to improve operating conditions on the A83 by improving motorists' visibility at the bend at Tarbet Tea Rooms. This should allow motorists to more effectively adapt their speed to effectively negotiate the bend. This option is not expected to significantly reduce the risk of accidents which may subsequently lessen the need for road closures at this location. Recorded accidents at this location do not cite visibility as a causal factor. The option is not expected to significantly reduce the risk of accidents at this location. This option would not improve pedestrian and cycling amenities in the settlements on the A83.
Rationale for Selection or Rejection of Proposal:	This option demonstrates limited benefits against the planning objectives or the STAG Criteria. The main reason for this is that existing recorded accidents at this site do not cite visibility as a cause. It is therefore recommended that this option is not progressed.
Implementability Appraisal	
Technical:	The various elements of this package would be implemented using proven methods and technology. There may be technical difficulties associated with the acquisition of land and the necessary earthworks which are required to bring the bend to a greater safety standard. There may be risks involved in the option, in association with the overall effectiveness of the final design, as the stopping sight distance at 50m may not substantially affect the safety and effectiveness of the junction. In addition, the protected nature of the land to be acquired may make the implementation of the option more complex.
Operational:	It is unlikely that any factors would adversely affect the operation of this option during its projected life. The route would continue to be maintained by the trunk road operating company.
Financial:	Implementation of this option is estimated to cost between £50K and £100K. Maintenance would be carried out under existing Trunk Road Maintenance Company contracts.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be

	welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time. Any land acquisition would be required to be managed effectively to ensure public buy-in to the option. Careful consideration of traffic management measures, during construction, would be required to minimise impact on road users.

STAG Criteria		
Criterion	**Assessment Summary**	**Supporting Information**
Environment:	*Minor Negative Impact*	This option would marginally impact on the environment as the increased verge would encroach on the surrounding countryside. In addition, Tarbet is positioned within a National Scenic Area and the Loch Lomond and The Trossachs National Park which would imply that the infringement could notably impact the surrounding environment.
Safety:	*Minor Benefit*	Currently the stopping sight distance of less than 30m for the bend at Tarbet Tea Rooms is inadequate. By increasing the stopping sight distance to 50m safety standards should be improved along a section of the route. The accidents that have occurred at this location have not however, been related to visibility issues, therefore any benefits may be limited.
Economy:	*Neutral*	This option is not expected to impact traffic flows and would subsequently have no affect on economic factors.
Integration:	*Neutral*	This option would not affect integration.
Accessibility and Social Inclusion:	*Neutral*	This option would not affect accessibility and social inclusion.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**6. Re-align the bend at Tarbet tearooms.**	Name of Planner:	Alasdair Graham
Proposal Description:	This option involves a realignment of the bend in Tarbet village at Tarbet Tearooms. This would involve the provision of a larger horizontal radius curve at this location, eliminating the existing sharp bend.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £100K-£500K Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83. Improve journey time reliability by reducing the frequency and impact of road closures. Reduce accident rates and severity on the A83. Improve pedestrian and cycling amenities in the settlements on the A83.	This option would improve operating conditions for traffic negotiating the bend through Tarbet village on the A83 by providing a re-aligned carriageway with improved horizontal alignment over the existing layout. The re-aligned layout at the bend would reduce the risk of accidents at this location. Subsequently, road closures at this location should reduce along with related delays and increased journey times. It is expected that by re-aligning the bend and providing a higher standard road, this option would reduce the probability and severity of accidents, particularly those related to drivers losing control of their vehicles. Improved footways would be incorporated in the re-aligned bend within Tarbet.
Rationale for Selection or Rejection of Proposal:	This option performs well against the planning objectives and safety benefits are identified when appraising against the STAG Criteria. The additional benefits that this option provides over Option 4 are however, limited and the cost is significantly higher, therefore this option is not considered to be cost effective and it is recommended that this option is not progressed.
Implementability Appraisal	
Technical:	The various elements of this package would be implemented using proven methods and technology. There may be technical difficulties associated with the acquisition of land and the extensive works which are required to bring the bend to a greater safety standard.
Operational:	It is unlikely that any factors would adversely affect the operation of this option during its projected life. The route would continue to be maintained by the trunk road operating company.
Financial:	Implementation of this option is estimated to cost between £100K and £500K. Maintenance would be carried out under existing Trunk Road Maintenance Company contracts. Three slight injury accidents have been recorded at this location between 2007 and 2011.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time. Any land acquisition would be required to be managed effectively to ensure public buy-in to the option. Careful consideration of traffic management measures, during construction, would be required to minimise impact on road users.

STAG Criteria		
Criterion	**Assessment Summary**	**Supporting Information**
Environment:	*Minor Negative Impact*	This option would have a negative impact on the environment as the new road would encroach on the surrounding countryside. In addition, Tarbet is positioned within a National Scenic Area and the Loch Lomond and The Trossachs National Park which would imply that the infringement could notably impact the surrounding environment.
Safety:	*Moderate Benefit*	Currently the radius of 30m for the bend at Tarbet Tea Rooms is significantly below the minimum safety standard for a stopping sight distance of less than 30m. Increasing the horizontal radius to 90m would still be below the desirable minimum standard.
Economy:	*Neutral*	The option is not expected to impact traffic flows, however slight economic benefits may be achieved from a reduction in accident related road closures at this location.
Integration:	*Neutral*	This option would not affect integration.
Accessibility and Social Inclusion:	*Neutral*	This option would not affect accessibility and social inclusion.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**7. Replace railway bridge between Tarbet and Arrochar.**	Name of Planner:	Alasdair Graham
Proposal Description:	Provide a replacement railway bridge between Tarbet and Arrochar. Widen the A83 under the bridge to provide a standard road width with 2m wide footway.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £5M-£10M
			Annual revenue support £
			Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£

Background Information	
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83. Improve journey time reliability by reducing the frequency and impact of road closures. Reduce accident rates and severity on the A83. Improve pedestrian and cycling amenities in the settlements on the A83.	This option would improve operating conditions on the A83 by creating a wider road through the bridge and therefore allowing road users to traverse more easily along this section of the A83. The implementation of a suitable width of footway would also enhance conditions for pedestrians. It is predicted that this option would not have any effect on journey time reliability. This option is expected to have no effect on accident rates on the A83. No pedestrian related accidents have been recorded at this location in the previous five years. This option would improve the pedestrian facilities on the route between Tarbet and Arrochar.
Rationale for Selection or Rejection of Proposal:	Although this option performs well against two of the Transport Planning objectives, the measure is expected to have a marginal effect when appraised against the STAG Criteria. In addition, this measure would have a significant cost and implementation would require closure of both the road and rail line for a period of time. It is therefore recommended that this option is rejected.
Implementability Appraisal	
Technical:	The various elements of this package would be implemented using proven methods and technology. Due to the narrowness of the A83 at this location and the extent of earthworks required there may be several risks associated with the construction of the new bridge. There would be issues associated with providing an adequate embankment for the new route, in addition to providing a structure which would suitably support the railway and amalgamate well with the existing infrastructure.
Operational:	Implementation of this option would require closure of both the A83 Trunk Road and the west Highland railway line for a period during construction of the new bridge.
Financial:	Implementation of this option is estimated to cost between £5M and £10M. Maintenance would be carried out under existing Trunk Road Maintenance Company contracts and by Network Rail and their contractors. No pedestrian related injury accidents have been recorded at this location between 2007 and 2011, therefore no accident related benefits would be realised from implementing this option.

Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time. The requirement to close the Trunk Road and the railway line to implement this option would result in disruptions to journeys on the network. Discussions with Network Rail and the Train Operating Companies would be required prior to implementing this option.	
STAG Criteria		
Criterion	Assessment Summary	Supporting Information
Environment:	*Minor Negative Impact*	As this option would result in the railway and A83 occupying more land, it is predicted that the option would cause a minor negative environmental impact.
Safety:	*Minor Benefit*	The elimination of the existing pinch point would enable a wider footway to be provided through the bridge resulting in improved safety for pedestrians, however, no pedestrian related accidents have been recorded on this section of the route between 2007 and 2011.
Economy:	*Neutral*	This option would have no effect on economic factors.
Integration:	*Neutral*	This option would not affect integration.
Accessibility and Social Inclusion:	*Neutral*	This option would not affect accessibility and social inclusion.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**8. Alter road and footpath width at railway bridge between Tarbet and Arrochar.**	Name of Planner:	Alasdair Graham
Proposal Description:	Widen the footway under the railway bridge on the A83 between Tarbet and Arrochar. The road width would be narrowed, creating a pinch point to be operated by priority control.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £10K-£20K Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£

Background Information	
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83. Improve journey time reliability by reducing the frequency and impact of road closures. Reduce accident rates and severity on the A83. Improve pedestrian and cycling amenities in the settlements on the A83.	This option would have a negative impact on operating conditions on the A83 for road users as it would create an additional pinch point on the route. This option is not expected to affect the frequency and impact of road closures. Additional delays to road users may result due to the pinch point preventing two-way traffic. This option is not expected to reduce accident rates on the A83. This option would improve pedestrian amenities in the settlements on the A83 by providing a suitable footway for pedestrians to use at the railway bridge between Tarbet and Arrochar.
Rationale for Selection or Rejection of Proposal:	Although this option provides improvements for pedestrians at a localised pinch point, the measure has a negative impact against the economy STAG criteria. The measure would, in effect, create a further pinch point for vehicular traffic on the route. It is therefore recommended that this option is rejected.
Implementability Appraisal	
Technical:	The option would be implemented using proven methods and technology. From a technical standpoint the implementation of the option would be straightforward as the road and footpath would only require slight alterations.
Operational:	This option could result in reduced operational effectiveness of the road due to vehicles being required to give way to oncoming vehicles from the other direction at the narrowed carriageway at the bridge.
Financial:	Implementation of this option is estimated to cost between £10K and £20K. Maintenance would be carried out under existing Trunk Road Maintenance Company contracts.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that this option would be welcomed by those using the footway between Tarbet and Arrochar, however, as this option effectively creates an additional pinch point for road users, it is likely to be viewed unfavourably by these users.

STAG Criteria		
Criterion	Assessment Summary	Supporting Information
Environment:	*Neutral*	As this option would involve re-alignment of the road in its existing boundaries under the bridge, the resulting impact on the environment would be negligible.
Safety:	*Minor Benefit*	This option would improve safety levels for pedestrians, however, no pedestrian injury accidents have been recorded on this section of the route between 2007 and 2011.
Economy:	*Minor Negative Impact*	This option may reduce the attractiveness of the route in addition to potentially creating minor delays. Subsequently the option may have a negative impact on economic factors.
Integration:	*Neutral*	This option would not affect integration.
Accessibility and Social Inclusion:	*Neutral*	This option would not affect accessibility and social inclusion.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**9. Footpath link from the A83 to the existing off-road signed footpath between Tarbet and Arrochar.**	Name of Planner:	Alasdair Graham
Proposal Description:	Provision of a footpath from the existing off-road footpath between Tarbet and Arrochar and the A83 to the north of the railway bridge.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £20K-£50K Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83.	This option is not expected to have any effect on operational conditions on the A83.
Improve journey time reliability by reducing the frequency and impact of road closures.	This option is not expected to improve journey time reliability on the A83.
Reduce accident rates and severity on the A83.	This option is not expected to reduce accident rates and severity on the A83.
Improve pedestrian and cycling amenities in the settlements on the A83.	This option would improve the provision for pedestrians between Tarbet and Arrochar by diverting them away from the A83 between Tarbet and a point to the north of the constraint point at the railway bridge.
Rationale for Selection or Rejection of Proposal:	The performance of this option is limited against the planning objectives and an overall neutral impact is demonstrated against the STAG Criteria therefore it is recommended that this option is not progressed.
Implementability Appraisal	
Technical:	From a technical standpoint this option would potentially be relatively straightforward to implement. Land outwith the existing road boundary would be required to implement this option.
Operational:	There are no factors which might adversely affect the ability to operate the option over its projected life without major additional costs.
Financial:	Implementation of this option is estimated to cost between £20K and £50K. As the route would not form part of the trunk road, maintenance would be carried out by another authority. No pedestrian related injury accidents have been recorded at this location between 2007 and 2011, therefore no accident related benefits would be realised from implementing this option.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time.

STAG Criteria		
Criterion	Assessment Summary	Supporting Information
Environment:	*Neutral*	The area between Tarbet and Arrochar is part of a National Scenic Area and the Loch Lomond and The Trossachs National Park. Therefore any works on the landscape could be considered a negative impact on the environment. Careful consideration and management of environmental impacts during design and construction could however largely reduce this impact.
Safety:	*Neutral*	Avoidance of the pinch point on the A83 at the railway bridge would result in a slight improvement to safety levels for pedestrians choosing to use the alternative route, as it separates them from the traffic on the A83, however, the alternative route is remote and unlit and therefore may not be suitable for non-leisure uses. In addition, no pedestrian injury accidents have been recorded on this section of the route between 2007 and 2011.
Economy:	*Neutral*	This option is not expected to affect economic factors.
Integration:	*Neutral*	This option would not affect integration.
Accessibility and Social Inclusion:	*Neutral*	This option would not affect accessibility and social inclusion. However it may make it easier for some pedestrians to travel between Tarbet and Arrochar.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**10. Improve signing, lining and surfacing on the bend at Ardgartan Caravan Park.**	Name of Planner:	Alasdair Graham
Proposal Description:	Provide improved surface and improved signing and lining and lining on the bend at Ardgartan.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £5K-£10K
			Annual revenue support £
			Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83.	The option is expected to improve the operating conditions on the A83 at Ardgartan. The improved signage and lining should improve driver awareness of the road layout and the high friction surface quality should provide them with enhanced vehicle handling.
Improve journey time reliability by reducing the frequency and impact of road closures.	The option is expected to reduce the risk of accidents which may subsequently reduce the occurrences of road closures at this location.
Reduce accident rates and severity on the A83.	The provision of additional signage and lining should improve driver's awareness of the sharp bend and thus assist in reducing accident levels. The provision of a high friction surface would also improve vehicle handling on the bend, which should reduce the likelihood of drivers losing control.
Improve pedestrian and cycling amenities in the settlements on the A83.	This option would not improve pedestrian and cycling amenities in the settlements on the A83.
Rationale for Selection or Rejection of Proposal:	This option performs well against the planning objectives and safety benefits are identified when appraising against the STAG Criteria. It is therefore recommended that this option is progressed.
Implementability Appraisal	
Technical:	Implementing the recommended signage for the option should be straightforward. The technicalities involved in implementing improved road markings and a high friction road surface would also be relatively simple. Careful control of traffic management would be required during implementation of the option.
Operational:	No factors are anticipated to adversely affect the operation of this option during its projected life. The route would continue to be maintained by the trunk road operating company.
Financial:	Implementation of this option is estimated to cost between £5K and £10K. Maintenance would be carried out under existing Trunk Road Maintenance Company contracts. One serious and three slight injury accidents have been recorded at this location between 2007 and 2011.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time. Careful consideration of traffic management measures, during implementation, would be required to minimise the impact on road users.

STAG Criteria		
Criterion	Assessment Summary	Supporting Information
Environment:	*Neutral*	The option would require works to be undertaken on an existing road so it is unlikely that there would be a notable impact on the surrounding environment. The effect of implementing warning signs on the environment should also be minimal. As traffic volumes are not expected to be affected the environmental impact should be negligible.
Safety:	*Minor Benefit*	Safety on the bend should improve with the improved signage and road markings, as they should make drivers more aware of the road layout and encourage safer driving. The high friction surface would be expected to have a physical impact on road safety by increasing vehicle handling.
Economy:	*Minor Benefit*	Traffic flows are expected to remain unaffected by the option so there should be negligible impact on economic factors. A reduction in accidents at this location would provide economic benefits.
Integration:	*Neutral*	This option would not affect transport integration. This option aligns with the objectives of the STPR for this corridor by providing measures to reduce accident severity to the national average.
Accessibility and Social Inclusion:	*Neutral*	This option would not affect accessibility and social inclusion.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**11. Improve visibility on the bend at Ardgartan Caravan Park**	Name of Planner:	Alasdair Graham
Proposal Description:	Increase the verge width on the inside of the bend at Ardgartan Caravan Park to increase visibility.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £250K-£500K Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83. Improve journey time reliability by reducing the frequency and impact of road closures. Reduce accident rates and severity on the A83. Improve pedestrian and cycling amenities in the settlements on the A83.	This option is expected to improve operating conditions on the A83 by improving motorists' visibility at the bend at Ardgartan. This should allow motorists to more effectively adapt their speed to effectively negotiate the bend. This option is expected to reduce instances of delays due to road accidents at this location. It is expected that this option would reduce the likelihood of accidents occurring at this bend. This would contribute towards reducing the overall accident rates on the A83. This option would not improve pedestrian and cycling amenities in the settlements on the A83
Rationale for Selection or Rejection of Proposal:	This option performs well against the planning objectives and safety benefits are identified when appraising against the STAG Criteria. The additional benefits in comparison to Option 11 are however, limited and this option has a significantly greater cost of implementation, therefore it is recommended that this option is not progressed.
Implementability Appraisal	
Technical:	The various elements of this package would be implemented using proven methods and technology. There may be technical difficulties associated with the acquisition of land and the necessary earthworks which are required to bring the bend to a greater safety standard.
Operational:	It is unlikely that any factors would adversely affect the operation of this option during its projected life. The route would continue to be maintained by the trunk road operating company.
Financial:	Implementation of this option is estimated to cost between £250K and £500K. Maintenance would be carried out under existing Trunk Road Maintenance Company contracts. One serious and three slight injury accidents have been recorded at this location between 2007 and 2011.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time. Any land acquisition would be required to be managed effectively to ensure public buy-in to the option. Careful consideration of traffic management measures, during construction, would be required to minimise impact on road users.

STAG Criteria		
Criterion	Assessment Summary	Supporting Information
Environment:	*Minor Negative Impact*	This option would marginally impact on the environment as the increased verge width would encroach on the surrounding countryside.
Safety:	*Moderate Benefit*	Currently the stopping sight distance of less than 30m for the bend at Tarbet Tea Rooms is inadequate for the junction. By increasing the stopping sight distance to 50m safety standards would be improved along a section of the route where accidents have occurred in the past.
Economy:	*Neutral*	This option is not expected to affect traffic flows and would subsequently have no effect on economic factors.
Integration:	*Neutral*	This option would not affect transport integration. This option aligns with the objectives of the STPR for this corridor by providing measures to reduce accident severity to the national average.
Accessibility and Social Inclusion:	*Neutral*	This option would not affect accessibility and social inclusion.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**12. Re-align bend at Ardgartan Caravan Park**	Name of Planner:	Alasdair Graham
Proposal Description:	Design and construct a new improved road alignment to eliminate the sharp bend at Ardgartan Caravan Park.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £500K-£1M Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83. Improve journey time reliability by reducing the frequency and impact of road closures. Reduce accident rates and severity on the A83. Improve pedestrian and cycling amenities in the settlements on the A83.	This option would improve operating conditions for traffic negotiating the bend through Ardgartan on the A83. This option is expected to reduce accident rates and reduce the likelihood of traffic disruption caused by accidents. It is expected that this option would reduce the probability and severity of accidents at Ardgartan by re-aligning the bend and providing a higher standard road. Improved footways would be incorporated in the re-aligned bend within Ardgartan.
Rationale for Selection or Rejection of Proposal:	This option performs well against the planning objectives and safety benefits are identified when appraising against the STAG Criteria. The additional benefits in comparison to Option 11 are however, limited and this option has a significantly greater cost of implementation, therefore it is recommended that this option is not progressed.
Implementability Appraisal	
Technical:	The various elements of this package would be implemented using proven methods and technology. There may be technical difficulties associated with the acquisition of land and the extensive works which are required to bring the bend to a greater safety standard.
Operational:	It is unlikely that any factors would adversely affect the operation of the option during their projected life. The route would continue to be maintained by the trunk road operating company.
Financial:	Implementation of this option is estimated to cost between £500K and £1M. Maintenance would be carried out under existing Trunk Road Maintenance Company contracts. One serious and three slight injury accidents have been recorded at this location between 2007 and 2011.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time. Any land acquisition would be required to be managed effectively to ensure public buy-in to the option. Careful consideration of traffic management measures, during construction, would be required to minimise impact on road users.

STAG Criteria		
Criterion	Assessment Summary	Supporting Information
Environment:	*Moderate Negative Impact*	This option would have a negative impact on the environment as the new road would encroach on the surrounding countryside. The resulting requirement for a new entrance to Ardgartan Caravan Park may also add to the environmental impact.
Safety:	*Moderate Benefit*	Currently the radius of 230m for the bend at Ardgartan Caravan Park is below the minimum safety standard for the existing stopping sight distance. Increasing the horizontal radius to 360m would still be below the desirable minimum standard but would increase safety standards along this section of the A83.
Economy:	*Neutral*	This option should not affect traffic flows and would subsequently have no effect on economic factors.
Integration:	*Neutral*	This option would not affect transport integration. This option aligns with the objectives of the STPR for this corridor by providing measures to reduce accident severity to the national average.
Accessibility and Social Inclusion:	*Neutral*	This option would not affect accessibility and social inclusion.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**13. Implement Phase 1 and 2 of the Dunderave scheme (Scotland TranServ)**	Name of Planner:	Alasdair Graham
Proposal Description:	This option involves full implementation of the remaining Scotland TranServ proposals for Dunderave Phase 1 and Phase 2 covering approximately 5 km of the A83 from Ardgenavan to approximately 1.37km west of Dunderave Castle. The works comprise, an improved carriageway cross section to a 6.5m carriageway with 0.5m westbound verge and 2.0m eastbound verge, full resurfacing works, improved drainage, additional safety barrier, additional kerbing and signing and lining works	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £5M-£10M Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83.	Implementation of the remaining elements of the Dunderave Phase 1 and 2 schemes would provide significantly improved road layout including increased road width, improved surface and increased safety measures resulting in a significant improvement in operating conditions on this section of the A83.
Improve journey time reliability by reducing the frequency and impact of road closures.	Increasing the width and providing additional improvements as part of the Dunderave Phase1 and 2 schemes would reduce the need for closures on this section of the route for maintenance or emergency issues. The improved layout and additional safety features would also reduce the likelihood of route disruption at this location due to road traffic collisions.
Reduce accident rates and severity on the A83.	The improved road layout and safety features delivered as part of these schemes would result in a reduced risk of road traffic collisions on this section of the route, therefore contributing towards a reduction in accident rates and severity on the A83 as a whole.
Improve pedestrian and cycling amenities in the settlements on the A83.	This scheme would not provide specific improvements for walking and cycling on the A83 although the increased width of the carriageway would assist cyclists on the route.
Rationale for Selection or Rejection of Proposal:	This option performs well against the planning objectives and most of the STAG Criteria. Environmental impacts are identified; however these impacts could be managed, particularly during construction. It is therefore recommended that this option is progressed.
Implementability Appraisal	
Technical:	This option could be delivered using tried and tested methods and is therefore technically feasible. Implementation of the option would involve rock cutting and improvements to the road structure adjacent to the loch side, which may bring its own issues.
Operational:	Implementation of this option would require closures on the A83 at this location due to the available road width at present. This would result in significantly increased journey distances, however, closures could be managed to off-peak periods with adequate notice given to road users in order to minimise disruption.
Financial:	Implementation of this option is estimated to cost between £5M and £10M. Maintenance would be carried out under existing Trunk Road Maintenance Company contracts. Three serious injury accidents have been recorded at this location between 2007 and 2011.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time. Any land acquisition would be required to be managed effectively to ensure public buy-in to the option. Careful consideration of traffic management measures, during construction, would be required to minimise impact on road users.

STAG Criteria		
Criterion	Assessment Summary	Supporting Information
Environment:	*Moderate Impact*	Implementation of this scheme would require rock cutting and works close to the loch side in order to provide the increased carriageway width. Environmental impacts would result from changing the character of the rock face and careful management of the environment would be required during construction to ensure construction materials did not contaminate the adjacent water.
Safety:	*Moderate benefit*	The increased road width, improved surface and improved safety measures at this location would improve overall safety levels on this section of the route.
Economy:	*Minor Benefit*	Implementation of this scheme in full would result in improved journey times through this section of the route. In addition, an expected reduction in road traffic collisions, as a result of the scheme implementation, would result in a reduction in road closures with an additional benefit to the economy.
Integration:	*Neutral*	This option would not affect transport integration. This option aligns with the objectives of the STPR for this corridor by improving road standards and overtaking opportunities and providing measures to reduce accident severity to the national average.
Accessibility and Social Inclusion:	*Neutral*	This option would not affect accessibility and social inclusion.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**14. Re-align the bend at Strone Point.**	Name of Planner:	Alasdair Graham
Proposal Description:	Design and construct a new S2 single carriageway offline at Strone Point to eliminate the sharp bend.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £1M-£5M Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83. Improve journey time reliability by reducing the frequency and impact of road closures. Reduce accident rates and severity on the A83. Improve pedestrian and cycling amenities in the settlements on the A83.	Removing the sharp bend constraints at Strone Point would improve the safety and operation of the route at this point. The option should reduce the risk of accidents at the bend and subsequently reduce the frequency of road closures. This option is predicted to reduce the risk of accidents at the sharp bend at Strone Point, which would contribute towards reducing accident rates on the A83 as a whole. This option would not improve pedestrian and cycling amenities in the settlements on the A83.
Rationale for Selection or Rejection of Proposal:	This option performs well against the planning objectives and significant potential safety benefits and economic benefits related to cost savings from a reduction in accidents are identified when appraised against the STAG Criteria. This option has a moderate environmental impact although this impact could be managed. It is therefore recommended that this option is progressed.
Implementability Appraisal	
Technical:	The various elements of this package would be implemented using proven methods and technology. There would be technical difficulties associated with the acquisition of land and the extensive works, including rock cutting and blasting, which are required to bring the bend to a greater safety standard.
Operational:	Implementation of this scheme is expected to require closure of the route for certain elements of construction. The route would continue to be maintained by the trunk road operating company following completion of this scheme.
Financial:	Implementation of this option is estimated to cost between £1M and £5M. Maintenance would be carried out under existing Trunk Road Maintenance Company contracts. One fatal, three serious and two slight injury accidents have been recorded at this location between 2007 and 2011.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time. Careful consideration of traffic management measures, during construction, would be required to minimise the impact on road users.

STAG Criteria		
Criterion	**Assessment Summary**	**Supporting Information**
Environment:	*Moderate Negative Impact*	This option would have a negative impact on the environment due to the new road encroaching on the surrounding countryside. The implementation of the option would include rock cutting/blasting and the construction of a type S2 single carriageway through the natural terrain.
Safety:	*Major Benefit*	Currently the horizontal radius of 90m for the bend at Strone Point is four steps below the desirable minimum standard of 360m for a 70kph design speed. Increasing the horizontal radius to 180m would still be below the desirable minimum standard but would increase the stopping sight distance to 70m and improve safety standards along a currently dangerous section of the route.
Economy:	*Moderate Benefit*	This option is expected to reduce the number of road closures at this location with a resultant benefit to the economy of Mid Argyll and Kintyre. A reduction in road accidents at this location would provide economic benefits.
Integration:	*Neutral*	This option would not affect transport integration. This option aligns with the objectives of the STPR for this corridor by improving road standards and overtaking opportunities and providing measures to reduce accident severity to the national average.
Accessibility and Social Inclusion:	*Neutral*	This option would not affect accessibility and social inclusion.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**15. Re-align road on a new structure over Loch Shira from Strone Point to Inveraray**	Name of Planner:	Alasdair Graham
Proposal Description:	Design and construct a re-aligned road on a bridge structure over Loch Shira to eliminate the dangerous bend at Strone Point.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant >£100M
			Annual revenue support £
			Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83. Improve journey time reliability by reducing the frequency and impact of road closures. Reduce accident rates and severity on the A83. Improve pedestrian and cycling amenities in the settlements on the A83.	This option would improve operating conditions on the A83 by eliminating the sharp bend at Strone Point. It would also divert traffic away from the constraints at the bridge over the River Aray. This option would improve journey time reliability by reducing the frequency and impact of road closures, as the likelihood of an accident occurring on the new route is expected to be less than on the existing A83 trunk road. The existing route could also be maintained to provide access to local areas and for use as a diversion route. It is predicted that the option would reduce accident rates and severity on this section of the A83 as the new route would be designed to a higher standard than the existing route at Strone Point. It has been considered probable that the existing sharp bend at Strone Point have been contributory factors to several traffic accidents which have occurred in recent years. The option would not improve pedestrian and cycling amenities in the settlements on the A83.
Rationale for Selection or Rejection of Proposal:	This option performs well against the planning objectives and the safety STAG Criteria however, significant impacts are recorded against the environment STAG Criteria and this option would also have a significant cost of delivery. Similar benefits can be achieved from alternative schemes that have a significantly reduced environmental impact and cost therefore, it is recommended that this option is not progressed.
Implementability Appraisal	
Technical:	From a technical standpoint it is likely that this option would be demanding to implement. The option would require a structure to span 1200m from Strone Point to a location north of Inveraray. This would incorporate many challenges including structural engineering and geotechnical issues, in addition to health and safety concerns in relation to the design of the bridge. The rural location and topographical features would also make the construction a very demanding task. The cost associated with the option would also increase the risk involved.
Operational:	Operation and maintenance of the new structure would fall under the remit of the Trunk Road operating company.
Financial:	Implementation of this option is estimated to cost between over £100M. Additional operational costs would also be incurred through bridge maintenance and would be incorporated into the ongoing maintenance budgets for the route. One fatal, three serious and two slight injury accidents have been recorded at this location between 2007 and 2011.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time. Careful consideration of traffic management measures, during construction, would be required to minimise the impact on road users.

STAG Criteria		
Criterion	**Assessment Summary**	**Supporting Information**
Environment:	*Major Negative Impact*	This option may contribute towards reducing emissions of CO_2 and other pollutants due to vehicles travelling shorter distances. However the construction required to implement the option would be significant and noticeably impact the landscape.
Safety:	*Major Benefit*	It is predicted that the option would enhance road safety between Strone Point and Inveraray as the current sharp bends at Strone Point are extremely hazardous.
Economy:	*Moderate Negative Impact*	This option would reduce journey times as it would provide a more direct route between Strone Point and Inveraray as well as reduce the probability of disruption due to accidents. Economic benefits would be achieved due to the removal of the bend at Strone Point and a subsequent reduction in accidents. The significant cost of this option would however outweigh the benefits achieved.
Integration:	*Neutral*	This option would not affect transport integration.. This option aligns with the objectives of the STPR for this corridor by improving road standards and overtaking opportunities and providing measures to reduce accident severity to the national average.
Accessibility and Social Inclusion:	*Minor Benefit*	This option would improve accessibility between Strone Point and Inveraray. This option would not affect social inclusion.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**16. Provide footbridge across River Aray.**	Name of Planner:	Alasdair Graham
Proposal Description:	Provide a pedestrian footbridge across the River Aray to the north of Inveraray.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £50K-£100K
			Annual revenue support £
			Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83. Improve journey time reliability by reducing the frequency and impact of road closures. Reduce accident rates and severity on the A83. Improve pedestrian and cycling amenities in the settlements on the A83.	The implementation of this option would improve operating conditions on the A83, by removing pedestrians from the River Aray bridge and thus reducing the risk of pedestrian related accidents. The option is not expected to reduce the frequency of road closures on the A83. Although the option would reduce the likelihood of an accident occurring on the Aray Bridge, it would have negligible impact on accident rates on the A83 as there have been no recorded injury accidents on the bridge in the past five years. This option would provide a localised benefit to pedestrians and cyclists across the River Aray.
Rationale for Selection or Rejection of Proposal:	The pedestrian issue at the River Aray is related to tourists using the existing bridge to take photographs of the castle rather than pedestrians using the bridge to cross the river. Although the pedestrian bridge could provide an alternative viewpoint for tourists towards the castle, some tourists may still utilise the existing bridge for this purpose. The option has limited benefits when assessed against the planning objectives and the STAG Criteria and therefore it is recommended that it is not progressed.
Implementability Appraisal	
Technical:	The implementation of this option would be undertaken using proven methods and technology. However the surrounding topography of the land and the River Aray is expected to create difficulties in the implementation of the option. The design of the new bridge would have to provide an adequate viewpoint for tourists whilst minimising costs and environmental impact. There is also a lack of space for construction traffic to carry out the works.
Operational:	There are no factors which are expected to adversely affect the ability to operate the option over its projected life.
Financial:	Implementation of this option is estimated to cost between £50K and £100K. Additional operational costs would also be incurred through bridge maintenance and would be incorporated into the ongoing maintenance budgets for the route.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time. Environmental issues related to this option are likely to attract negative public comments. Careful consideration of traffic management measures, during construction, would be required to minimise the impact on road users.

STAG Criteria		
Criterion	**Assessment Summary**	**Supporting Information**
Environment:	*Minor Negative Impact*	The implementation of the option would involve constructing a bridge on the natural terrain. Therefore the construction and position of the bridge would impact on the existing environment.
Safety:	*Neutral*	The provision of a footbridge as an alternative to pedestrians using the road bridge as a viewpoint would improve safety as drivers currently have inadequate visibility and limited space to safely pass pedestrians on the bridge, however, the pedestrian bridge may not offer as good a vantage point of the castle as is currently offered on the road bridge, therefore the road bridge may still be used for this purpose.
Economy:	*Neutral*	This option would have negligible impact on traffic flows and would subsequently not impact on economic factors.
Integration:	*Neutral*	This option would not affect integration.
Accessibility and Social Inclusion:	*Neutral*	This option would not have a significant effect on pedestrian accessibility as there are no pedestrian facilities either side of the bridge and the main purpose of the bridge would be as a viewpoint for the castle. This option would not affect social inclusion.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**17. Provide a footway on the road bridge over the River Aray.**	Name of Planner:	Alasdair Graham
Proposal Description:	Narrow the road width and provide a footway on the road bridge over the River Aray.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £20K-£50K Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83.	The implementation of this option would slightly improve operating conditions on the A83 as it would provide a specified path for pedestrians to cross the existing bridge. However as this may encourage more people to use the bridge, the risk of a collision with pedestrians may be increased. The available width for road vehicles would also be reduced to below 4m in places. In addition, construction may require closure of the route over the bridge to provide adequate clearance for construction personnel.
Improve journey time reliability by reducing the frequency and impact of road closures.	There have been no recorded closures on the River Aray bridge in the last five years, therefore this option is not expected to reduce the frequency and impact of road closures on the A83.
Reduce accident rates and severity on the A83.	The option would have no impact on accident rates on the A83. Although providing a footpath for pedestrians would theoretically enhance safety the increased number of people who might use the bridge could increase the likelihood of an accident.
Improve pedestrian and cycling amenities in the settlements on the A83.	This option would improve pedestrian amenities in the settlements on the A83 by providing a specified footpath for pedestrians to use the Aray Bridge. At present, there are no footways on either side of the bridge therefore, it is also likely that the path would require to be extended to Inveraray, which would further improve pedestrian amenities in the area.
Rationale for Selection or Rejection of Proposal:	This option has limited benefits when assessed against the planning objectives and the STAG Criteria. In addition, the option could attract additional pedestrians onto the bridge, this increasing the risk of pedestrian vehicle conflicts. It is therefore recommended that this option is not progressed.
Implementability Appraisal	
Technical:	The implementation of this option is predicted to be relatively straightforward as it only requires slight alterations to be made to the existing bridge. However, closure of the bridge would be required to enable adequate clearance for construction staff.
Operational:	No factors are anticipated to adversely affect the operation of the option during its projected life.
Financial:	Implementation of this option is estimated to cost between £20K and £50K.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time. Careful consideration of traffic management measures, during construction and the necessary bridge closure, would be required to minimise the impact on road users.

STAG Criteria		
Criterion	**Assessment Summary**	**Supporting Information**
Environment:	*Neutral*	The implementation of the option would have negligible impact on the environment as the footpath would be constructed on an existing bridge.
Safety:	*Minor Negative Impact*	Although the implementation of a footpath would provide a specified path for pedestrians and subsequently increase safety, it is expected that this in turn would encourage a greater number of people to use the bridge. Therefore the overall safety level would be reduced.
Economy:	*Neutral*	The option would have negligible impact on traffic flows and subsequently not impact on economic factors.
Integration:	*Neutral*	This option would not affect integration.
Accessibility and Social Inclusion:	*Minor Benefit*	The option would have a slight benefit to accessibility and social inclusion as it would allow pedestrians to more easily commute to the viewpoint and other locations along the A83.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**18. Develop a viewpoint for Inveraray Castle.**	Name of Planner:	Alasdair Graham
Proposal Description:	Develop a viewpoint for Inveraray Castle which is connected by a footway from Inveraray.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £20K-£50K Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83. Improve journey time reliability by reducing the frequency and impact of road closures. Reduce accident rates and severity on the A83. Improve pedestrian and cycling amenities in the settlements on the A83.	This option would slightly improve operating conditions on the A83 as fewer pedestrians would use the Aray Bridge as a viewpoint. Subsequently traffic would be able to use the bridge more efficiently. The option is unlikely to impact the frequency and impact of road closures. This option is predicted to have negligible impact on accident rates on the A83, as accidents have not been recorded on the Aray Bridge in recent years. However it may reduce the likelihood of one occurring in the future. There may be issues created by the increased use of the lay-by to the north of the existing bridge. This option would not improve pedestrian amenities in the local vicinity.
Rationale for Selection or Rejection of Proposal:	This option provides limited benefits against the planning objectives and the STAG Criteria and may create additional safety issues with significant additional use of the lay-by facilities to the north of the existing road bridge. It is therefore recommended that this option is not progressed.
Implementability Appraisal	
Technical:	This option would be relatively straightforward to implement, with the exception of land acquisition issues. There appears to be a nearby path which could be utilised as the proposed footway. An existing lay-by could also potentially be expanded and then utilised as a small car park for the purposes of the option. An elevated viewpoint could also be relatively straightforward to implement below the existing bridge to discourage people from using the Aray Bridge to take photographs.
Operational:	No factors are anticipated to adversely affect the operation of the option during their projected life.
Financial:	Implementation of this option is estimated to cost between £20K and £50K. Funding for this option could be sought from various sources including National Government, Tourist bodies, private sources and Local Authority.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time. No specific consultation has taken place with landowners.

STAG Criteria		
Criterion	**Assessment Summary**	**Supporting Information**
Environment:	*Minor Negative Impact*	The implementation of the option would involve the potential expansion of a lay-by, footpath and possible construction of an elevated viewpoint. All of which are expected to have a relatively minor impact on the environment.
Safety:	*Neutral*	Although this option would not prevent people using the Aray Bridge, this option would provide an effective alternative point to view the castle. Consequently the frequency and time spent by pedestrians on the bridge would be reduced and safety levels would be increased. There may be additional safety concerns from increased use of the lay-by to the north of the existing bridge.
Economy:	*Neutral*	This option would have a negligible affect on traffic flows and subsequent economic factors.
Integration:	*Neutral*	This option would not affect integration.
Accessibility and Social Inclusion:	*Neutral*	This option would not affect accessibility and social inclusion.

<table>
<tr><th colspan="4">Proposal Details</th></tr>
<tr><td colspan="3">Name and address of authority or organisation promoting the proposal:
(Also provide name of any subsidiary organisations also involved in promoting the proposal)</td><td>Transport Scotland
Buchanan House
58 Port Dundas Road
Glasgow</td></tr>
<tr><td>Proposal Name:</td><td>19. Improve signage to the A819 Dalmally Road in Inveraray.</td><td>Name of Planner:</td><td>Alasdair Graham</td></tr>
<tr><td rowspan="3">Proposal Description:</td><td rowspan="3">Implement improved signage at the A819 Dalmally Road junction in Inveraray.</td><td rowspan="3">Estimated Total Public Sector Funding Requirement:</td><td>Capital costs/grant
<£5K</td></tr>
<tr><td>Annual revenue support
£</td></tr>
<tr><td>Present Value of Cost to Govt.
£</td></tr>
<tr><td>Funding Sought From:
(if applicable)</td><td>N/A</td><td>Amount of Application:</td><td>£</td></tr>
<tr><th colspan="4">Background Information</th></tr>
<tr><td>Geographic Context:</td><td colspan="3">The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.</td></tr>
<tr><td>Social Context:</td><td colspan="3">78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county’s employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.</td></tr>
<tr><td>Economic Context:</td><td colspan="3">The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.</td></tr>
</table>

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83. Improve journey time reliability by reducing the frequency and impact of road closures. Reduce accident rates and severity on the A83. Improve pedestrian and cycling amenities in the settlements on the A83.	The option would improve operating conditions on the A83 as drivers travelling in the direction of Oban who are unfamiliar with the route would be less likely to miss the turn off. The option is not expected to impact on the frequency and impact of road closures. The option is unlikely to reduce accident rates and severity on the A83. The option would not improve pedestrian and cycling amenities in the settlements on the A83.
Rationale for Selection or Rejection of Proposal:	This option meets the overall strategic planning objective and demonstrates slight safety, economic and environmental benefits in the STAG Criteria. It is also straightforward and low cost to implement. It is therefore recommended that this option is progressed.
Implementability Appraisal	
Technical:	The implementation would be straightforward to execute.
Operational:	No factors are anticipated to adversely affect the operation of the option during its projected life.
Financial:	Implementation of this option is estimated to cost less that £5K.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time.

STAG Criteria		
Criterion	**Assessment Summary**	**Supporting Information**
Environment:	*Minor Benefit*	The option is expected to contribute towards reducing emissions of CO_2 and other pollutants, and promote better air quality within Inveraray, due to the reduction in accidental journeys taken through the town.
Safety:	*Minor Benefit*	The option is expected to slightly improve safety levels by potentially reducing confusion experienced by drivers who miss the turning.
Economy:	*Neutral*	The option is predicted to slightly reduce traffic volumes within Inveraray and improve journey times for those travelling in the area.
Integration:	*Neutral*	This option would not affect integration.
Accessibility and Social Inclusion:	*Neutral*	This option would not affect accessibility and social inclusion.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**20. Provide additional signage and markings at the church in Inveraray.**	Name of Planner:	Alasdair Graham
Proposal Description:	Provide additional signage and markings at the church in Inveraray to increase junction layout awareness. This could take the form of more visible signage and additional no entry signs.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant <£5K Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83. Improve journey time reliability by reducing the frequency and impact of road closures. Reduce accident rates and severity on the A83. Improve pedestrian and cycling amenities in the settlements on the A83.	The provision of improved signage at the church on Main Street, Inveraray would reduce confusion, especially for those unfamiliar with the area. This option would not improve journey time reliability due to a reduction in road closures. There have not been any accidents at this location in the last five years that are attributable to drivers making and incorrect manoeuvre, therefore this option is not expected to improve accident rates and severity. This option would not improve pedestrian and cycling amenities in the settlements on the A83
Rationale for Selection or Rejection of Proposal:	This option meets the overall strategic planning objective and demonstrates safety benefits in the STAG Criteria. It is also straightforward to implement. It is therefore recommended that this option is progressed.
Implementability Appraisal	
Technical:	The task of implementing the additional signage and road markings at the junction is straightforward and can be undertaken using proven methods and technology.
Operational:	No factors are anticipated to adversely affect the operation of the option during their projected life.
Financial:	Implementation of this option is estimated to cost less that £5K.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time. Careful consideration of traffic management measures, during construction, would be required to minimise the impact on road users.

STAG Criteria		
Criterion	**Assessment Summary**	**Supporting Information**
Environment:	*Neutral*	The option is predicted to have negligible effect on the environment.
Safety:	*Minor Benefit*	The improved signage and markings are expected to increase safety by reducing the probability of people failing to follow the intended road layout.
Economy:	*Neutral*	The option would have negligible effect on traffic flows and subsequent economic factors.
Integration:	*Neutral*	This option would not affect integration.
Accessibility and Social Inclusion:	*Neutral*	This option would not affect accessibility and social inclusion.

<table>
<tr><th colspan="4">Proposal Details</th></tr>
<tr><td colspan="3">Name and address of authority or organisation promoting the proposal:
(Also provide name of any subsidiary organisations also involved in promoting the proposal)</td><td>Transport Scotland
Buchanan House
58 Port Dundas Road
Glasgow</td></tr>
<tr><td>Proposal Name:</td><td>21. Re-locate bus stop from Furnace Village to A83.</td><td>Name of Planner:</td><td>Alasdair Graham</td></tr>
<tr><td rowspan="3">Proposal Description:</td><td rowspan="3">Re-locate bus stops from Furnace village to the A83 thereby eliminating the need for buses to turn off the A83</td><td>Estimated Total Public Sector Funding Requirement:</td><td>Capital costs/grant
£20K-£50K</td></tr>
<tr><td rowspan="2"></td><td>Annual revenue support
£</td></tr>
<tr><td>Present Value of Cost to Govt.
£</td></tr>
<tr><td>Funding Sought From:
(if applicable)</td><td>N/A</td><td>Amount of Application:</td><td>£</td></tr>
<tr><th colspan="4">Background Information</th></tr>
<tr><td>Geographic Context:</td><td colspan="3">The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.</td></tr>
<tr><td>Social Context:</td><td colspan="3">78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county’s employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.</td></tr>
<tr><td>Economic Context:</td><td colspan="3">The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.</td></tr>
</table>

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83.	This option would eliminate the need for buses to access the village of Furnace from the A83 thus eliminating the visibility issue for this type of vehicle leaving the village.
Improve journey time reliability by reducing the frequency and impact of road closures.	This option would improve journey times of bus services as they would not access the village of Furnace but would have no effect on road closures on the route.
Reduce accident rates and severity on the A83.	There have been no identified accidents at this location in the past five years, therefore the accident rates and severity on the A83 would not improve with this option. This option would reduce the risk of accidents due to the poor visibility for bus services leaving the village however, an increase in pedestrians crossing the A83 at this point to access the bus stop could increase pedestrian safety risks. Traffic flows on this section of the A83 are however low.
Improve pedestrian and cycling amenities in the settlements on the A83.	This option would not improve pedestrian and cycling amenities in the settlements on the A83
Rationale for Selection or Rejection of Proposal:	This option meets some of the planning objectives and provides limited environmental and safety benefits against the STAG Criteria. There are however impacts related to pedestrian safety and accessibility and social inclusion. It is therefore recommended that this option is not progressed.
Implementability Appraisal	
Technical:	The implementation of new bus stops on the A83 would be relatively straightforward. Bus stops already exist on the A83 adjacent to other communities including Lochgair. Discussions would have to be held with the bus companies and local representatives to determine the suitability and optimum locations for the new bus stops. Lay-bys would be required.
Operational:	Operational costs would be incorporated into the ongoing maintenance budgets for the route.
Financial:	Implementation of this option is estimated to cost between £20K and £50K. Bus stop facilities may be provided by HiTrans or the Local Authority.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time. Re-locating the bus stops out of the village of Furnace is unlikely to be popular with local residents.

STAG Criteria		
Criterion	**Assessment Summary**	**Assessment Summary**
Environment:	*Minor Benefit*	The implementation of new bus stops on the A83 would have a small environmental benefit by removing the larger vehicles from the village of Furnace and shortening the overall route length.
Safety:	*Moderate Benefit / Minor Negative Impact*	Visibility for buses exiting at the junction is currently limited due to the angle that the vehicle approaches the junction. This results in a safety risk that would be eliminated with this option, however, an increased pedestrian safety risk would emerge with the requirement for bus passengers to cross the A83. The pedestrian safety risk would however be low as traffic levels on this section of the route are low.
Economy:	*Neutral*	This option is expected to have a negligible affect on economic factors.
Integration:	*Neutral*	This option would not affect integration.
Accessibility and Social Inclusion:	*Minor Negative Impact*	This option would reduce accessibility and social inclusion as buses would no longer enter Furnace.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**22. Re-model the junction at the north of Furnace**	Name of Planner:	Name of principle contact within the authority or organisation promoting the proposal.
Proposal Description:	Re-model the junction at the north of the village to improve visibility for vehicles emerging from the village, especially buses.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £20K-£50K Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83. Improve journey time reliability by reducing the frequency and impact of road closures. Reduce accident rates and severity on the A83. Improve pedestrian and cycling amenities in the settlements on the A83.	This option would improve operating conditions on the A83 by enhancing visibility for buses leaving the village of Furnace onto the A83 at the northern access junction. This option is unlikely to have any effect on journey time reliability as a result of reducing road closures on the route. There have not been any recorded injury accidents at this location in the past 5 years and therefore this option is not expected to reduce accident rates and severity on the A83. However, this option is expected to reduce the potential for accidents involving buses occurring at the junction. This option would not improve pedestrian and cycling amenities in the settlements on the A83.
Rationale for Selection or Rejection of Proposal:	This option performs well against the overall objective and demonstrates moderate benefits in the safety STAG Criteria. It is therefore recommended that this option is progressed. As this option is located outwith the Trunk Road Network, it would require to be progressed by Argyll and Bute Council. Minor environmental impacts are anticipated.
Implementability Appraisal	
Technical:	The option should be relatively straightforward to implement as the available land surrounding the entrance to the junction is fairly flat. However there may be problems associated with acquiring the land. As the widening would occur off-line it is predicted that the construction impact would be minimal.
Operational:	Implementation of this option should improve the operational effectiveness of the junction.
Financial:	Implementation of this option is estimated to cost between £20K and £50K. This part of the junction is outwith the Trunk Road network and therefore delivery and funding would require to be negotiated with Argyll and Bute Council, the local road operator.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time. Careful consideration of traffic management measures, during construction, would be required to minimise the impact on road users. Consultation with Argyll and Bute Council would be required as the option would be delivered on their part of the network.

STAG Criteria		
Criterion	**Assessment Summary**	**Supporting Information**
Environment:	*Minor Impact*	The land required to undertake the option is a small section of cultivated grassland. This coupled with the fact that the construction work would be minor suggests that there would be very little impact on the environment.
Safety:	*Minor Benefit*	Visibility for buses exiting at the junction is currently limited due to the angle that the vehicle approaches the junction. This results in a safety risk that would be eliminated with this option.
Economy:	*Neutral*	The option is expected to have a negligible affect on economic factors.
Integration:	*Neutral*	This option would not affect integration.
Accessibility and Social Inclusion:	*Neutral*	This option would not affect accessibility and social inclusion.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**23. Provide flashing speed warning signs at Minard.**	Name of Planner:	Alasdair Graham
Proposal Description:	Provide flashing 40mph warning signs in each direction on the A83 in the 40mph limit at Minard.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £5K-£10K Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83. Improve journey time reliability by reducing the frequency and impact of road closures. Reduce accident rates and severity on the A83. Improve pedestrian and cycling amenities in the settlements on the A83.	This option is expected to improve the operating conditions on the A83 by reducing speeds through Minard. It is unlikely that this option would improve journey time reliability through a reduction in road closures. The option may have a very minor influence on reducing accident rates and severity on the A83. This option would not improve pedestrian and cycling amenities in the settlements on the A83.
Rationale for Selection or Rejection of Proposal:	This option meets the overall strategic planning objective and demonstrates safety benefits in the STAG Criteria. It is also straightforward to implement. It is therefore recommended that this option is progressed.
Implementability Appraisal	
Technical:	The implementation of the option would be straightforward and would be undertaken using proven methods and technology.
Operational:	The flashing 40mph warning signs would require to be maintained as part of the Trunk Road Maintenance Contract.
Financial:	Implementation of this option is estimated to cost between £5K and £10K.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time.

STAG Criteria		
Criterion	**Assessment Summary**	**Supporting Information**
Environment:	*Neutral*	The option would have negligible impact on the environment.
Safety:	*Minor Benefit*	The option is expected to provide a minor influence on improving safety standards.
Economy:	*Neutral*	The option would have no effect on economic factors.
Integration:	*Neutral*	This option would not affect integration.
Accessibility and Social Inclusion:	*Neutral*	This option would not affect accessibility and social inclusion.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**24. Provide flashing 40mph warning signs at Lochgair.**	Name of Planner:	Alasdair Graham
Proposal Description:	Provide flashing 40mph warning signs on the A83 in each direction in the 40mph limit at Lochgair.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £5K-£10K Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83. Improve journey time reliability by reducing the frequency and impact of road closures. Reduce accident rates and severity on the A83. Improve pedestrian and cycling amenities in the settlements on the A83.	This option is expected to improve the operating conditions on the A83 by reducing speeds through Lochgair. It is unlikely that this option would improve journey time reliability through a reduction in road closures. The option may have a very minor influence on reducing accident rates and severity on the A83. This option would not improve pedestrian and cycling amenities in the settlements on the A83.
Rationale for Selection or Rejection of Proposal:	This option meets the overall strategic planning objective and demonstrates safety benefits in the STAG Criteria. It is also straightforward to implement. It is therefore recommended that this option is progressed.
Implementability Appraisal	
Technical:	The implementation of the option would be straightforward and would be undertaken using proven methods and technology.
Operational:	There are no factors which are anticipated to adversely affect the ability to operate the option over its projected life. The measures would be maintained by the trunk road operating company.
Financial:	Implementation of this option is estimated to cost between £5K and £10K.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time.

STAG Criteria		
Criterion	**Assessment Summary**	**Supporting Information**
Environment:	*Neutral*	This option would not affect the environment.
Safety:	*Minor Benefit*	This option is expected to provide a minor influence on improving safety standards.
Economy:	*Neutral*	This option would have no impact on economic factors.
Integration:	*Neutral*	This option would not affect integration.
Accessibility and Social Inclusion:	*Neutral*	This option would not affect accessibility and social inclusion.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**25. Provide flashing 30mph warning signs at Ardrishaig.**	Name of Planner:	Alasdair Graham
Proposal Description:	Provide flashing 30mph warning signs for southbound traffic in the 30mph limit on the north side of Ardrishaig.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £5K-£10K Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83. Improve journey time reliability by reducing the frequency and impact of road closures. Reduce accident rates and severity on the A83. Improve pedestrian and cycling amenities in the settlements on the A83.	This option is expected to improve the operating conditions on the A83 by reducing speeds through Ardrishaig. It is unlikely that this option would improve journey time reliability through a reduction in road closures. The option may have a very minor influence on reducing accident rates and severity on the A83. This option would not improve pedestrian and cycling amenities in the settlements on the A83.
Rationale for Selection or Rejection of Proposal:	This option meets the overall strategic planning objective and demonstrates safety benefits in the STAG Criteria. It is also straightforward to implement. It is therefore recommended that this option is progressed.
Implementability Appraisal	
Technical:	The implementation of the option would be straightforward and would be undertaken using proven methods and technology.
Operational:	There are no factors which are anticipated to adversely affect the ability to operate the option over its projected life. The measures would be maintained by the trunk road operating company.
Financial:	Implementation of this option is estimated to cost between £5K and £10K.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time.

STAG Criteria		
Criterion	**Assessment Summary**	**Supporting Information**
Environment:	*Neutral*	This option would not affect the environment.
Safety:	*Minor Benefit*	This option is expected to provide a minor influence on improving safety standards.
Economy:	*Neutral*	This option would have no impact on economic factors.
Integration:	*Neutral*	This option would not affect integration.
Accessibility and Social Inclusion:	*Neutral*	This option would not affect accessibility and social inclusion.

<table>
<tr><th colspan="4">Proposal Details</th></tr>
<tr><td colspan="3">Name and address of authority or organisation promoting the proposal:
(Also provide name of any subsidiary organisations also involved in promoting the proposal)</td><td>Transport Scotland
Buchanan House
58 Port Dundas Road
Glasgow</td></tr>
<tr><td>Proposal Name:</td><td>26. Widen pinch point at Erines.</td><td>Name of Planner:</td><td>Alasdair Graham</td></tr>
<tr><td rowspan="4">Proposal Description:</td><td rowspan="4">Implement the recommended scheme for widening the pinch point at Erines.

The works proposed by this option include:
• Reconstruct the carriageway where possible without deviating from existing alignment,
• Widen the carriageway to 6m and provide 1m hardstrips on either side
• Widen the verges to 1.5m on both sides and renew or provide new lengths of safety barrier where required.
• Provide adequate road signs and traffic markings to increase driver awareness.
• Install filter drains on one or both sides of the carriageway as required.
• Extend existing culverts where required,
• Works to seaward side embankment / retaining wall.
• Works to landward side rock cutting.</td><td rowspan="4">Estimated Total Public Sector Funding Requirement:</td><td>Capital costs/grant
£2M-£5M</td></tr>
<tr><td>Annual revenue support
£</td></tr>
<tr><td>Present Value of Cost to Govt.
£</td></tr>
<tr><td></td></tr>
<tr><td>Funding Sought From:
(if applicable)</td><td>N/A</td><td>Amount of Application:</td><td>£</td></tr>
</table>

Background Information	
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83.	Widening the pinch point at Erines would reduce delay from conflicting passing movements at this point on the route and reduce the occasions where this section of the route is required to be closed for maintenance or emergency purposes thereby improving operating conditions.
Improve journey time reliability by reducing the frequency and impact of road closures.	This option would improve journey time reliability by reducing the need to close the narrow section at Erines for maintenance or emergency purposes. In addition, delays due to conflicting passing movements would be reduced.
Reduce accident rates and severity on the A83.	This option would improve the standard of the road at Erines, by removing narrow sections of the road where vehicles are unable to pass safely, thereby contributing towards a reduction in accident rates and severity on this part of the route.
Improve pedestrian and cycling amenities in the settlements on the A83.	This option will have no effect on pedestrian and cycling amenities in the settlements on the A83.

Rationale for Selection or Rejection of Proposal:	This option performs well against the planning objectives and the STAG Criteria with the exception of environment. The environmental impacts of the scheme would be managed. Although the scheme would involve removal of some of the rockface to provide space to widen the road, this would utilise tried and tested methods. Traffic management would require to be managed carefully to minimise periods of closure. It is therefore recommended that this option is progressed.
Implementability Appraisal	
Technical:	This option would involve a requirement to cut some of the rockface and provide additional works on the loch side to retain the widened road. It is expected that these elements would use tried and tested methods and therefore the option is expected to be technically feasible.
Operational:	Once the scheme is completed, operational maintenance will be the responsibility of the operating company on the route. During construction, traffic management will be important as any closure will result in a lengthy diversion using the Kilberry Loop Road, which is not suitable for heavy vehicles.
Financial:	Implementation of this option is estimated to cost between £5M and £10M. Maintenance would be carried out under existing Trunk Road Maintenance Company contracts. One slight injury accident has been recorded at this location between 2007 and 2011.
Public:	The pinch point at Erines was clearly identified as a problem at the Stakeholder Workshop held in Inveraray. The recommended scheme for improving the pinch point was part of a previous report to Transport Scotland and has not been made public.

STAG Criteria

Criterion	Assessment Summary	Supporting Information
Environment:	*Moderate Impact*	This option is expected to result in a negligible change in noise levels, air, water and other pollutants during construction. Implementation of this option will require works to cut into the existing rockface in order to widen the carriageway, resulting in a change to the natural environment at the location. On the loch side of the road, additional retaining will be required on parts of the widened road.
Safety:	*Minor Benefit*	This option is expected to improve safety levels on this section of the route by improving the standard of the road width and alignment and reducing potential conflict of larger vehicles.
Economy:	Neutral	This option would enable the free flow of two way traffic along this stretch of the A83. It will reduce journey times, particularly for HGVs on regular journeys. In addition, the wider carriageway should result in a reduction in road closures on this stretch of the A83, thus improving journey time reliability. The cost of implementing this option is however high.

Integration:	*Neutral*	This option would not affect transport integration. Any accident savings would help towards the Government's target of reducing road casualties in Scotland and aligns with the corridor objectives in the STPR.
Accessibility and Social Inclusion:	*Neutral*	This option would not affect accessibility and social inclusion.

<table>
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<tr><td colspan="3">Name and address of authority or organisation promoting the proposal:
(Also provide name of any subsidiary organisations also involved in promoting the proposal)</td><td>Transport Scotland
Buchanan House
58 Port Dundas Road
Glasgow</td></tr>
<tr><td>Proposal Name:</td><td>27. Widen narrow section of Barmore Road.</td><td>Name of Planner:</td><td>Alasdair Graham</td></tr>
<tr><td rowspan="3">Proposal Description:</td><td rowspan="3">Widen narrow section of A83 on Barmore Road, Tarbert to standard width with footway. The works proposed would include the following:
• Widen the carriageway to 7.3m.
• Provide a footway on one side.
• Provide adequate road signs and traffic markings to increase driver awareness.
• Acquisition of land (mostly walls, gardens etc) on one or both sides</td><td rowspan="3">Estimated Total Public Sector Funding Requirement:</td><td>Capital costs/grant
£500K-£1M</td></tr>
<tr><td>Annual revenue support
£</td></tr>
<tr><td>Present Value of Cost to Govt.
£</td></tr>
<tr><td>Funding Sought From:
(if applicable)</td><td>N/A</td><td>Amount of Application:</td><td>£</td></tr>
<tr><th colspan="4">Background Information</th></tr>
<tr><td>Geographic Context:</td><td colspan="3">The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.</td></tr>
<tr><td>Social Context:</td><td colspan="3">78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county’s employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.</td></tr>
<tr><td>Economic Context:</td><td colspan="3">The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.</td></tr>
</table>

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83.	Widening the pinch point at Tarbert would reduce delay from conflicting passing movements at this point on the route and reduce the occasions where this section of the route is required to be closed for maintenance or emergency purposes thereby improving operating conditions.
Improve journey time reliability by reducing the frequency and impact of road closures.	This option would improve journey time reliability by reducing the need to close the narrow section at Tarbert for maintenance or emergency purposes.
Reduce accident rates and severity on the A83.	This option would improve the standard of the road at Tarbert, by removing the narrow section of the road where vehicles are unable to pass safely, thereby contributing towards a reduction in accident rates and severity on this part of the route.
Improve pedestrian and cycling amenities in the settlements on the A83.	This option would improve pedestrian amenities in the settlements on the A83 through the implementation of a new footway as part of the re-designed roadway.
Rationale for Selection or Rejection of Proposal:	Although this option performs well against some of the planning objectives and STAG Criteria, there is a moderate environmental impact and a need to utilise existing privately owned land on either side of the existing roadway resulting the need for CPO. The additional benefits that this option offers over alternatives are limited and therefore it is recommended that this option is not progressed.
Implementability Appraisal	
Technical:	The option would require the acquisition of land, primarily from private land owners, which would likely require compulsory purchase orders. Due to the topography and current use of the area it may be fairly demanding to undertake the option. Extensive earthworks would be required to be bring either sides of the road to the existing level and several obstacles, including a number of garden walls would have to be demolished. In addition, some houses are within such close proximity to the road that the option may be unfeasible in areas.
Operational:	The route would continue to be maintained by the trunk road operating company. Operational costs would be incorporated into the ongoing maintenance budgets for the route.
Financial:	Implementation of this option is estimated to cost between £500K and £1M. Maintenance would be carried out under existing Trunk Road Maintenance Company contracts. One slight injury accident has been recorded at this location between 2007 and 2011.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time. However due to the type of land that is required to be purchased to implement the option it is anticipated that there would be opposition to this particular option. Careful consideration of traffic management measures, during construction, would be required to minimise the impact on road users.

STAG Criteria		
Criterion	**Assessment Summary**	**Supporting Information**
Environment:	*Moderate Negative Impact*	This option would have an adverse impact on the environment through the expansion and subsequent encroachment of the road onto private gardens. Trees would also have to be cut down and the extensive earthworks may notably affect the habitat and surrounding landscape.
Safety:	*Moderate Benefit*	This option would enhance safety for road users and pedestrians by eliminating the narrow pinch point on this section of the route.
Economy:	*Minor Benefit*	This option would marginally reduce journey times for vehicle users as the new road layout would allow two-way flow.
Integration:	*Neutral*	This option would not affect transport integration. Any accident savings will help towards the Government's target of reducing road casualties in Scotland and aligns with the corridor objectives in the STPR.
Accessibility and Social Inclusion:	*Minor Benefit*	The improved pedestrian provision would improve accessibility and social inclusion for pedestrian users of this section of the route.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**28. Provide traffic control at the pinch point on Barmore Road, Tarbert with improved pedestrian provision.**	Name of Planner:	Alasdair Graham
Proposal Description:	This option would involve providing signal control on the existing narrow section of Barmore Road between Garvel Road and the junction with Lady Ileene Road, over a distance of around 280m.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £50K-£100K Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83. Improve journey time reliability by reducing the frequency and impact of road closures. Reduce accident rates and severity on the A83. Improve pedestrian and cycling amenities in the settlements on the A83.	This option would provide measures to control conflicting traffic movements on Barmore Road. In addition, the option would introduce improved pedestrian facilities. Increased delays would however, be experienced by some users at the traffic signals. This option would reduce the conflict between vehicles and therefore reduce the risk of collisions on this section of the route, thereby reducing the potential frequency and impact of road closures. The implementation of signal control as part of this option would eliminate directly conflicting traffic movements on this section of the A83, thus reducing the risk of accidents. This option includes the provision of a continuous 2m wide footway on Barmore Road, through the pinch point giving significantly improved provisions for pedestrians.
Rationale for Selection or Rejection of Proposal:	This option performs well against the planning objectives and some of the STAG Criteria however, the excessive length of the signal controlled section will result in delays to road users. It is therefore recommended that this option is not progressed.
Implementability Appraisal	
Technical:	There are no significant technical issues associated with the implementation of this option.
Operational:	The length of the section that would come under signal control is almost at the top limit of the length of carriageway that would normally be put under temporary traffic control (280m). Delays at the traffic signals are therefore expected.
Financial:	Implementation of this option is estimated to cost between £50K and £100K. Maintenance, which would include an additional cost to maintain the traffic signals, would be carried out under existing Trunk Road Maintenance Company contracts. One slight injury accident has been recorded at this location between 2007 and 2011. This accident has an estimated cost of £23,854. Costs associated with accidents at this location will reduce with any reduction in the level and severity of accidents.
Public:	The problems associated with the pinch point at Barmore Road, Tarbert were raised and discussed at the Stakeholder Workshops. Potential opportunities, including the provision of signals were also discussed at that time.

STAG Criteria		
Criterion	**Assessment Summary**	**Supporting Information**
Environment:	*Neutral*	This option would be developed on land within and adjacent to the existing road boundary. No additional adverse environmental effects are forecast from this option.
Safety:	*Moderate Benefit*	This option would provide control over conflicting vehicle movements through the pinch point on the A83 at Barmore Road Tarbert. This control would reduce the risk of these conflicting vehicles movements resulting in a collision. In addition, the provision of consistent, standard footways along the length of the option area should reduce the risks to pedestrians.
Economy:	*Minor Impact*	The provision of signal control at the pinch point on Barmore Road, Tarbert may result in minor delays to vehicles stopped at the lights however, journey time reliability should increase with a reduced risk of closure due to accidents or requirements for maintenance on this part of the route.
Integration:	*Neutral*	This option would not affect transport integration. Any accident savings would help towards the Government's target of reducing road casualties in Scotland and aligns with the corridor objectives in the STPR.
Accessibility and Social Inclusion:	*Minor Benefit*	The improved pedestrian provision would improve accessibility and social inclusion for pedestrian users of this section of the route.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**29. Partial widening of the pinch point on Barmore Road, Tarbert.**	Name of Planner:	Alasdair Graham
Proposal Description:	This option would involve carrying out partial widening at selected locations between Garvel Road and the junction with Lady Ileene Road complimented by priority control at the remaining pinch point.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £500K-£1M Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£
Background Information			
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.		
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.		
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.		

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83. Improve journey time reliability by reducing the frequency and impact of road closures. Reduce accident rates and severity on the A83. Improve pedestrian and cycling amenities in the settlements on the A83.	This option would improve operating conditions on the A83 by widening part of the pinch point on Barmore Road, Tarbert and providing priority control at the remaining pinch point. This would make the section of the road easier to navigate with specified road markings to demonstrate the intended way to traverse the section. This option may result in a marginal reduction in road closures on this section of the route due to the improved width and formalised control over the remaining single lane section. This option may reduce accidents within this section of the route, which would contribute towards reducing accident rates and severity on the A83. Pedestrian provision would be improved as part of the widened carriageway and across the remaining pinch point.
Rationale for Selection or Rejection of Proposal:	This option performs well against the planning objectives and most of the STAG Criteria, however, there is a negative environmental impact and the need to utilise land outwith the control of the roads authority. These issues would require to be carefully managed. On balance, the impacts can be controlled and therefore it is recommended that this option is progressed.
Implementability Appraisal	
Technical:	This option would require the acquisition of land, primarily from private land owners, which would likely require compulsory purchase orders. Extensive earthworks would be required in places to bring sections to the existing level.
Operational:	The route would continue to be maintained by the trunk road operating company.
Financial:	Implementation of this option is estimated to cost between £500K and £1M. Maintenance would continue to be carried out under existing Trunk Road Maintenance Company contracts. One slight injury accident has been recorded at this location between 2007 and 2011.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users in this area as there has been a degree of public interest in improvements on the A83 for some time. However, due to the type of land that is required to be purchased for the option, it is predicted that there may be opposition to this particular option. Careful consideration of traffic management measures, during construction, would be required to minimise the impact on road users.

STAG Criteria		
Criterion	**Assessment Summary**	**Supporting Information**
Environment:	*Moderate Negative Impact*	This option would have an adverse impact on the environment through the expansion and subsequent encroachment of the road onto private gardens. Trees would also have to be cut down and the extensive earthworks may notably affect the habitat and surrounding landscape.
Safety:	*Minor Benefit*	This option would enhance safety for those travelling on this section of road as vehicle conflicts would be reduced.
Economy:	*Neutral*	The likelihood of road closures for maintenance or emergency purposes may be reduced due to the decreased probability of accidents occurring on the route and a reduction in the sections of route that are less than 6m wide, but this is unlikely to have a noticeable effect on the economy.
Integration:	*Neutral*	This option would not affect transport integration. Any accident savings would help towards the Government's target of reducing road casualties in Scotland and aligns with the corridor objectives in the STPR.
Accessibility and Social Inclusion:	*Minor Benefit*	The improved pedestrian provision would improve accessibility and social inclusion for pedestrian users of this section of the route.

Proposal Details			
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)			Transport Scotland Buchanan House 58 Port Dundas Road Glasgow
Proposal Name:	**30. Provision of a pedestrian crossing island on Barmore Road, Tarbert.**	Name of Planner:	Alasdair Graham
Proposal Description:	Provide pedestrian crossing facilities on Barmore Road, Tarbert in the form of a pedestrian island. This could be supported by a 20mph speed limit through Tarbert.	Estimated Total Public Sector Funding Requirement:	Capital costs/grant £20K-£50K Annual revenue support £ Present Value of Cost to Govt. £
Funding Sought From: (if applicable)	N/A	Amount of Application:	£

Background Information	
Geographic Context:	The A83 trunk road runs from the A82 at Tarbet on Loch Lomond to the Kennacraig Ferry Terminal on West Loch Tarbert. It provides the main route for traffic from central Scotland to Argyll and Bute and therefore provides access to such towns as Inveraray, Lochgilphead, Tarbert and Campbeltown. Although the traffic volumes on the A83 are relatively low, there are no other landward means of transportation along this route and therefore much of Argyll is dependent on the A83. There are several geographical features and constraints which impact on the operation, for example several narrow sections along its length and the prevalent threat of landslides at the Rest and Be Thankful.
Social Context:	78% of the working age population in Argyll and Bute is economically active. Approximately 74% of residents are in employment, while those claiming Job Seeker Allowance is 3.3%, slightly less than the Scottish average. However, due to the seasonal nature of employment in the tourism industry the county's employment statistics fluctuate throughout the year. In 2001 the average number of cars or vans per household in Argyll and Bute was 1.03 which was higher than the Scottish average of 0.93.
Economic Context:	The majority of employment in Argyle and Bute is serviced based. Over 85% of employees work in the service sector, including 37% in the public administration, education and health industries and another 20% in distribution, hotels and restaurants. Other important sector based industries in the region include agriculture, construction, manufacturing and banking. The effective operation of the A83 trunk road is especially important for the rural communities which depend on tourism as a means of employment.

Planning Objectives	
Objective:	Performance against planning objective:
Improve operating conditions on the A83. Improve journey time reliability by reducing the frequency and impact of road closures. Reduce accident rates and severity on the A83. Improve pedestrian and cycling amenities in the settlements on the A83.	This option would provide a designated crossing point with a shorter crossing distance on Barmore Road, Tarbert without reducing the operating conditions for vehicular traffic on the route. This option would not affect journey time reliability. This option would not affect accident rates and severity on the A83. This option would improve conditions for pedestrian crossing Barmore Road in Tarbert.
Rationale for Selection or Rejection of Proposal:	This option performs well against one of the planning objectives and demonstrates safety and accessibility benefits against the STAG Criteria. It is therefore recommended that this option is progressed.
Implementability Appraisal	
Technical:	This option would utilise standard technical methods to construct the pedestrian island and re-aligned kerb line.
Operational:	There are no factors which could adversely affect the ability to operate the option over its projected life without major additional costs. The design should incorporate signage that is de-mountable or can accommodate abnormal loads from the Machrahanish wind turbine factory that utilise this route.
Financial:	Implementation of this option is estimated to cost between £20K and £50K. Maintenance would continue to be carried out under existing Trunk Road Maintenance Company contracts.
Public:	Consultation events have taken place with representatives of the local community, transport operators and route operators during which the issues and potential solutions have been discussed. It is considered that the improvements would be welcomed by regular road users and pedestrians in this area as there has been a degree of public interest in improvements on the A83 for some time.

STAG Criteria		
Criterion	**Assessment Summary**	**Supporting Information**
Environment:	*Neutral*	This option would have no effect on the environment.
Safety:	*Moderate Benefit*	This option would improve the safety of pedestrians on Barmore Road, Tarbert.
Economy:	*Neutral*	This option is not expected to have any effect on the local economy.
Integration:	*Neutral*	This option would not affect integration.
Accessibility and Social Inclusion:	*Minor Benefit*	This option should improve accessibility and social inclusion for pedestrians accessing local services in Tarbert.