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Michael McMahon MSP
Convener
Public Petitions Committee

Your ref:
PE1540

Our ref:

By email:
petitions@scottish.parliament.uk

Date:
9 October 2015

Dear Convener

A83 Rest and Be Thankful – Petition PE1540

Following the discussion at the Public Petitions Committee meeting on 7 September, in respect of the PE1540 from Cllr. Douglas Philand on a permanent solution for the A83. The minutes of that meeting identified a number of actions on the Minister for Transport and Islands and Transport Scotland. This pertained to provision of information which is summarised below:

- (a) Works - Provide information of planned 2015/16 landslide mitigation work at the Rest and Be Thankful (RaBT) slope and the local diversion route (LDR);
- (b) Works – Provide information on future proposed RaBT and LDR works after the current reports/studies have been completed (i.e. ongoing review of the landslide netting and the options to improve the LDR (engineering aspects and operations));
- (c) Economic Impacts in the 2013 A83 Study – Provide background to the cost impact figures referred to in that study;
- (d) Economic Impact in 2013 A83 Study – Review/refresh this information and the benefit to cost ratios determined in the study using up to date costs/prices;
- (e) Economic Impact (General) – Provide details of the “Economic Impact Questionnaire” issued to businesses after the July 2015 Taskforce regarding the effect of landslide disruption on their business &
- (f) Economic Impact (General) – Provide feedback from the questionnaire results.

Works - Planned 2015/16 landslide mitigation work at the Rest and Be Thankful (RaBT) slope and the local diversion route (LDR)

In 2015/2016 the Phase 4 temporary barrier, that was constructed as emergency works following the landslide event of 23 October 2014, will be replaced with a permanent debris flow barrier. In respect of the LDR, strengthening of the soil-nailed slope has been completed. BEAR Scotland is examining potential opportunities to shorten the time taken to negotiate the Local Diversion Route (Old Military Road) by constructing alternative access points and/or widening to allow 2-way traffic over certain sections of the route. Costed options will be presented to Transport Scotland in early November.

Works - Future proposed RaBT and LDR works after the current reports/studies have been completed (i.e. ongoing review of the landslide netting and the options to improve the LDR (engineering aspects and operations)):

Work is progressing on this and is scheduled to be completed later in the year. We expect to write to the Committee again in the New Year with this remaining information.

Economic Impacts in the 2013 A83 Study –Background to the cost impact figures referred to in that study

A83 Trunk Road Study – Part A - Rest and Be Thankful – Appendix F - Socio-Economic Impact Assessment - February 2013 is attached in Annex A. .

Economic Impact in 2013 A83 Study – Review/refresh of this information and the benefit to cost ratios determined in the study using up to date costs/prices;

Work is progressing on this and is scheduled to be completed later in the year. We expect to write to the Committee again in the New Year with this remaining information.

Economic Impact (General) –Details of the “Economic Impact Questionnaire” issued to businesses after the July 2015 Taskforce regarding the effect of landslide disruption on their business

TRL Ltd, an internationally renowned transport research body and a consultant of Transport Scotland, has started a research exercise to examine the direct and indirect costs of landslide and flooding events which can then help in the investment decision-making process. Direct costs (clean up, repairs to infrastructure) and consequential impact costs (diversion costs/closures) are relatively easy to source. The next level of indirect consequential costs (including changes in business activity and values) are not readily available, hence the questionnaire being issued. It is appreciated that replies from businesses will be subjective but the information can help in the overall assessment of future investment decision-making, if deemed appropriate. The example questionnaire is attached in Annex B for your information.

Economic Impact (General) –Feedback from the questionnaire results

Work is progressing on this and is scheduled to be completed later in the year. We expect to write to the Committee again in the New Year with this remaining information.

I hope this is helpful.

Yours sincerely

JONNY MORAN
Acting National Network Manager

Appendix F Socio-Economic Impact Assessment

Socio-Economic Impact Assessment of A83 Rest and Be Thankful Road Closures due to Landslides

February 2013



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1 Introduction

1.1 Introduction

- 1.1.1 Optimal Economics was appointed by Jacobs to prepare an economic impact assessment of the effect of road closures on the A83 at the Rest and Be Thankful due to landslides on the parts of the local economy of Argyll and Bute.
- 1.1.2 The analysis considers the effect of road closures and the use of the current pre-planned diversion route. This pre-planned route takes traffic onto the A82 between Tarbet and Tyndrum, the A85 from Tyndrum to Dalmally and the A819 between Dalmally and Inveraray before rejoining the A83. This route adds approximately 25 miles and around 45 minutes to a single journey between Tarbet and Inveraray.

1.2 Road Closures at Rest and Be Thankful

- 1.2.1 To set the context for the study, Table 1.1 provides a summary of the closures at the Rest and Be Thankful since 2007. The Table shows that the road has been closed six times between 1st January 2007 and 31st October 2012. These closures have been due to actual landslip events or where there was a high risk of a potential event. Across all events, the road has been closed for 34 days, which is an average of approximately 5.5¹ days per year.

Table 1.1: Date and Duration of A83 Rest and BeThankful Road Closures due to Landslide Events, 1/1/07 – 31/10/12				
	Date & Time Closed	Date & Time Re-opened	Duration of Closure	Comments
1	28/10/07	13/11/07	17 days	
2	08/09/09 12:30	10/09/09 15:00	2 days 2½ hours	
3	01/12/11 07:00 03/12-13/12 16:00	03/12/11 08:30 04/12-14/12 08:30	2 days 1½ hours 11 x 16½ hours	A83 open from 08:30 to 16:00 only from 03/12/11. This restriction was lifted from 14/12/11
4	22/02/12 13:00	24/02/12 10:30	2 days 22½ hours	
5	22/06/12 20:45	23/06/12 15:00	18¼ hours	Closure due to high risk of landslide
6	01/08/12 16:00	03/08/12 18:00	2 days 2 hours	
Total Duration			34 days	

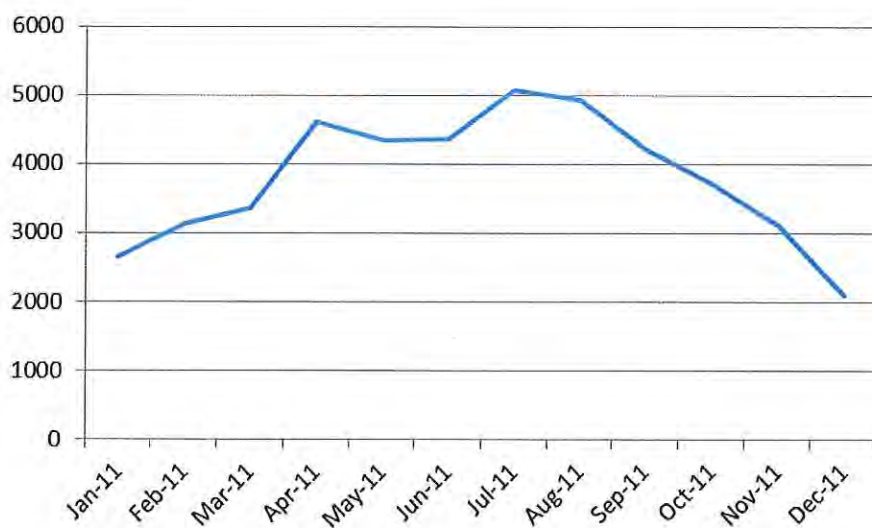
¹ Assume that the 11 overnight closures are counted as 11 half days

- 1.2.2 Between September 2010 and July 2012 the A83 was closed at Rest and Be Thankful six times for non-landslide reasons². The shortest closure was eleven minutes and the longest was 12.5 hours with an average length of closure of just over 4 hours. Hence, the average time that the road is closed due to landslides is considerably longer than for closures due to other factors.

1.3 Traffic Flows at Rest and Be Thankful

- 1.3.1 Traffic volumes are measured as Annual Average Daily Traffic (AADT). This is the number of vehicles using the route per day when averaged over the year, to account for peaks such as summer traffic. On this section³ of the A83 the AADT is approximately 4,000 vehicles.
- 1.3.2 The variation in monthly traffic flows is shown in Figure 1.2. As tourism is a key sector in the study area daily traffic flow is less than 3,000 vehicles in December and January, but rises to over 4,000 between April and September, and peaks at over 5,000 vehicles in July.

Figure 1.2: Monthly Traffic Flows, 2011

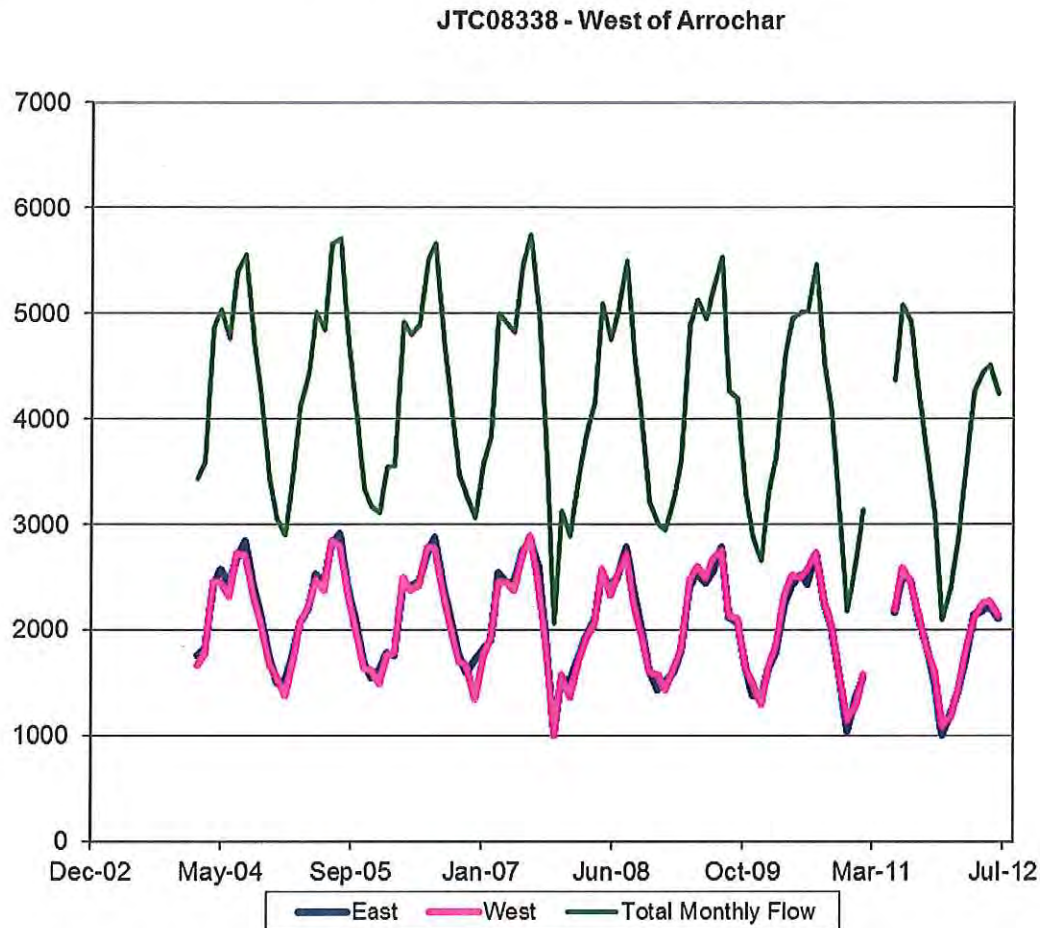


- 1.3.3 Figure 1.3 shows the historic trend in traffic flows on the A83 and it can be seen that these have been steadily reducing over time. The recent reductions are in line with national trends, including effects of the recession, but the longer term pattern could be partly due to the impact of the closures on the route.

² Mainly accidents and overturned vehicles

³ A83 JTC08338 West of Arrochar

Figure 1.3: Average Monthly Flows, 2004 to 2012



1.4 Report Structure

1.4.1 The remainder of the report is organised as follows:

- Section 2 defines the area affected by the Rest and Be Thankful road closures and provides an overview of its economy;
- Section 3 sets out the key issues regarding the road closure and the diversion route from the perspective of businesses and organisations within the study area; and
- Section 4 provides an estimate of the lost income to the study area as a result of road closures and the use of the pre-planned diversion route. An estimate of the employment that would be supported by this income is also provided.

2 Economic Overview

2.1 Introduction

- 2.1.1 The area affected by closures of the A83 at Rest and Be Thankful includes Cowal, Mid Argyll, Kintyre, Islay Jura and Colonsay. This is referred to as the A83 study area and is shown in Figure 2.1⁴.

Figure 2.1: A83 Study Area



- 2.1.2 The remainder of this section provides an overview of the performance of the A83 study area economy relative to Argyll and Bute and Scotland.

⁴ A83 study area defined using CAS wards and includes Ardenslate, Auchamore and Innellan, Campbeltown Central, CRAINISH – Glenarary, East Central Kintyre, East Lochfyne, Holy Loch, Islay North, Jura and Colonsay, Islay South, KIRK and Hunter's Quay, Knapdale, Lochgilphead, Milton, North and West Kintyre and South Kintyre.

2.2 Socio Economic Context

Population

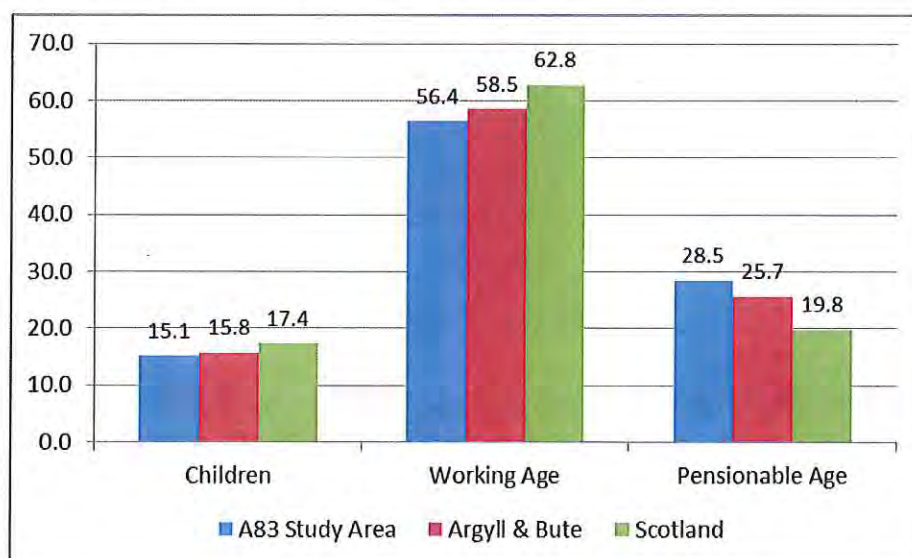
- 2.2.1 The population of the study area was 37,300 in 2011 which accounts for almost 42% of the total population of Argyll and Bute. However, the population of the A83 study area has declined by -2.5% between 2008 and 2011 compared to a decline of 1% across Argyll and Bute as a whole. Over the same period, the population of Scotland has grown by 1.7%. Details are shown in Table 2.1.

Table 2.1: Population Trend, 2008 and 2011				
	2008 (000s)	2011 (000s)	As a % of Argyll & Bute	% Change (‘08 to ‘11)
A83 Study Area	38.3	37.3	41.7	-2.5
Argyll & Bute	90.5	89.6		-1.0
Scotland	5,168.5	5,254.8		1.7

Source: Scottish Neighbourhood Statistics, Mid-year estimates

- 2.2.2 Figure 2.2 shows the distribution of the 2011 population across the main age categories – children, working age and pensionable age. The main point to note is that the proportion of the population of working age in the A83 study area is slightly lower (2 percentage points) than that of Argyll and Bute as a whole, but much lower (6 percentage points) than across Scotland as a whole. This is also seen in the relatively high proportion of the population which is of pensionable age in the A83 study area (28.5%). Hence, the A83 study area is characterised by a low proportion of people of working age and a high proportion of people of pensionable age compared to Argyll and Bute as a whole and Scotland.

Figure 2.2: Population Distribution by Main Age Group, 2011



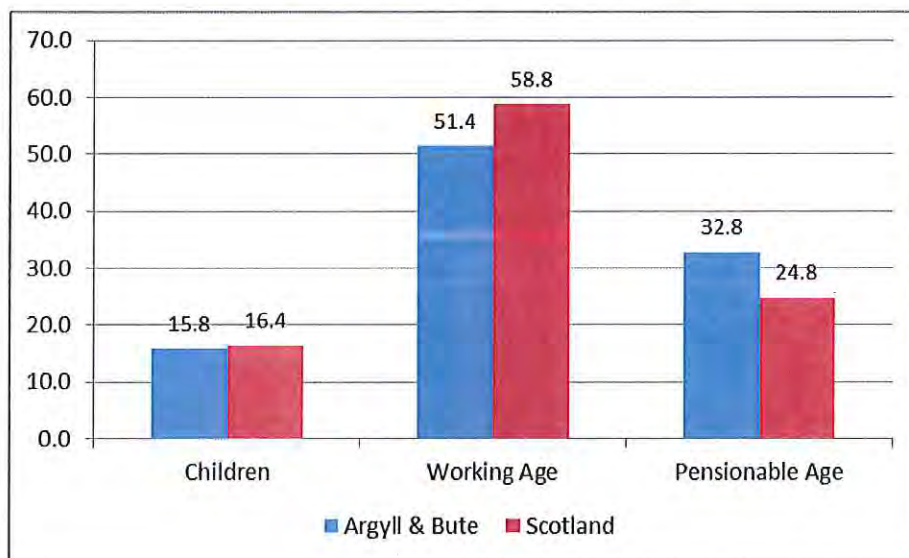
Source: Scottish Neighbourhood Statistics, Mid Year Estimates

- 2.2.3 Between 2010 and 2035, the population of Scotland is forecast to increase by over 10% from 5.22 million to 5.76 million. However, growth is not forecast across all local authorities and Argyll and Bute is one of only ten local authorities forecast to experience population decline over the period to 2035. The forecast decline is over 7%. Details are shown in Table 2.2. Population projections are not available for sub-local authority areas, but is expected that the study area would also lose population over the forecast period.

Table 2.2: Population Forecasts, 2010 and 2035			
	2010 (000s)	2035 (000s)	% Change ('10 to '35)
Argyll & Bute	89.2	82.8	-7.2
Scotland	5,222.1	5,755.5	10.2
Source: 2010 Based Population Projections, General Register for Scotland			

- 2.2.4 The age profile within Argyll and Bute is also forecast to continue towards a more elderly population with the proportion of people of working age declining while the population of pensionable age increases. By 2035, the proportion of the population of working age in Argyll and Bute is forecast to be 51.4% compared to almost 59% in Scotland as a whole while almost one third of the population in Argyll and Bute will be of pensionable age.

Figure 2.3: Population Distribution by Main Age Group, 2035



Source: 2010 Based Population Projections, General Register for Scotland

Gross Value Added

- 2.2.5 Gross value added (GVA) is a measure of income earned from the production of goods and services in the area. GVA generated in Argyll and Bute was £756 million⁵ in 2010 which is a reduction in GVA of almost 14% (in real terms) since 2008. This reflects the effects of the recession on Argyll and Bute. Scottish GVA also fell (in real terms) between 2008 and 2010, but at almost 10%, the reduction was slightly less than in Argyll and Bute. Details are shown in Table 2.3.

Table 2.3: Gross Value Added, 2008 to 2010 (£m, 2010 Prices)			
	2008	2010	% Change
Argyll & Bute	878	756	-13.9
Scotland	106,775	96,253	-9.9
Source: Scottish Annual Business Statistics 2010, Scottish Government, August 2011			

- 2.2.6 GVA per employee is a measure of productivity in an area. In Argyll and Bute, GVA per employee was £33,346 in 2010 which is low in comparison to GVA per employee in Scotland of £59,934. Since 2008, GVA per employee in Argyll and Bute has fallen from 61% of the Scottish figure to 56% in 2010.

Employment

- 2.2.7 Employment in the A83 study area in 2011 was 15,300 which is just under 42% of employment in Argyll and Bute. Employment has remained relatively stable in the A83 study area and Argyll and Bute since 2008 while Scottish employment has declined by 1.8%. Details are shown in Table 2.4.

Table 2.4: Employment Change, 2008 – 2011 (000s)				
	2008	2011	Change (000s)	% Change Per Annum
A83 Study Area	15.3	15.3	0.0	0.0
Argyll & Bute	36.8	36.8	0.0	0.0
Scotland	2,472.8	2,332.7	-130.1	-1.8
Source: Business Register and Employment Survey, © crown copyright				
Note: Data have been rounded but change based on actual data				

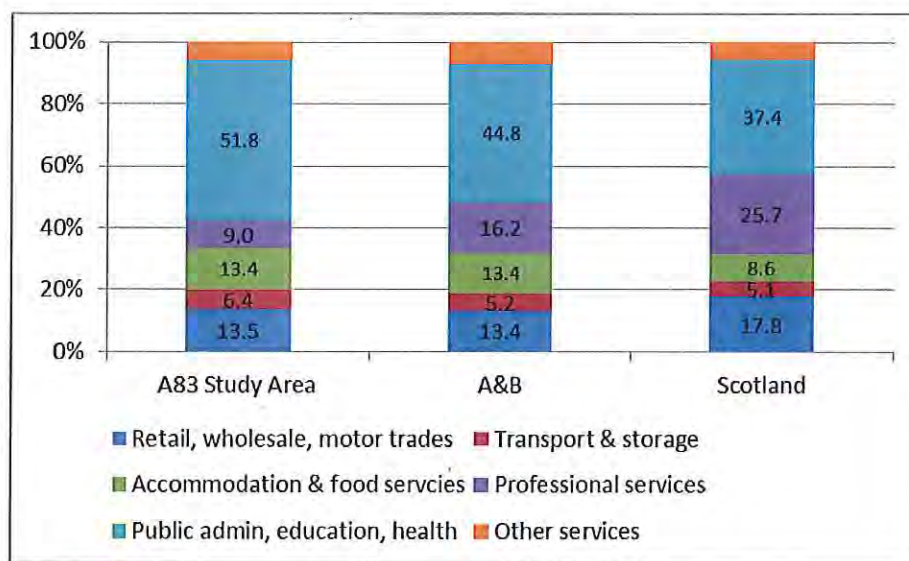
- 2.2.8 Employment in the A83 study area and Scotland is dominated by the service sector. The service sector accounts for over 84% and 82% of employment in the A83 study area and Scotland respectively. However, there are important differences in the structure of service sector employment in the A83 study area relative to both Argyll and Bute and Scotland. The distribution of service sector employment by industry is shown in Figure 2.4.

⁵ Source is Annual Business Survey, but excludes part of agriculture, finance and the public sector

2.2.9 The main points to note from Figure 2.4 are:

- the majority of employment in the A83 study area is in public administration, education and health (almost 52%) compared to only 45% and 37% in Argyll and Bute and Scotland respectively;
- the importance of the tourism industry is reflected in the relatively high proportion of employment in accommodation and food services activities in both the A83 study area and Argyll and Bute; and
- the A83 study area has a very low proportion of employment in professional services.

Figure 2.4: Distribution of Service Sector Employment by Industry, 2011, %



Source: Business Register and Employment Survey, Crown Copyright

2.2.10 Location Quotients (LQs) can be used to highlight concentrations of employment by industry and whether employment in an area is over or under represented in a particular industry relative to the national economy. A LQ of one indicates that the area has the same proportion of employment concentrated in an activity as the average across Scotland as a whole. A LQ of more than one indicates that the area is over represented in that industry while an area is under represented in an industry is indicated by a LQ of less than one.

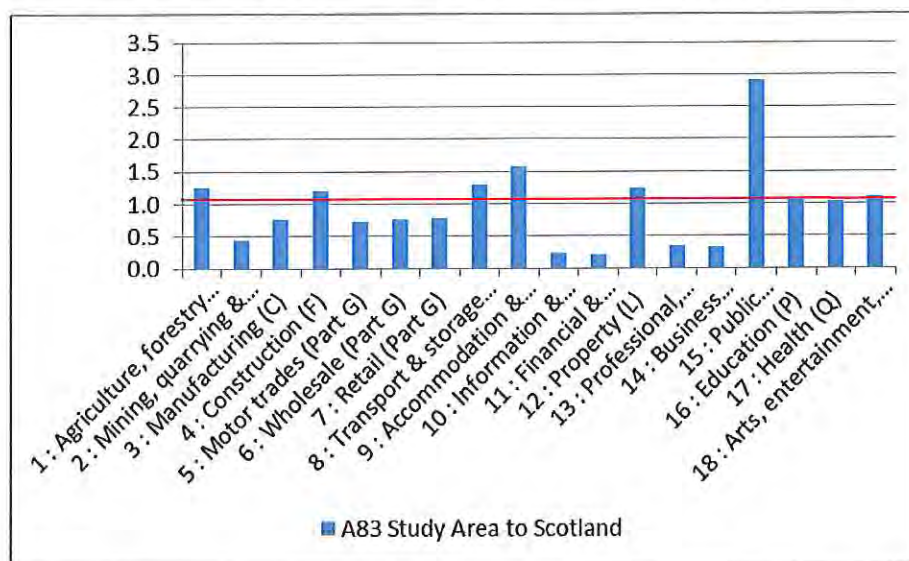
2.2.11 Figure 2.5 shows the LQs for the A83 study area relative to Scotland by industry. The following industries are important to the A83 study area:

- public administration with a LQ of 2.9;
- accommodation and food services with a LQ of 1.6;
- transport and storage with a LQ of 1.3; and
- agriculture, forestry and fishing with a LQ of 1.3.

Key Industries

- 2.2.12 Almost all employment in the agriculture, forestry and fishing sector is in forestry and fishing/aquaculture. Forestry is a particularly important industry in the A83 study area with Argyll and Bute production some 1 million metres³ per annum which is approximately one sixth of Scottish production. Production in Argyll and Bute is likely to rise to 1.5 to 2 million metres³ over the next ten to 20 years as forest blocks mature and are harvested. Most of the trees grown for timber, pulp, board and pallets are processed outside Argyll and Bute reflecting the difficult geography of the area and the recent trend for large scale timber processing plants to be situated close to the main markets.

Figure 2.5: Location Quotients for A83 Study Area relative to Scotland, 2011



Source: Business Register and Employment Survey, Crown Copyright

- 2.2.13 The forestry industry therefore gives rise to a need for the transport of timber out of the area. Although there is relatively little manufacturing, almost all goods landed/produced and consumed in the area have to be brought into/taken out of the area with road being the main mode of transport (see also food and drink below). Hence, the transport sector plays a key role in the economy both in generating jobs and facilitating other types of economic activity. In recent years the key issue facing this sector is increased costs, particularly related to fuel.

- 2.2.14 The accommodation and food services sector accounts for over 11% of employment in the A83 study area compared to 7% of employment in Scotland. This sector forms an important part of the tourism economy and reflects the importance of tourism to the study area. Key destinations include Inveraray and wider Loch Fyne, Kintyre, Portavadie Marina, Drimsynie Resort and the islands of Islay and Jura. Significant investments have been made in the tourist infrastructure in recent times, and road equivalent tariff (RET) fares have been introduced by Transport Scotland on the ferry routes to Islay/Jura and Gigha, in part to encourage tourist visits to these islands. The A83 study area is part of the Argyll, Loch Lomond, Stirling and Forth Valley tourist area which in 2011 had 1.747 million visitors who spent £363 million⁶. Between 2009 and 2011, visitors to this tourist area were down 6.1% and expenditure was down 16% (in real terms) compared to growth in visitors of 4.7% and growth in expenditure of 4% (in real terms) across Scotland as a whole.
- 2.2.15 Data are not available for the A83 study area or Argyll and Bute in terms of visitor numbers and expenditure, but survey evidence and visitor attraction data show the following:
- 44% of visitors⁷ to Argyll and the Isles are visiting as part of a wider visit to Scotland e.g. touring Scotland;
 - 11% of visitors to Argyll and the Isles make no bookings before travelling⁷; and
 - visitor attractions in Argyll and Bute recorded a reduction in visitors of over 7% between January and August 2010 and January and August 2011⁸. This compares to an increase at attractions across Scotland of 2.6%.
- 2.2.16 Hence, the tourism sector in the A83 study area is important, but the performance of the wider tourist area of which the A83 study area is a part has been weak in recent years compared to Scotland as a whole. Tourists have a choice of destinations and competition between destinations is considerable.
- 2.2.17 The food and drink sector has an important presence in the area. In particular, whisky production is significant, with numerous distilleries on Islay and Jura and in Campbeltown. It is heavily reliant on road connections; most, if not all, of this commercial traffic uses the A83 to access the Scottish Central Belt.
- 2.2.18 Also noteworthy are developments in the energy sector. The Wind Towers Ltd plant at Machrihanish currently has around 100 employees and has wider strategic significance in the supply chain for wind turbine towers. It is hoped that the development of offshore wind sites west of Kintyre and Islay will see a significant increase in energy sector activity in the area in future years, including increased activity at Machrihanish.
- 2.2.19 A general point which is relevant across sectors is that part of the rationale behind the designation of the A83 as a trunk road is the link it provides to ferry services, in particular the ferry connection to Islay, which connects, in turn, to Jura. Latest available figures⁹ show that crossings by both commercial vehicles and buses (10,900) and cars (56,000) are at historically high levels

⁶ Tourism in Western Scotland 2009 and 2011, VisitScotland

⁷ Scotland Visitor Survey 2011: Regional Results – Argyll and the Isles, VisitScotland

⁸ Scottish Visitor Attraction Barometer Report, August 2010/11, Moffat Centre

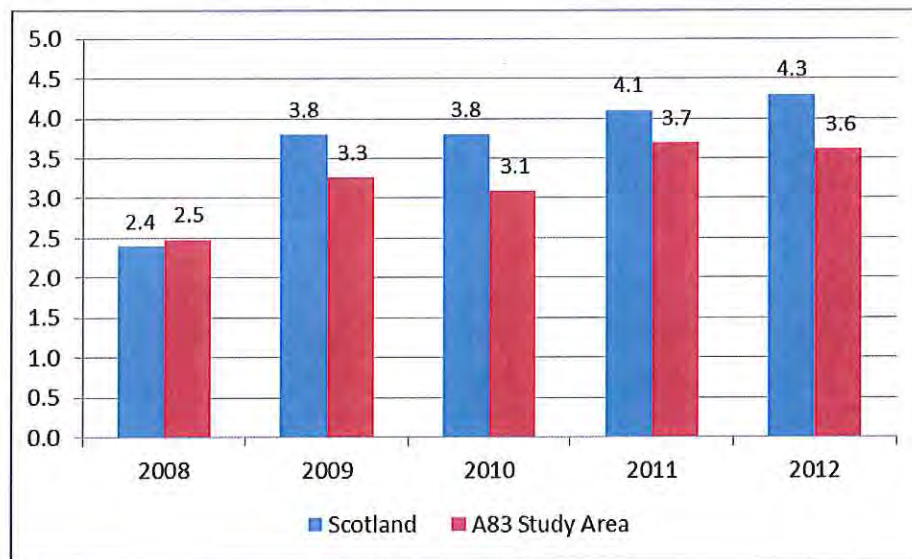
⁹ Source: Scottish Transport Statistics 2012, table 9.15

(<http://www.transportscotland.gov.uk/news/Scottish-Transport-Statistics-2012>)

Unemployment

2.2.20 The unemployment rate in the A83 study area in August 2012 was 3.6% compared to the Scottish rate of 4.3%. Although both the Scottish rate and A83 study area rate have both increased since 2008, the A83 rate has been below the Scottish rate since 2009. Details are shown in Figure 2.6.

Figure 2.6: Trend in Unemployment Rate, 2008 to 2012, %



Source: Claimant Count, Crown Copyright

2.3 Conclusions

2.3.1 The main conclusions to be made about the A83 study area economy are:

- It has an aging and declining population which is forecast to continue over the period to 2035;
- It has low GVA per employee suggesting that the area is not rich in "high value" activities; and
- Although, employment levels are stable, the area is over - dependent on a number of industries (including the public sector, transport and tourism) which are all facing challenging conditions.

3 Economic Issues Related to A83 Closures at Rest and Be Thankful

3.1 Introduction

- 3.1.1 During the study, telephone consultations were held with ten stakeholders in the local economy which covered the main sectors of the economy likely to be affected by road closures on the A83 at Rest and Be Thankful due to landslides and the use of the pre-planned diversion route via Crianlarich and Dalmally. The purpose of the consultations was to understand how the road closures on the A83 at Rest and Be Thankful due to landslides impacted on businesses and organisations. A summary of the main issues identified through the consultation process is provided below by main sector.

3.2 Forestry

- 3.2.1 As discussed in paragraph 2.2.13, Argyll and Bute is one of the key Scottish forestry production areas and the output of the area is forecast to grow over the next 10 to 20 years.
- 3.2.2 As there is no processing of forest products in Argyll and Bute, all timber production must be moved from the area. While some forest products move by sea to Ayrshire and Ireland, the majority of production moves by road to processors in the Central Belt, Ayrshire and Fort William. It is understood that approximately 40 loads per day move via the A83 and Rest and Be Thankful.
- 3.2.3 Depending on origin/destination of timber, most hauliers expect to make two return trips per day from Argyll and Bute. When the A83 at Rest and Be Thankful is closed, the time taken to travel the pre-planned diversion route prevents two return trips being made. This adds to the costs of the business and its ability to make deliveries as scheduled.
- 3.2.4 The effect of "missed" deliveries is felt further down the processing chain with sawmills/other processors often depending on a continuous supply of timber. This "unreliability" of supply could result in a longer term effect on future sales from the A83 area as sawmills/other processors source some timber from other areas to ensure that they have continuity of supply.

3.3 Transport

- 3.3.1 The issue of being able to make two return trips per day from the area also applies to other hauliers delivering some non-timber products with effects on costs and scheduling of deliveries. However, there can be additional pressure on hauliers delivering specific products to certain destinations (e.g. ports, supermarkets etc) where the haulier is given a specific delivery slot and the goods will not be accepted after this time. This again adds to costs and schedule planning.
- 3.3.2 Closure of the A83 at Rest and Be Thankful due to landslides also affects the provision of public transport. Public bus services between Glasgow and Campbeltown are affected by the use of the diversion route and require the operators to implement an alternative timetable. The normal timetable is organised to connect with the maximum number of ferries to/from Kennacraig, but the diversion timetable does not allow this.

- 3.3.3 Closure of the road and the use of the diversion adds to operating costs and the time taken for the journey – an additional 45 minutes. The additional time takes the driver to his legal limit (in driving hours) and the need for a 45 minute break. Rather than add 1.5 hours to the travel time of a single journey, the operator sends a relief driver to meet the service to ensure that the original driver can get his break and the additional time for the journey is kept to a minimum of 45 minutes. This adds to the costs of the operator.
- 3.3.4 It is also understood that on days when the A83 is closed at Rest and Be Thankful, passenger numbers on the public service bus route are reduced. However, it is not known whether these trips are not made at all or they are simply displaced to another time when the road is not closed. It is likely that some trips are "lost" and some are displaced.
- 3.3.5 During the consultations, some hauliers and transport operators provided information on the additional costs associated with using the diversion route which is used in Section 4 to quantify the additional costs associated with Rest and Be Thankful road closures and the use of the pre-planned diversion.
- 3.3.6 Some consultees also expressed concern about the use of the Old Military Road as a new diversion route and the need to operate this route in convoy. The convoy system means that the average length of time taken to travel the diversion route will depend on the time at which the vehicle arrives at the convoy. For vehicles arriving and being able to join the convoy without stopping the average journey time from Tarbet to Inveraray would be approximately 35 minutes which, compared to the current diversion route, would be a saving of 25 miles and approximately 30 minutes. However, should the vehicle be the first on to arrive after the convoy has left, the journey time from Tarbet to Inveraray would be the same¹⁰ as using the current pre-planned diversion route. In this situation, the only advantage of the Old Military Road is the reduction in costs from not having an additional 25 miles. However, the "unpredictable" time take to travel on the route was a major concern.

3.4 Tourism

- 3.4.1 Paragraphs 2.2.15 to 2.2.17 provided an overview of tourism in Argyll and Bute which showed that the area as a whole is not performing well when compared to tourism in Scotland as a whole.
- 3.4.2 The consultations highlighted the concern of businesses in the tourism sector that tourist trips are being lost as closure of the A83 at the Rest and Be Thankful and the use of the pre-planned diversion makes it more difficult to access the region. This will include people who are touring Scotland and intend to visit the area but decide, due to the closure, to visit another part of Scotland. While there may be no effect on tourism numbers in Scotland as a whole, there is an adverse effect on the local A83 area.
- 3.4.3 The A83 is the main route to the ferry port at Kennacraig for the ferries to Islay and Jura. Closure of the A83 at Rest and Be Thankful and the diversion route can cause difficulties for cars en-route to the ferry terminal. The capacity on the route is such that during the summer, if a car fails to make its pre-booked ferry slot, it might not be able to simply get the next ferry. This adds to costs and inconvenience for the visitor and may not encourage return visits to the area.

¹⁰ Information from TranServe. Note there may be a couple of minutes saving if the journey is undertaken in December rather than April

- 3.4.4 Coach tours are planned with specific itineraries, distances and travel times to meet the needs of the driver and passengers. The A83 diversion route can pose problems for this part of the market in terms of meeting the itineraries and if the problem persists, there is a concern that tours will be put off travelling to the A83 area.
- 3.4.5 The cruise market is also an important part of the Scottish tourism sector. Many of the passengers arriving at Scottish ports take organised trips to nearby attractions. Passengers arriving at Greenock often visit Inverary but this is only possible when the A83 at Rest and Be Thankful is open as the additional time taken to travel the diversion route would be prohibitive. Given that there is a time constraint for these passengers on their trips, closure of the A83 and the diversion route would result in these trips visiting another part of Scotland and being lost to the A83 economy.
- 3.4.6 Tourism businesses in the area also expressed concern about the longer term effect of the A83 road closures and the diversion route on perceptions of the area. There is concern that the A83 study area economy will be perceived as being difficult to access or not having reliable access and that tourist trips will be lost as a result. The A83 study area is competing with other areas in Scotland that have better, more reliable access such that if people perceive that the A83 area is difficult to access, there could be a long term adverse effect on visitor numbers.
- 3.4.7 Tourism organisations suggested that their member businesses have experienced a reduction in turnover of between 20% and 36% per day when the A83 is closed at Rest and Be Thankful and the diversion route is in operation. This information is used in Section 4 to quantify the lost expenditure associates with Rest and Be Thankful road closures and the use of the pre-planned diversion.

3.5 Public Sector

- 3.5.1 Argyll and Bute covers a large area and there is often a need for public sector employees to move between offices. When the pre-planned diversion route is operational, the diversion adds to costs and the time taken for public sector employees to move between locations/ attend meetings etc.
- 3.5.2 The provision of emergency services in the A83 study area is also affected by closure of the A83 at Rest and Be Thankful and the use of the pre-planned diversion. Fire cover in the area is provided through a combination of full-time, retained and volunteer stations with the majority of stations being in the volunteer category. This means that there can be a need to provide additional resources from other stations in the event of an incident which incurs additional time and costs if the diversion route has to be used. The additional amount of time taken to get to the incident can have consequences regarding the severity of the incident.
- 3.5.3 Using the diversion route results in logistical problems for the fire and rescue service, but it also reduces the resilience of fire cover in the areas which have sent vehicles/resources onto the diversion route.

3.6 Other Potential Effects

- 3.6.1 Closure of the A83 at Rest and Be Thankful and the diversion route give the impression that the A83 study area is difficult to access and access is not reliable. Given the declining population of the area, there is a need to attract population, but perception problems surrounding access will make this more difficult, particularly given the links between the A83 study area and Glasgow for access to certain services e.g. hospitals.

- 3.6.2 There has also been substantial investment in the parts of the A83 study area in recent years (e.g. the wind turbine manufacturing site at Machrihanish and the Machrihanish Dunes golf and hotel complex) and it is important that further investment is not hampered by perceptions that the A83 is not a guaranteed link into the area.

3.7 Conclusions

- 3.7.1 The closure of the A83 at Rest and Be Thankful due to landslides and the use of the pre-planned diversion route raises a number of issues for businesses and organisations in the A83 study area. For most businesses the pre-planned diversion adds to costs and the time it takes to travel the route. However, for some businesses (e.g. hauliers, particularly in the forestry sector) the additional time taken on the diversion route prevents deliveries being made as scheduled as drivers are unable to make to return trips from the area.
- 3.7.2 Tourism businesses have experienced a reduction in turnover while the road is closed, but there is also a wider concern that people's perceptions that the A83 area is difficult to access or that access is not reliable will have a longer term effect on visitor numbers.
- 3.7.3 Perceptions could also affect the ability of the area to attract inward investment if it is perceived that the A83 is not a guaranteed route into the area.

4 Economic Impact of A83 Closures at Rest and Be Thankful and Use of Pre-Planned Diversion Route

4.1 Introduction

- 4.1.1 This section uses the information collected during the consultations to quantify the additional costs to the transport and tourism sectors of the A83 study area from closure of the A83 at Rest and Be Thankful due to landslides and the use of the diversion route. These estimates should be considered as “minimum” additional costs, as many of the potential impacts identified in Section 3 have not been capable of quantification at this point in time, particularly long term effects on the tourism sector as a result of perceptions.

4.2 Methodology

- 4.2.1 The economic impact assessment has been undertaken for three (low, central and high) scenarios which consider different lengths of road closure. The central scenario should be considered the “best estimate” with the low and high scenarios provided to show the sensitivity of the results to different lengths of road closure.
- 4.2.2 There is some anecdotal evidence of wider impacts, including tourist businesses reporting a loss of business in the days following a closure, but it has not been possible to establish this. Data on traffic flows provide a possible indication of this for the long closure in 2007, i.e. flows did not immediately recover, but since then, closures show a reasonably quick bounce back subsequent to reopening (typically within 6-12 hours).
- 4.2.3 The scenarios are defined as follows:
- Low scenario: this is based on the average annual duration of road closures since 2009 which is 2.5 days;
 - Central scenario: this is based on the average annual duration of road closures since 2007 which is 5.5 days. This calculation assumes that the eleven overnight closures which occurred between 3rd and 13th December 2011 are treated as eleven half day closures; and
 - High scenario: this is based on the number of days the road has been closed over the last 12 months which is 13 days.
- 4.2.4 The basic approach to the assessment was:
- calculate the additional costs that are incurred per day from closure of the road and use of the pre-planned diversion by sector;
 - gross up the daily costs to reflect the central scenario which assumes that on average the road is closed for 5½ days a year;
 - convert the costs into 2010 prices.
 - assume that the additional costs would result in reduced income to the study area and calculate the number of jobs that could be supported by the reduced income using GVA per employee.

- test the sensitivity of the results to the assumptions regarding length of closure through two sensitivity tests – low and high:

low – the average duration of road closures since 2009 which is 2.5 days;

high – the number of days the road has been closed over the last 12 months due to landslides which is 13 days

Transport

- 4.2.5 During the consultations with the transport sector, data were provided on the additional costs incurred per day when the A83 is closed at Rest and Be Thankful due to landslides and the pre-planned diversion is in use. These costs were converted into an additional cost per vehicle and applied to the number of HGV and light goods vehicles travelling on the A83 using the data by vehicle type from the automated traffic counter for the site to the west of Arrochar¹¹. This provides a total additional cost per day for the haulage sector of using the pre-planned diversion route.
- 4.2.6 Information was also received from the operator of the public bus service which operates the Glasgow to Campbeltown service on the additional cost per day of using the diversion route. Combining the additional costs for the haulage and public transport operator yields the total additional cost per day of using the diversion route.
- 4.2.7 For each scenario, this cost per day is grossed up by the number of days for which the road is closed. It is assumed that these costs reduced profits and therefore represent a direct reduction in GVA in the A83 study area. Using GVA per employee in the transport sector, the number of jobs that would be supported by this lost GVA is calculated.

Tourism

- 4.2.8 During the consultations with business and tourism organisations, data were provided on the reduction in turnover of tourism businesses per day when the A83 is closed at Rest and Be Thankful due to landslides and the pre-planned diversion is in use. To estimate the effect on the tourism¹² sector as a whole, the turnover and GVA¹³ of the sector in Argyll and Bute was estimated. The A83 study area's share of turnover and GVA in the sector was estimated on the basis of its share of employment in the sector¹⁴.
- 4.2.9 Having estimated the turnover of the tourism sector in the A83 study area, turnover per day was calculated. The percentage reduction in turnover experienced by the consultees¹⁵ was applied to this figure to generate an estimate of lost turnover per day. GVA in the tourism sector in the A83 study area was 43% of turnover, such that 43% of the reduction in turnover would represent reduced GVA in the study area economy. This provides an estimate of the lost GVA per day in the tourism sector when the A83 is closed at Rest and Be Thankful and the pre-planned diversion route is in operation.
- 4.2.10 For each scenario, this lost GVA per day is grossed up by the number of days for which the road is closed. Using GVA per employee in the tourism sector, the number of jobs that would be supported by this lost GVA is calculated.

¹¹ JTC08338 – five day average, averaged over 2011

¹² The Scottish Government definition of sustainable tourism was used which, in addition to accommodation and food services, includes activities related to museums and other cultural facilities and other recreational/sporting activities.

¹³ Scottish Annual Business Statistics 2010, Scottish Government, August 2011

¹⁴ Based on Business Register and Employment Survey

¹⁵ A reduction in turnover of 30% was assumed

4.3 Economic Impact Results

- 4.3.1 The additional annual cost to the A83 economy from landslides at Rest and Be Thankful is estimated to be £286,300 (in 2010 prices) under the central scenario. If these additional costs are assumed to be a direct loss of income to the local area, the number of jobs which would be supported by this “lost” income is calculated using GVA per employee. Under the central scenario, the lost income would support almost 12 jobs in the A83 study area. Details are shown in Table 4.1.
- 4.3.2 The sensitivity analysis shows that the additional annual costs to the A83 economy from landslides at the Rest and Be Thankful are in the range £130,200 to £676,800. Assuming these costs represent a direct loss of income to the local area, the number of jobs which would be supported by this “lost” income is in the range 5 to 28.
- 4.3.3 GVA and employment impacts are also shown separately for transport and tourism. It can be seen that the GVA impact is practically the same for each but that the employment impact is higher in the more labour-intensive tourism sector.

Table 4.1: Estimates of Lost GVA and Employment in A83 Study Area as a Result of A83 Closure due to Landslide and the Operation of the Pre-Planned Diversion Route		
	GVA (£000s, 2010 prices)	Employment
Overall		
Low	130.2	5.4
Central	286.3	11.9
High	676.8	28.2
Transport		
Low	65.0	1.6
Central	143.0	3.6
High	337.9	8.5
Tourism		
Low	65.2	3.8
Central	143.4	8.4
High	338.9	19.8
Source: Optimal Economics. (Figures may not sum exactly due to rounding.)		

TRL RESEARCH EXERCISE – EXAMPLE QUESTIONNAIRE

ECONOMIC IMPACT QUESTIONNAIRE

Landslide economics: questionnaire for businesses and organisations

The aim of this survey is to understand the impacts of extreme weather events (e.g. flooding and landslides) upon businesses and organisations in the local area. In this instance the impact being reviewed is from the landslide that occurred at the **A83 Rest and be Thankful** on **28 October 2014**. These impacts will vary by type of organisation, size and sector in which they operate. The information collected may be used to inform management and mitigation activities for the road network in the area.

We are conscious that there have been other events at that location and ask that you add any comments on events other than the 28 October 2014 event in your response to Questions Q9i and Q9j.

Q1: Name of respondent:

.....

Q2: Position in organisation:

.....

Q3: Name of business or organisation:

.....

Q4: Contact details (phone or email for use if there are any queries about responses. This data will be used for research purposes only, to allow us to map your organisation in relation to the landslide):

Q4a: Phone number:

.....

Q4b: e-mail:

.....

.....

Q4c: Address of business or organisation:

.....

.....

.....

.....

Q5: Business or organisation sector: (please tick main the sector in which you operate)

Sector	
Agriculture/ dairy	
Banking/ insurance/ financial services	
Car/ vehicle sales, garages and repairs	
Construction and building	
Energy (including wind farms)	
Fisheries	
Forestry	
Food processing	
Haulage and distribution	
Hospitals/ Healthcare and medical services	
Hotels/ Bed & Breakfast	
IT services	
Leisure activities e.g. outward bound centres, visitor attractions	
Oil and gas	
Paper, packaging and printing	
Professional services e.g. legal, accountancy	
Restaurants, cafes and public houses	
Retail – multiple store	
Retail – sole trader	
Transport e.g. bus and taxis	
Other (please state)	

Q6: Number of employees in the business or organisation (please tick one only)

☐ <5
 ☐ 5-20
 ☐ 21-50
 ☐ 51-99
 ☐ ≥100

Q7: Turnover per annum (please tick one only)

☐ < £50k
 ☐ £50k to < £100k
 ☐ £100k to < £250k
☐ £250k to < £500k
 ☐ £500k to <£1 million
 ☐ ≥ £1 million

Q8: Dependence of business/ organisation on road transport for in-coming and outgoing movements (please tick one option for each row)

	Not dependent	Low dependency	Medium dependency	High dependency	Very high dependency
Staff (e.g. commuting)					
Visitors					
In-coming goods					
Out-going goods					

Q9: Landslide experience

Q9a: Was your business or organisation affected by the landslide on 28 October 2014?

- ☐ **Yes** (if yes, please answer questions 9b and 9c)
- ☐ **No** ☐ **Don't know**

Q9b: How close was your business or organisation to the landslide site? (Miles approx.)

.....
.....

Q9c: Please briefly describe the impacts of the landslide, both positive and negative, on the operations of your business or organisation?

.....
.....

Q9d: Did the landslide result in you (or your staff/ customers) taking different routes to/from your business or organisation for work (including commuting) or for in-coming and out-going deliveries?

- ☐ **Yes** ☐ **No** ☐ **Don't know**

If yes, please describe what alternative routes you used during the period following the landslide? (Please give road number or describe route if possible.)

.....
.....

Q9e: What do you estimate was the cost to your business of the landslide in terms of lost revenue and higher costs (both actual and anticipated?)

- ☐ **< £1,000** ☐ **£1,000 to £5,000** ☐ **£5k to £10k** ☐ **£10k to £50k**
- ☐ **£50k to £100k** ☐ **≥ £100k** ☐ **Don't know**

Q9f: Can you provide a breakdown of this figure?

.....
.....
.....

Q9g: Do you think that there have been other effects (financial or otherwise) on your business from this incident?

.....
.....
.....

Q9h: Can you quantify these effects and /or provide a breakdown?

.....
.....
.....

Q9i: Has your business/ organisation been affected by any other landslide events in the last 20 years, besides the one discussed above?

- ☐ **Yes** (if yes, please answer question 9h)
- ☐ **No** ☐ **Don't know**

Q9j: In which month and year did the landslide referred to in Question 9i occur?

Please include any comments that you may have on any other landslide events here.

This image shows a full page of white paper with horizontal dotted lines. The lines are evenly spaced and run across the width of the page, providing a guide for handwriting practice. There are no margins, text, or other markings on the page.

Q10: Please rank the most important transport issue (Please rank the most important as 1 and the second most important as 2 etc)

- ☐ **Reducing congestion**
- ☐ **Investing in rail services**
- ☐ **Investing in road improvements**
- ☐ **Investing in the management and mitigation of landslide risks**

Thank you for your assistance.