HITRANS

Investment in Lifeline Rural Roads
Individual Scheme Appraisals – The Uists
Spinal Route
September 2004

Halcrow Group Limited

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Contents Amendment Record

This report has been issued and amended as follows:

Issue	Revision	Description	Date	Signed

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1 Introduction (The Uists Spinal Route)

1.1 ***Background***

1.1.1 HITRANS, the Highlands and Islands Strategic Transport Partnership, commissioned Halcrow Group Ltd to undertake a study to support the campaign for further investment in lifeline rural roads.

1.1.2 The study was split into two stages. Stage One undertook an extensive consultation process to evaluate the issues surrounding lifeline roads including key problems and constraints facing rural communities. The aim of the second stage was to carry out an economic appraisal of nine designated routes in order to bolster the findings of the initial research such as to make an economic case for sustainable increases in investment in lifeline roads.

1.1.3 This report represents part of the second stage of the project. It presents, in full, the economic assessment carried out on the proposed Uists Spinal Route road improvement scheme. It does not seek to encompass all the wider issues involved within the study and does not present the methodology. As such it should be read in conjunction with the main 'Investment in Lifeline Rural Roads: Stage Two Final Report'[1].

1.2 ***Report Structure***

1.2.1 **Section 2** presents the contextual background to the scheme. It also assesses the existing road conditions and the proposed scheme enhancements;

1.2.2 **Section 3** presents an assessment of the likely impacts of the scheme;

1.2.3 **Section 4** presents the Transport Economic Efficiently (TEE) analysis;

1.2.4 **Section 5** assess the business survey responses for the Salen to Tobermory route;

1.2.5 **Section 6** presents the Economic Activity Locational Impact (EALI) analysis; and

1.2.6 **Section 7** presents the conclusions.

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[1] Halcrow (2004)

2 Background (The Uists Spinal Route)

2.1 *Contextual Background*

2.1.1 The route provides a link between the ferry port of Lochboisdale in the south of the island, which provides services to the Mainland and Barra, and the Lochmaddy Ferry [Skye] and Sound of Harris Ferry [South Harris] in the north of Uist. It is part of the strategic route allowing movement between the Western Isles. Figure 1 presents a map of the route.

2.1.2 Balivanich is the principle centre on the island chain of North Uist, Benbecula, and South Uist. It provides the administrative services as well as a range of commercial facilities. Historically its size was due mainly to the presence of an army base, now used as an MOD firing range. It is also served by Benbecula airport which has regular flights to Stornoway, Barra and Glasgow.

2.1.3 Most services such as the Council, education and hospital, amongst others, are now located within Benbecula, having previously been more evenly distributed across the islands. This has resulted in an increased demand for travel along the spinal route.

2.1.4 Lochmaddy is the main village in North Uist, whilst Daliburgh and Lochboisdale are the main centres in the south island.

2.1.5 Public transport journey times across the Western Isles are high due to the poor condition of the road network. A journey from Lochboisdale to Stornoway takes in the region of 6 hours, whilst Castlebay to Stornoway takes 8 hours.

2.1.6 The impact of unreliable journey times, particularly during peak hours, is magnified for trips to the ferry ports. At present a significant amount of contingency planning is required when interchanging with the ferry services, which inevitably translates into longer journey times.

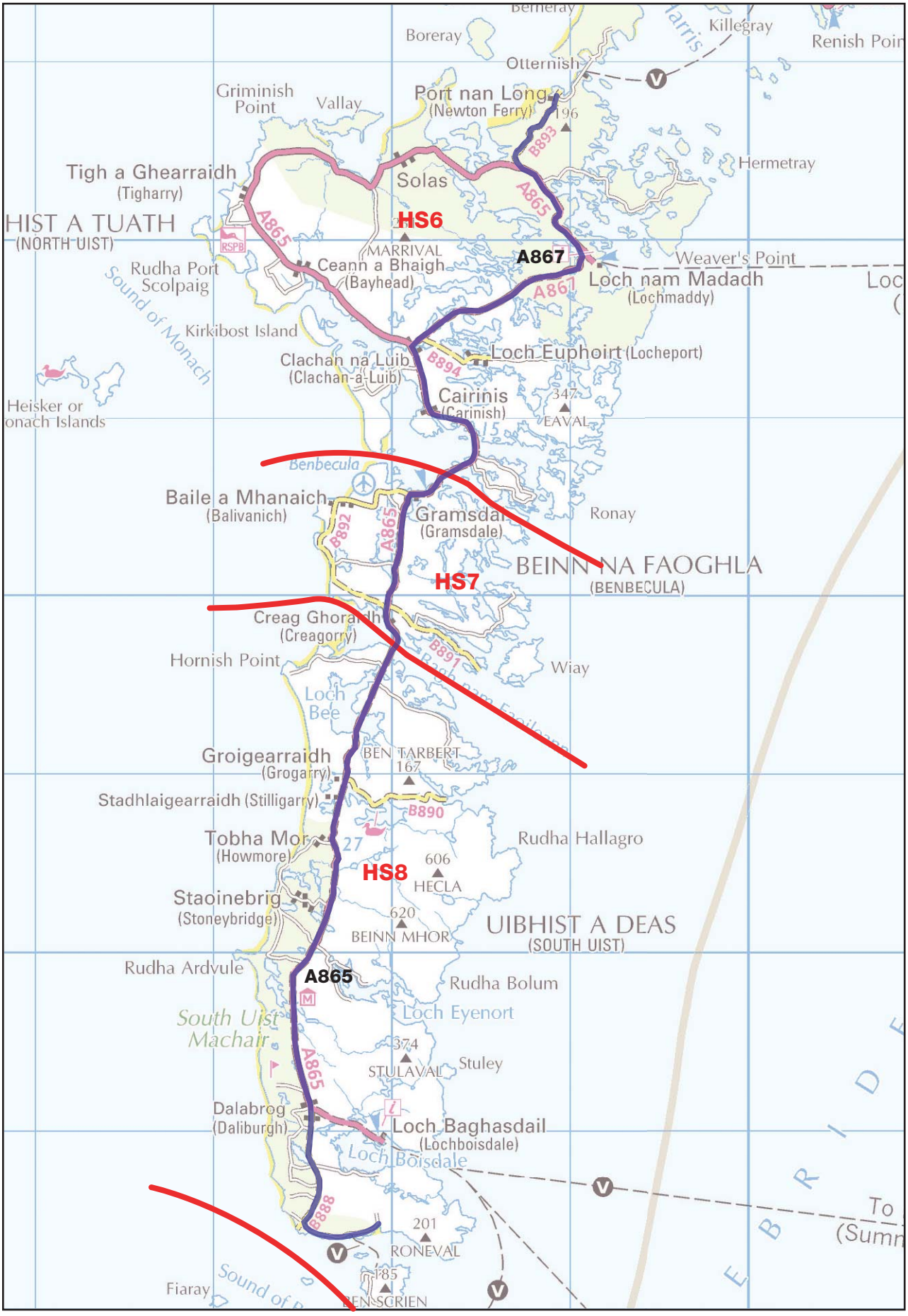

Figure 1 : A865/A867 UIST SPINAL ROUTE

2.2 ***Local Economy***

2.2.1 The Scottish Census Results On-Lone (SCROL) data (2003) presented in Section 4.4 of the main report indicates that Uists has a population of around 4,850 permanent residents. Census data however indicates that the population has been in steady decline since 1991 with an estimated decrease of over 10%.

2.2.2 The level of employment is estimated at just over 2,400 with the majority of jobs in the tertiary sector. General data for the Western Isles indicates that the largest percentage of workers are employed within public administration, education and health. Tourism is also a key employer on the islands.

2.2.3 Unemployment within Uists is consistently higher than the Highlands & Islands as a whole. The unemployment data indicates a 5.3% rate in comparison to 4.3% with the HIE area and just under 4% within Scotland as a whole.

2.2.4 Indices of deprivation data were unavailable for Uists. An alternative approach to assess economically and socially disadvantaged parts of the Highlands & Islands is the Fragile Areas definition. A full description of this can be found in Section 4.4.8 of the main report, but in summary, it uses 12 criteria across three categories: geographic, demographic and economic, to assess whether a region can be considered economically and socially disadvantaged. The Uists are classified as a 'Fragile Area' under this assessment process.

2.2.5 Fish farming and processing is an important sector on the island. Currently most of the produce is shipped off the islands by private vessel avoiding the need to use the spinal route. This is due to, what firms regard as, the poor ferry services to the island and the time taken to transport goods by road and ferry.

2.2.6 There are a number of agricultural firms on the island who heavily utilise the road network. In addition the MOD undertakes 2 or 3 training exercises a year which requires between 30 and 40 trucks to use the local roads.

2.2.7 Tourism is a key industry within the islands with a significant number of visitors each year travelling up the island chains.

2.3 ***Existing Road Conditions***

2.3.1 The Uists spinal route consists of a number of 'A' and 'B' classification of roads. Around 60% of the route is single-track, with passing places every 100 metres. Whilst the route has no width or weight restriction orders the physical condition of

parts of the road limits the type of vehicles that can pass easily along. The condition of the road surface is relatively poor.

2.3.2 The Western Isles Council provided traffic count data across the route. The two-way, 24-hour traffic flows across the year for the various sections are as follows:

I.	Berneray to Crogary	-	206
II.	Crogary to Lochmaddy	-	504
III.	Lochmaddy to Clachan	-	853
IV.	Clachan to Gramsdale	-	1,323
V.	Gramsdale to Creagorry	-	1,379
VI.	Creagorry to Daliburgh	-	1,830
VII.	Daliburgh to Lochboisdale	-	2,301
VIII.	Daliburgh to Eriskay	-	791

2.3.3 It is estimated that within each section a large proportion of these trips will travel along the entire length. As a proxy therefore between 60% and 90% of these trips are have been estimated to benefit from the full extent of the scheme upgrade. This generates a two-way, 24-hour vehicle trip flow as follows:

I.	Berneray to Crogary	-	165	(80%)
II.	Crogary to Lochmaddy	-	454	(90%)
III.	Lochmaddy to Clachan	-	768	(90%)
IV.	Clachan to Gramsdale	-	1,191	(90%)
V.	Gramsdale to Creagorry	-	1,103	(80%)
VI.	Creagorry to Daliburgh	-	1,098	(60%)
VII.	Daliburgh to Lochboisdale	-	2,071	(90%)
VIII.	Daliburgh to Eriskay	-	554	(70%)

2.4 ***Proposed Improvement Scheme***

2.4.1 The proposed scheme is highly significant in scale with an estimated scheme cost in the region of £52.4M across a 61.1km section of the route. This gives an estimated cost per scheme km of £0.86M.

2.4.2 The proposed scheme works involves widening all the single-track sections along the route to provide a double-track road throughout the entire island. This will

remove the requirement for any passing places and will significantly improve the flow of traffic. In addition, the overall condition of the road surface will be enhanced.

3 Assessment of Scheme Impacts (The Uists Spinal Route)

3.1 ***Impact on Journey Times and Reliability***

3.1.1 Data provided by the Western Isles Council indicates that average speeds across the Uists spinal route are currently around 53km/hr. This reflects the fact that a considerable proportion of the route is already double-track, however restrictions exist along the substantial single-track sections.

3.1.2 The Council believes that the upgrade of the 61km section will allow a much smoother progression of traffic along the route. The removal of all single-track sections will help to substantially reduce vehicle conflicts. The Council estimate that average journey times across the spinal route could be reduced by as much as 32 minutes. This would translate to a journey time of 74 minutes against the current 106 minutes. This represents a 30% reduction in average journey time.

3.1.3 The estimated improvement in journey time would translate to an average speed across the route of around 80km/hr. This would represents a significant improvement and suggest a positive return on the capital investment.

3.1.4 Improvements in journey time reliability are also expected as a result of the reduction in traffic conflicts. The stop-start nature of trips along the route would be removed and therefore variations in journey times should be significantly reduced. It is estimated that 'average delay' (as described in Section 3.4.15 of the main report) could fall by as much as 12 minutes per 'route' trip.

3.1.5 Vehicle operating costs are anticipated to fall as a result of higher average speeds along the route and improved road surface conditions. Fuel costs would fall as a result of the higher journey times with less requirement to accelerate and decelerate along single track sections. Non-fuel costs would fall as a result of less wear and tear on vehicles through improved road surfacing. Overall vehicle operating costs (as described in Section 3.4.7 of the main report) have been estimated to fall by around 39.7 pence per existing 'route' trip.

3.2 ***Diversionary Impacts***

3.2.1 The Uists spinal route is not considered to offer an alternative route to road-based trips between any given origin–destination pairs. As such the proposed upgrades to

the route is considered unlikely to have any impact on traffic diverting from other roads to take advantage of the reduced journey times and improved reliability.

3.3 ***Generated Traffic***

3.3.1 Section 3.4 of the main report provides details of the methodology undertaken to assess the likely levels of generated traffic. To summarise, within the TEE analysis a journey time elasticity of -0.2 has been applied i.e. a 10% reduction in journey time will result in a 2% increase in traffic flows through generated trips. This approach has been taken in order to incorporate a measure of generated traffic within the TEE analysis. A wider assessment of the impact of the schemes on economic activity and subsequent traffic generation is undertaken within the EALI analysis.

3.3.2 Applying a –0.2 elasticity to the forecast journey time saving across the route of 30% gives a forecast traffic generation of 471 vehicle trips per day.

3.4 ***Accident Reduction Impacts***

3.4.1 The reported numbers of accidents along the Uists spinal route are significant. Five fatal, 20 serious and 25 slight accidents have been reported within the last five years (see Table 4.6 of the main report).

3.4.2 Historical evidence tends to indicate that a large proportion of 'damage only' accidents are often not reported. Furthermore, data suggests that 'damage only' accidents make up a high proportion of accidents on single-track roads[2]. It is therefore feasible that an even larger number of slight accidents may have occurred during the period than reported.

3.4.3 The level of accidents, reported and unreported, is therefore likely to be significant and hence there is potential for scheme benefits from accident reduction.

3.4.4 The scheme itself should help to reduce the potential for accidents, in particular between on-coming traffic. Removal of the single-track sections of road should reduce the likelihood of vehicle collisions. Generally the improved alignment and re-surfacing should also ensure a much higher quality carriageway providing safety benefits.

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[2] J.C. Tomlinson & A.M. Ross, "Accidents on Single Track Roads" 1988

Table 3.1: Summary of Scheme and Estimated Impacts (The Uists Spinal Route)

Description of Scheme Upgrade	Widening, resurfacing and small-scale structural works Estimated scheme costs = £52.4m Scheme cost per km = £0.86M	
Impact on Journey Times	It is estimated that journey times along the route could improve by an average of 32 minutes Estimated existing JT = 106 min Estimated post-scheme JT = 74 min	
Diversionary Impacts	**Competing routes** None	**Estimated diversion** Zero
Generated Traffic	Assumed journey time elasticity of –0.2 30% reduction in JT = 6% increase in traffic	
Accident Reduction Impact	Significant levels of reported accidents Scheme should significantly improve safety levels	

4 Transport Economic Efficiency Analysis (The Uists Spinal Route)

4.1 ***TEE Analysis***

4.1.1 As described above, the pre and post-scheme average journey time data indicates that significant journey time savings may result from this scheme. The estimated 32-minute journey time saving, along with a reduction in 'average delay' of 12 minutes, translates to an existing user benefit of just over 39.5 pence per vehicle trip plus 460 pence per person trip. By applying the benefits generated along each section of the route to the base volume of vehicle trips along with vehicle occupancy of 1.41 gives an overall central forecast for existing user benefits of £2,263k per annum

4.1.2 Section 3.2 above describes the assessment of potential 'diversionary-benefits' deriving from the scheme. It concluded that there was unlikely to be any diversion to the Uists spinal route after the scheme upgrade.

4.1.3 Section 3.3 above describes the assessment of potential 'generated-trip' benefits deriving from the scheme. The central forecast of 471 trips per day translates into a generated user benefit of £76k per annum.

Table 4.1: TEE Results (The Uists Spinal Route)

Route Section	Base Trip Matrix (vehicle trips/day)	Average Journey Time Savings	Existing User Benefits (£k/yr)	Diversionary Impact (trips/day)	Diversionary User Benefits (£k/yr)	Generated Trips (trips/day)	Generated User Benefits (£k/yr)	Total Users Benefits (£k/yr)
I	165	3.6	46	0	0	12	2	**48**
II	454	2.1	73	0	0	25	3	**76**
III	768	2.4	147	0	0	33	4	**151**
IV	1,191	5.4	508	0	0	84	18	**526**
V	1,103	2.3	203	0	0	66	7	**210**
VI	1,098	7.5	648	0	0	55	17	**665**
VII	2,071	2.2	352	0	0	156	14	**366**
VIII	554	6.6	285	0	0	40	11	**296**
Sum	-	**32.1**	**2,263**	**0**	**0**	**471**	**76**	**2,339**

4.1.4 Overall total user benefits are therefore estimated to be in the region of £2,339k per year.

4.2 ***TEE Sensitivity Testing***

4.2.1 Sensitivity tests have been carried out on the TEE results in order to illustrate the potential variation in scheme benefits. The central forecasts are based on the data inputs as described above.

4.2.2 The low forecasts assume that only half the estimated journey time-savings are actually achieved by the scheme. So rather than journey times along the A848 falling from 106 to 74 minutes the low forecast assumes a journey time of 89 minutes. In addition the base trips/day are assumed to be 25% lower. This impacts upon 'existing-user' benefits, 'diversionary-user' benefits and 'generated-user' benefits. Furthermore, the journey time elasticity applied to estimate generated traffic is assumed to be only –0.1.

4.2.3 The high forecast assumes an additional 20% reduction in journey times is achievable over-and-above that within the central forecast. So the journey time along the Uist Spinal Route is assumed to fall to just under 67 minutes. In addition the base trips/day are assumed to be 10% higher. Furthermore, the journey time elasticity applied to estimate generated traffic is assumed to be –0.3.

Table 4.2: TEE Results – Central, Low and High Forecasts (The Uists Spinal Route)

Central Forecast	Low Forecast	High Forecast
2,339	**890**	**3,110**

4.3 ***Present Value of TEE Benefits***

4.3.1 Table 4.3 indicates the present value of the TEE benefits over 30 years for the central, low and high forecasts.

Table 4.3: Present Value of Benefits (£M) - Central, Low, High Forecasts (The Uists Spinal Route)

Central Forecast	Low Forecast	High Forecast
48.7	**18.6**	**64.7**

* assumes 3.5% discount rate

5 Business Survey (The Uists Spinal Route)

5.1 ***Business Survey Data***

5.1.1 Section 5 of the main report describes the objective and methodology for undertaking the business survey. It further discusses the sample obtained and its representation of local businesses. In addition, it presents the results at an aggregate level, across all schemes, in order to evaluate general trends.

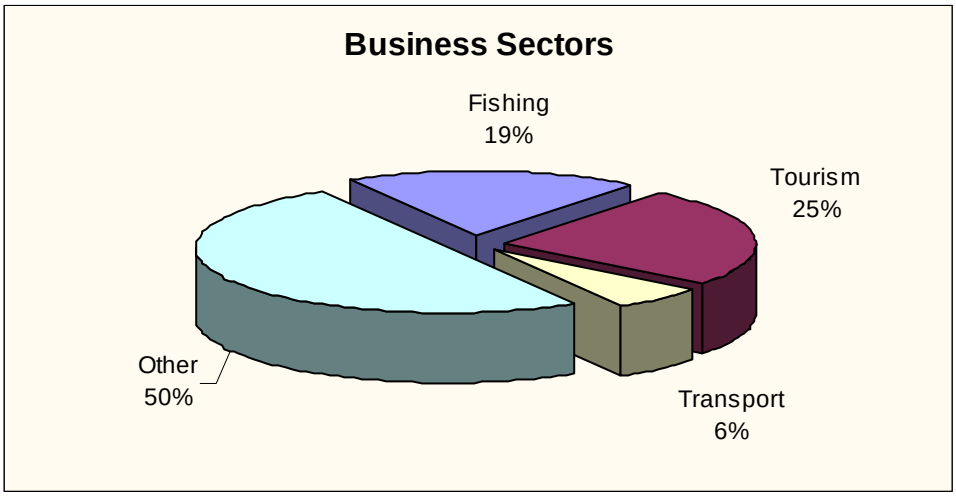
5.1.2 The section below presents the results for businesses that will be directly affected by the proposed Uists Spinal Route scheme. Whilst the overall sample size achieved (16 firms) does not allow for statistically significant analysis to be undertaken, it does provide an insight into how the scheme may affect local firms.

5.1.3 The results have been used to inform the analysis in Section 6 evaluating the economic activity and locational impacts of the scheme.

Type of Business (The Uists Spinal Route)

5.1.4 The majority of businesses surveyed along the Uists spinal route reported to be operating in 'other' sectors (50%), with a further 25% in tourism and 20% in fishing. None of the respondents were in the 'forestry' or 'agriculture' sectors.

5.1.5 The sample can be considered roughly in line with the actual sectoral breakdown within North and South Uist, with good representation from the tourism and fishing sectors. The responses by sector are presented graphically below.

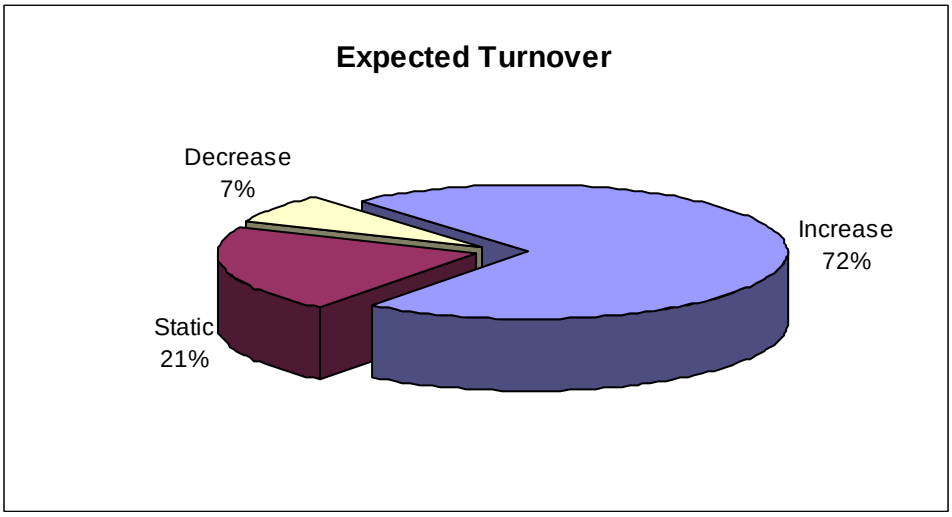


Turnover (The Uists Spinal Route)

5.1.6 The table below summarises the annual turnover of firms surveyed in each of the business sectors. The majority of respondents quoted a turnover of between £500k and £1m a year.

Turnover	Sector				
	Fishing	**Tourism**	**Transport**	**Other**	**Total**
0 - 50k	0	1	0	1	**2**
50k - 250k	0	0	1	1	**2**
250k - 500k	0	0	0	1	**1**
500k - 1m	2	2	0	1	**5**
1 - 5m	0	0	0	2	**2**
> 5m	0	0	0	1	**1**
No Response	1	1	0	1	**3**
Total	**3**	**4**	**1**	**8**	**16**

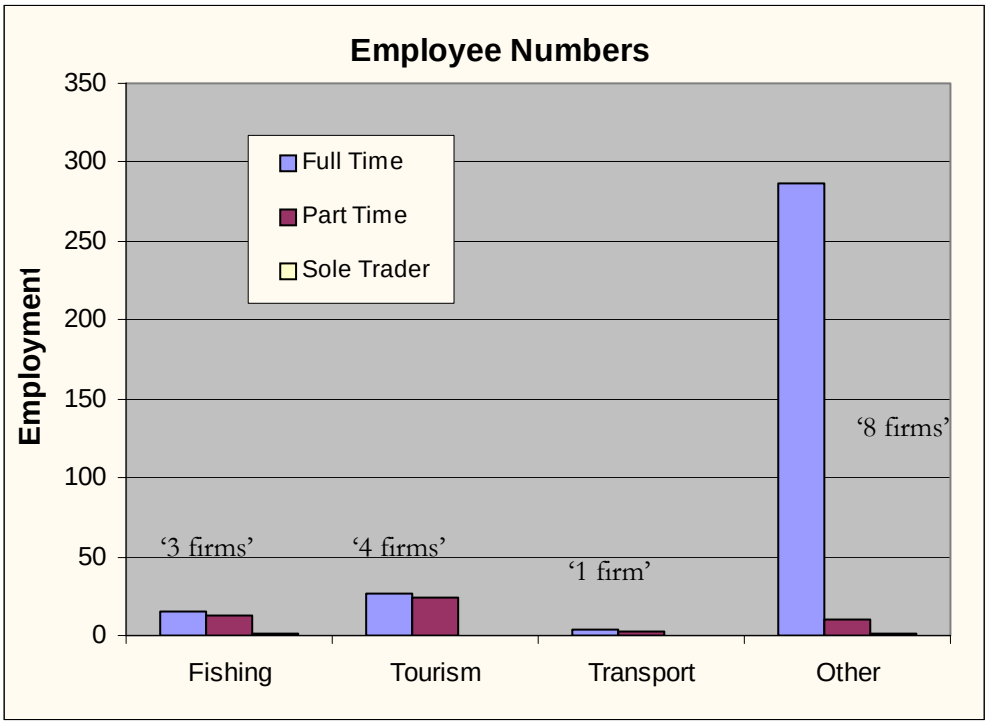
5.1.7 The following diagram indicates expectations amongst firms along the Uists Spinal Route regarding future turnover. The results suggest that around 72% of businesses expect to witness an increase in turnover over the next three years, with only a small proportion predicting a decrease.



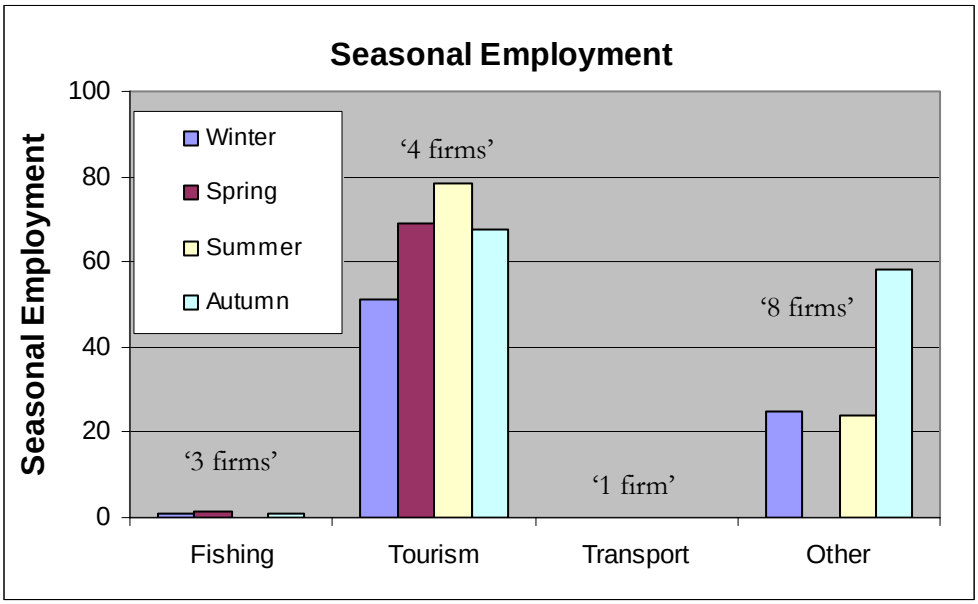
Employment (The Uists Spinal Route)

5.1.8 In line with the data on turnover the majority of the businesses who responded employ a relatively small work force. Around 63% of firms employ less than ten staff; one firm reported they employ around 55 staff; one had 180 employees.

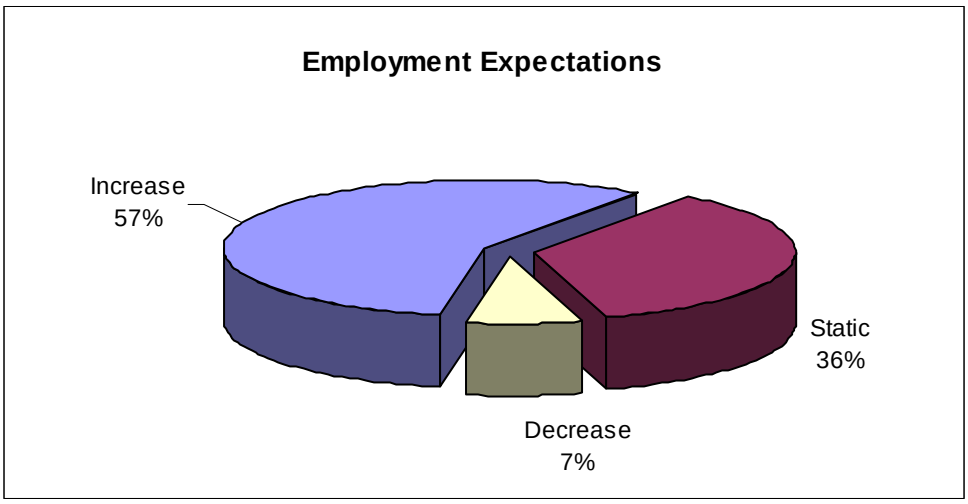
5.1.9 In total around 332 full-time and 49 part-time employees are represented. The histogram below presents the employment data by sector including the number of sole traders. The majority of full time employment was within the 'other' sector (287), followed by the 'tourism' sector (26).



5.1.10 The split of seasonal employment across sectors is shown in the following diagram. The results highlight the seasonal variations inherent within the 'tourism' sector.



5.1.11 The employment expectations of firms over the next three years are highlighted in the diagram below. Most firms (57%) expect employment levels to increase, while 36% expect employment to remain constant. The remaining 7% of respondents expect to see a decrease in staff numbers.

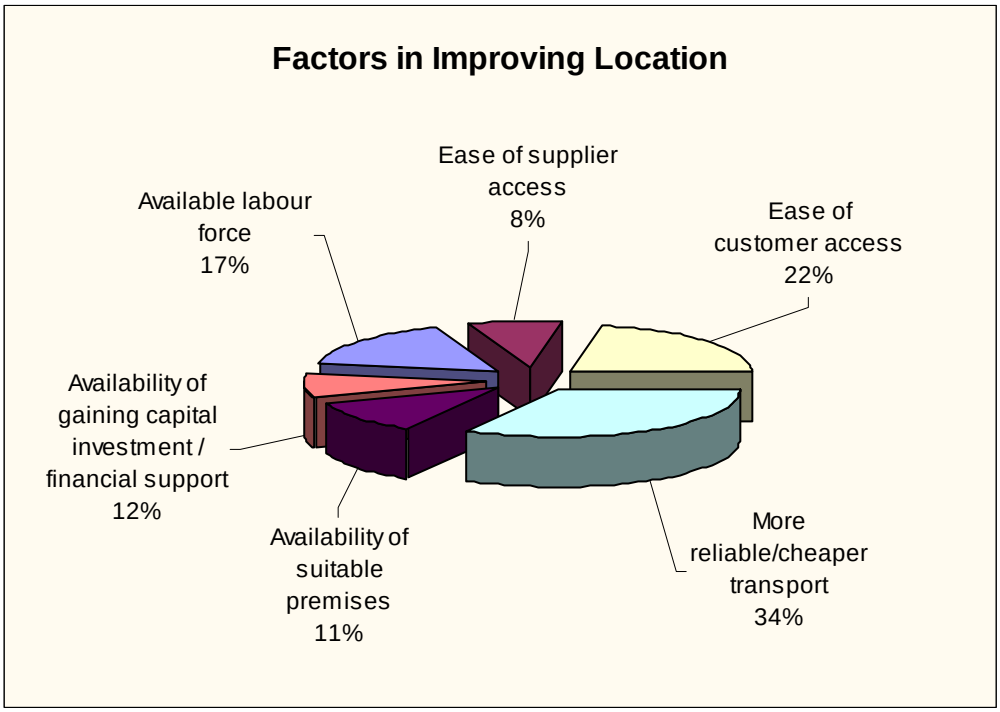


5.1.12 In comparison to expectations of turnover, firms generally predict a lower rate of growth in employment inputs than output. This indicates that firms expect to be able to obtain better utilisation of their current input capital.

Geographical Flexibility (The Uists Spinal Route)

5.1.13 Businesses were asked about the feasibility of relocating as a measure of the geographically flexible of their operation. The majority (63%) of companies reported the probability of relocating to be low. This indicates that most firms along the Uists spinal route are limited in their geographical flexibility.

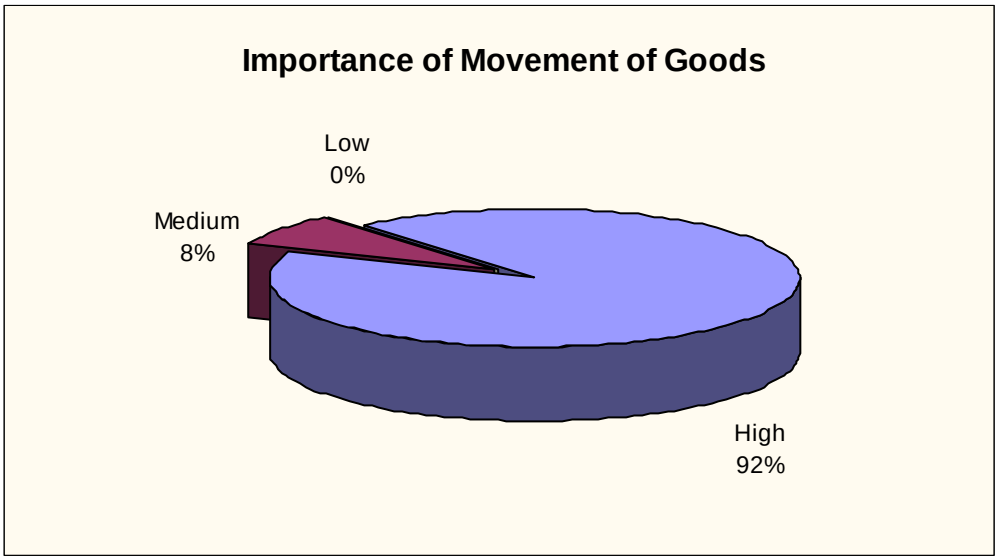
5.1.14 The diagram below highlights the relative importance of key factors in improving the location as a place to do business. Reliable/cheap transport is considered to be the most important factor, followed by ease of customer access.



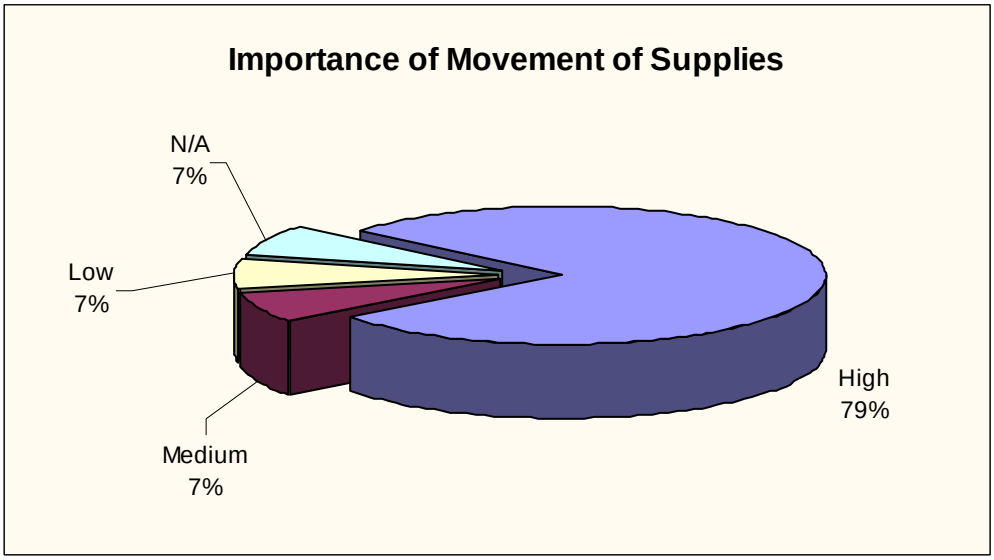
Transport (The Uists Spinal Route)

5.1.15 In order to gauge the significance of transportation within a firms operation, respondents were asked to rate the importance of the movement of goods and supplies to their business.

5.1.16 The diagram below indicates the importance of the movement of goods. Some 92% of businesses responded that the movement of goods was of high importance. Furthermore, all of the firms who transport goods were unable to identify an alternative route for the transport of their finished products.



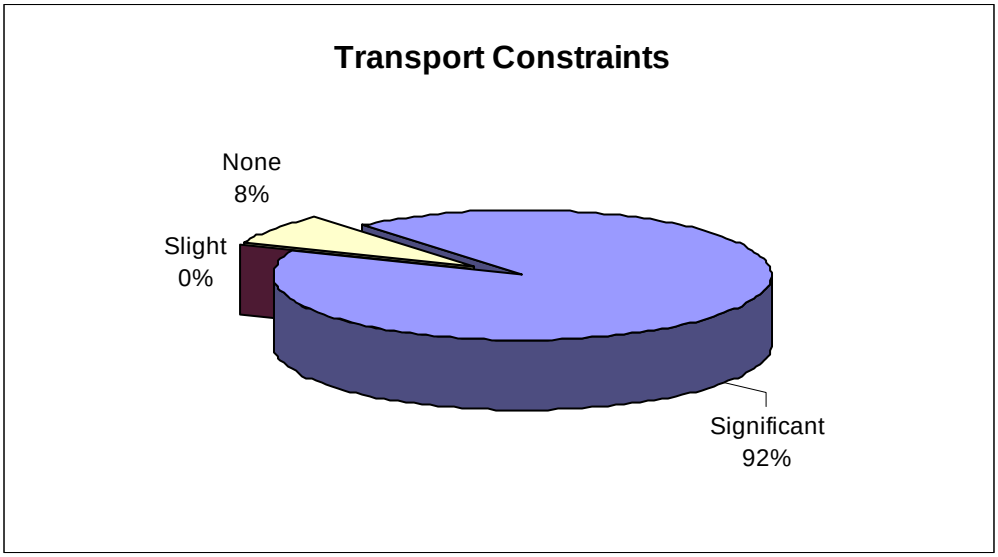
5.1.17 The diagram below indicates the importance of the movement of supplies. Some 79% of businesses felt that the movement of supplies was of high importance and all of them responded that there was no alternative route for them to import supplies.



5.1.18 Businesses were asked to estimate the percentage of their total costs that are associated with the transportation of goods and/or supplies. Eight respondents

provided this data with seven of them indicating transport costs were between 0% and 20% of total costs and one estimating them to be between 20% and 40% of total costs.

5.1.19 Respondents were asked whether their business currently faced any transport constraints. Around 92% of respondents stated that this was the case, with all of them considering these constraints to be significant.

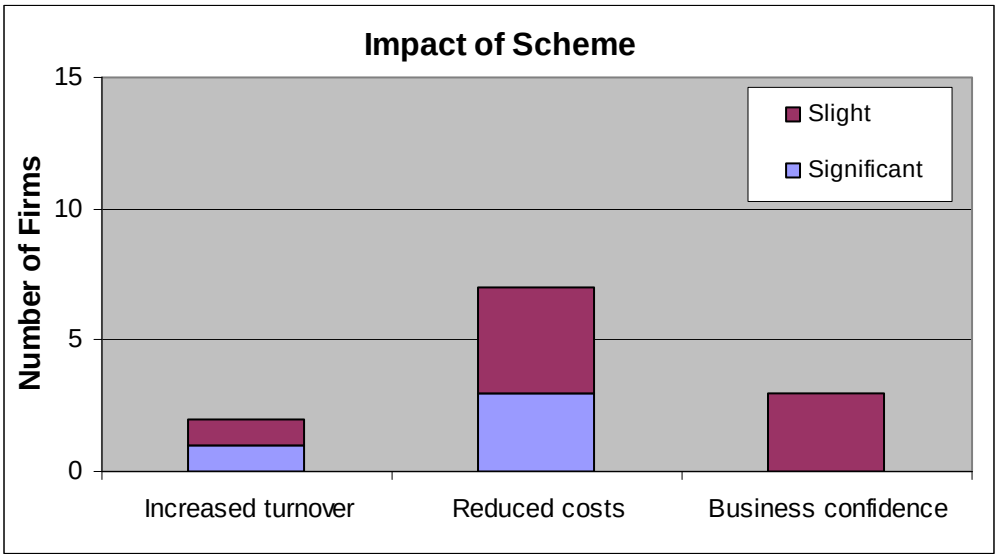


Scheme Impact (The Uists Spinal Route)

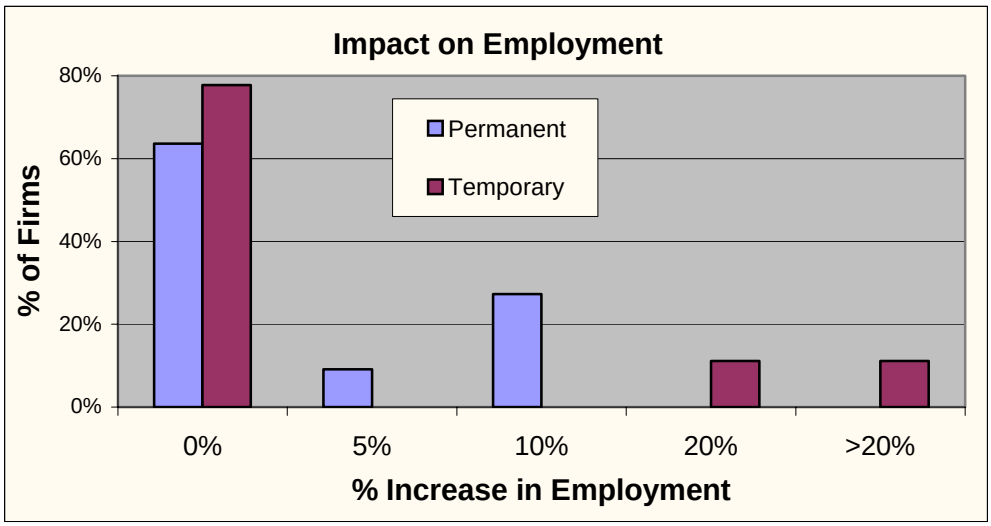
5.1.20 All firms were given a broad description of the type of scheme upgrade proposed along the Uists Spinal Route. Respondents were then asked to consider the likely impact of a road improvement upgrade upon their business.

5.1.21 The figure below presents firms perceptions of the likely impact of a road improvement on business confidence, turnover and costs. A total of seven firms (44%) expected road improvements to decrease costs, two firms (13%) expected road improvements to increase turnover and three firms (19%) expected a significant boost in business confidence as a result of road improvements.

5.1.22 Seven companies did not expect any impact to their business as a result of a road improvement scheme.



5.1.23 Firms were further asked to quantify impacts of a road improvement upon the level of employment. Some 64% of firms considered that an improvement would have little or no impact upon the number of permanent staff that they employed. However, 36% of respondents perceived a road improvement would increase their permanent employment levels by between 5% and 10%. The following diagram summarises the employment effects of the route improvements.



Additional Comments (The Uists Spinal Route)

5.1.24 Respondents from Uists felt that in addition to road conditions, one of the major constraints on their businesses was, what they perceived to be, an inadequate ferry service. It was noted that fares are excessive and timetabling infrequent making transportation of goods and people problematic.

5.1.25 Similarly some businesses felt that the cost and frequency of air transport also had a negative impact on business, limiting access to markets. It was felt that these factors, combined with the poor quality of the roads, make it difficult to send or receive deliveries within a designated timescale.

6 Economic Activity Locational Impact Analysis (The Uists Spinal Route)

6.1 ***EALI Analysis***

6.1.1 The direct benefits to transport users have been estimated as part of the TEE analysis. However, the enhancements to the Uists Spinal Route may also generate additional benefits in terms of stimulating economic activity at locations served by the route.

6.1.2 The assessment process for determining any potential EALI benefits is not straightforward in the absence of modelling tools. The business survey provides insights into how firms may react to improvements in accessibility. However the relatively small sample sizes make the translation of this data into quantifiable forecasts unreliable. This section therefore seeks to highlight the likely areas where EALI benefits may be derived from the scheme and provide an indication of their magnitude. A detailed description of the EALI methodology is presented in Section 3.6 of the main report.

Importance of Lifeline Roads to Key Sectors

6.1.3 As part of the Stage One and Workshop phases of this study a key aspect was to identify the main problems, issues and constraints facing firms and organisations within remote communities. More specifically the process involved analysing the importance of 'lifeline' roads to the various industry sectors. One output from this process was the extent to which forestry, fish farming and tourism rely upon the quality of the local and regional road network.

6.1.4 The timber industry is a particular heavy user of lifeline rural roads. The main representative body, the Timber Transport Forum, has an on-going campaign to improve key timber routes. The success of this campaign is reflected in the recent commitment in the Partnerships document (Scottish Executive, 2003) to provide support for roads affected by timber production. The timber industry as a whole in the Highlands and Islands is expected to almost double over the next 10 years, adding considerable pressure to an already unsuitable transport network. Upgrades to lifeline routes serving existing and potential forestry sites are therefore likely to help stimulate economic activity in this sector.

6.1.5 The fish farming sector also stressed the importance of lifeline roads, both in bringing raw materials to the fish farms as well as shipping out produce to domestic and international markets. A high proportion of fish farms are located along lifeline routes and thus the condition and upkeep of these routes is essential. Fish farming within the Highlands and Islands is facing considerable competition from abroad, which has driven down prices. As a result, quick and efficient deliveries are becoming increasingly essential in order for these firms to compete.

6.1.6 The tourism industry within the Highlands and Islands is a key employer within the region. Whilst tourist boards generally cite major exogenous variables as drivers for tourism performance the level of accessibility to the regions is an important factor. The condition of lifeline routes, in particular in providing access to ferry ports, is essential in encouraging visitors to access remote areas and thus stimulate economic activity.

6.1.7 Lifeline roads are therefore clearly an important aspect to the successful operation of these three key sectors within remote areas of the Highlands and Islands. Improved levels of accessibility along routes servicing existing or potential new sites for these industries can therefore be seen as likely to have a positive impact upon economic activity.

Uists Scheme Impacts

6.1.8 The scale of the proposed improvements along the Uists Spinal Route are substantial and would have a noticeable impact on the accessibility of the island. The reduced journey times and increased reliability should enhance the attractiveness of using the route both for businesses and tourist traffic and hence impact upon economic activity of the region.

6.1.9 The business survey responses indicated the following key results:

- A large proportion of firms are geographically immobile and thus are heavily reliant on the local infrastructure and service provision rather than being in a position to look for alternative locations to undertake their business;

- A very high proportion of firms are reliant upon the Uists Spinal Route for supplies and delivery of goods and that the current levels of transport provision create serious constraints to their business operation. Furthermore, that a 'more reliable/cheaper transport network' would be the single most important factor in improving the desirability of the area;

- Just under half the respondents consider that a road scheme improvement would significantly reduce their transport costs. In many cases this would allow for an expansion in the workforce by up to 10%.

6.1.10 The responses outlined above provide a strong indication for the dependency of firms on good accessibility and the ability to efficiency transport goods to the markets and bring in supplies. Maintaining and improving the route is therefore a critical issue in sustaining the economic viability of these firms.

6.1.11 The improvements should provide stimulus to all firms operating with the Uists by reducing constraints to travel around the islands and in particular accessing the ferry ports. A high proportion of firms are reliant upon the route and regard improvements in transportation as the key issue in improving the island as a location for businesses. The scheme will therefore help provide long-term stability to the island.

6.1.12 The operating efficiency of the primary industries should be enhanced, in particular fish farming, through faster and more reliable transportation of produce to the shipping terminals. An enhanced road network may allow firms, currently reliant on shipping their produce via private vessels, to undertake a proportion of deliveries via road and ferry, thus providing greater flexibility within their operations.

6.1.13 The scheme may further encourage the expansion of the fish farming industry through the ability to efficiently transport produce of the island via road and ferry. Reduced transport costs and greater access to alternative markets/customers may stimulate additional economic activity within these areas.

6.1.14 Better accessibility along the spinal route will encourage more visitors to the island. The tourism industry within the Uists may therefore benefit significantly from the scheme improvements. If coupled with a campaign to promote the town then this could have a significant impact upon the local economy.

6.1.15 The scheme should also provide wider economic and social benefits to the Western Isles as a whole through greater accessibility between the local centres on each island. Reduced journey times will encourage greater movements between the islands by tourists. It may also encourage firms to expand the markets/customer which they supply creating greater diversity.

6.1.16 The general economic indicators for the region demonstrate that it is economically less prosperous than much of the rest of the Highlands and Islands. Unemployment levels are high and the region has been designated a "Fragile Area". Maintaining and improving the levels of accessibility can therefore be considered a key aspect in ensuring the long-term vitality of the region.

6.2 ***EALI Conclusions***

6.2.1 The scale of the estimated journey time improvements from the scheme would suggest that there could be significant economic benefits. A proportion of these benefits will be reflected in terms of maintaining the economic viability of businesses within the island. However, the removal of some of the existing transport constraints may allow certain market sectors to expand, in particular the primary industries.

6.2.2 The EALI analysis indicates that the following key benefits could be derived::

- Provide stimulus to all firms operating with the Uists by reducing constraints to travel around the islands and in particular accessing the ferry ports, providing long-term stability to the island;

- Enhance the operating efficiency of the primary industries, in particular fish farming, through faster and more reliable transportation of produce to the shipping terminal. Furthermore, it may encourage the expansion of the fish farming industry through the ability to efficiently transport produce of the island via road and ferry;

- Promote tourism within the Uists. Better accessibility along the spinal route will encourage a more visitors to the island;

- Provide wider economic and social benefits to the Western Isles as a whole through greater accessibility between the local centres on each island.

6.2.3 Limitations within the data set make it is difficult to accurately assess GDP or employment impacts. The business survey responses suggested that just under half of the firms considered that the improvements would reduce their transport costs although only a relatively small proportion considered this would lead to an increase in turnover. A fifth of the firms also felt that the improvement would provide a boost to their business confidence.

6.2.4 In terms of employment impacts the business survey results suggested that amongst the firms that felt the scheme would have a positive impact it could result in an increase in employment. Around a third of all the respondents considered that their workforce might expand by 5% or more. These benefits may extend beyond the Uists to the Western Isles as a whole.

6.2.5 It would appear that a major aspect of the benefits deriving from the scheme will be through maintaining the existing economic viability of the islands. However, in addition some firms are optimistic that, given the scale of the improvements in accessibility, they will be able to expand their businesses. In reality though the general accessibility to the island may remain a constraining factor to economic activity and therefore the full benefits of a road improvement may only be realised through enhancements to the ferry services.

7 Conclusions (The Uists Spinal Route)

7.1 ***Overall Scheme Evaluation Conclusions***

7.1.1 The aim of the Uists Spinal Route scheme is to improve the linkage between North Uist, Benbecula and South Uist. This will in turn enhance the general tourist route throughout the Western Isles. The analysis has demonstrated that the single-track sections of the spinal route currently acts as a constraint to both the primary industries, reliant on the route as a means of transporting goods, as well as the tourism industry, that require good accessibility to encourage visitors.

7.1.2 Direct transport benefits deriving from the journey time savings are estimated to be significant, although they are unlikely to justify the capital costs (£52.4M) by themselves. The present value of benefits over 30 years is estimated to be in the region of £48.7M, with a low and high forecast of £18.6M - £64.7M, respectively.

7.1.3 Significant indirect impacts upon the local economy on Uists are also anticipated. It is estimated that primary industries, in particular fisheries, will benefit from the reduced transportation costs associated with enhanced road provision. The improved accessibility is likely to stimulate further interest in developing this market. The tourism industry should also be able to capitalise upon the improved accessibility throughout the Western Isles as a promotional tool to encourage greater visitor numbers.

7.1.4 It is likely that the impact upon both the primary and tourism industries could be further enhanced through greater accessibility to the island itself via improved ferry services.

7.1.5 Accident rates along the Uists Spinal Route are substantial in comparison to other routes. This indicates that there is potential for accident reduction benefits along the route. The scheme improvements, providing large-scale double-track upgrades, should significantly improve safety along the route.