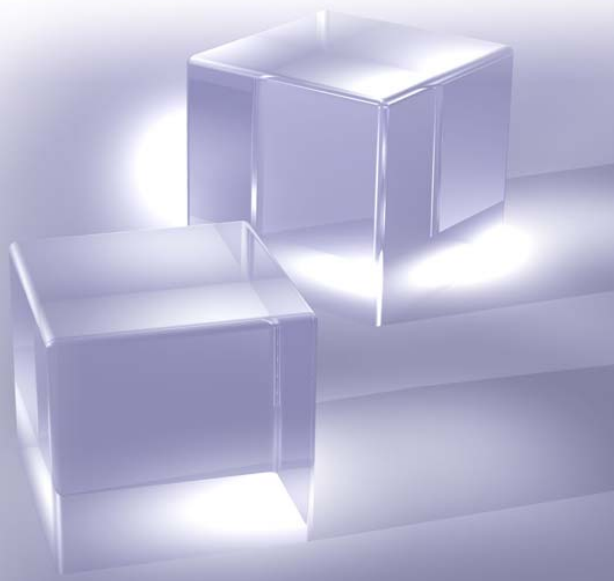
# HITRANS

## A82 Tarbet to Fort William: Economic Appraisal

## Main Report

## September 2005



A member of the Tribal Group plc

# Contents



Ref: S00135


Tribal HCH
22 Stafford Street
Edinburgh
EH3 7BD

Tel: 0131 718 4060

Fax: 0131 718 4070

# EXECUTIVE SUMMARY

## Introduction

1. The A82 is the main route from Glasgow to Inverness which runs along the west side of Loch Lomond to Tarbet, north from Tarbet (through Glencoe) to Fort William and on to Inverness. The total length of the route from Balloch (at the southern end of Loch Lomond) to Inverness is 147 miles. It is the main commercial corridor for goods and services to be transported into and out of the west Highlands, Skye and the Western Isles.

2. The A82 is a rural single carriageway and of the 147 miles between Balloch and Inverness, only 42 can be considered to be of a functional standard. The average width of the carriageway is below the current standard of 7.3 metres with much of the route also having sub standard verge width and edge constraints. It is the 68 miles of the A82 between Tarbet and Fort William which is the subject of this study and along much of this section of the road, the carriageway is too narrow for two large vehicles to pass safely at other than a much reduced speed, causing significant disruption to other road users.

3. The purpose of this study is to quantify the economic benefits that could arise in the west Highlands and Islands as a result of improvements to the A82 between Tarbet and Fort William. The improvements would remove the main constraints on the road and provide a reliable trunk road. There is also a Route Action Plan being prepared for the A82 between Tarbet and Fort William which will provide details on the options for improvements to the route.

4. The economic benefits of improvements to the A82 between Tarbet and Fort William extend well beyond the immediate route corridor as the route is the main commercial corridor to/from the west Highlands, Skye and the Western Isles. Hence, the economic impact study area has been defined as:

   - The whole of the Western Isles;
   - Skye and Lochalsh;
   - Lochaber; and
   - Lorn and the Isles.

5. The study area is shown in Figure 1.1.

## Study Area Economy

6. The study area economy is facing a number of important challenges including population decline, low incomes, limited employment opportunities, poor infrastructure and relative remoteness.

7. The population of the study area was 78,900 in 2001, but this represents a decline in population of over 3,000 since 1991. This decline occurred at a time when the population of Scotland and the Highlands and Islands area was relatively stable. The decline in the study area was largely driven by decline in the Western Isles. This decline is forecast to continue over the period to 2018 when the population of the study area is forecast to be 72,300.

8. Over 1998 to 2002, employment in the study area declined by over 4% at a time when employment across Scotland was increasing. There was employment loss in most sectors in the study area, particularly construction and manufacturing activities, but there was employment growth in the banking and financial services sector.

9. Self-employment is an important component of the study area economy, accounting for almost 13% of the economically active population compared to less than 7% across Scotland as a whole.

10. Gross value added per head is often used as a measure of the productivity of an industry or area. Gross value added per head in the Highlands and Islands enterprise area was only 73% of the Scottish average in 2001 which implies that the economy is dependent on low value activities.

11. The study area also has a slightly lower rate of unemployment relative to Scotland during the summer months, but this increases during October to March and reflects the seasonal nature of many of the employment opportunities in the study area.

### Road Investment and Economic Development

12. It is anticipated that improvements to the A82 which bring the road to a modern standard and provide for reliable journeys will impact on the economy of the west Highlands and Islands in the following ways:

- **Impacts on existing businesses**: Upgrading the A82 will impact on businesses in two ways. First, it will impact on costs (consistent more reliable journeys will reduce costs associated with delays, minor accidents, additional driver time etc) and will enable businesses to obtain goods/deliver goods more cost effectively. Secondly, it may enable businesses to expand their markets through quicker, more reliable access to new customers.
- **Impacts on new businesses**: Enhancements to the A82 will improve access (and improve perceptions of access) to the west Highlands and Islands and stimulate investment in both new and exiting businesses
- **Impacts on population**: The population of the west Highlands and Islands is forecast to decline over the period 2002 to 2018 from 78,400 to 72,300. This is a drop of 8% and is driven by population decline of 17% in the Western Isles, 2% in Argyll and Bute and 4% in Highland. Research[1] has shown that accessible rural areas have performed better than remote rural areas in the past. Hence, there will be potential for the A82 upgrading to improve accessibility and reverse population decline.

[1] "Factors Affecting the Competitiveness of Businesses in Rural Areas", DTZ Pieda

## Upgrading Work Required

13. This study has been prepared in advance of the schemes which will be developed as part of the Route Action Plan. The analysis is not based on any specific schemes, but the requirement that upgrade work is undertaken such that the route is developed to a modern standard which provides a reliable journey time. It is assumed that upgrading is required along these five main sections:

- Tarbet to Inverarnan: this section requires re-alignment of the full length to current national standards (Highway Link) providing a 7.3 metre carriageway with 1 metre edge strips, 2 metre verges and facilities for cyclists and walkers. The road should provide safe overtaking opportunities and draw off laybys on a regular basis.
- Crianlarich: the required works include bypassing the main constraints of the two railway bridges to the west of the village with a new 7.3 metre carriageway and providing an upgraded junction between the A82 and A85 trunk roads.
- Glencoe: this would involve improvement to the junction layout to cater for the traffic and the buses which stop in the area.
- Ballachulish to Corran Ferry: this section of should be re-designed to current national standards including a 7.3 metre carriageway with 1 metre edge strips. Opportunities for overtaking on this section of the route should also be investigated.
- Corran Ferry to Fort William: this section requires a similar design standard to the Ballachulish to Corran Ferry section. There is currently no overtaking and limited stopping opportunities which need to be addressed.

14. During the study, businesses and other stakeholders were asked to rate the five sections of road outlined in para 13 on a scale of one to four where one represents very good through to four representing very poor. The average scores (across all businesses) for each section of road are:

- Tarbet to Inverarnan – 3.0
- Crianlarich – 2.3
- Glencoe – 1.8
- Ballachulish to Corran Ferry – 2.1
- Corran Ferry to Fort William – 2.5

15. While all sections of the road have ratings that suggest businesses and stakeholders have concerns about the road, the section causing most concern is the section from Tarbet to Inverarnan, closely followed by Corran Ferry to Fort William and Crianlarich.

## Key Assumptions

16. Estimating the potential impact of road improvements is not an exact science and to reflect the uncertainty associated with forecasting the economic impact of this type of investment, we have prepared forecasts under two investment scenarios:

- Full investment: This assumes that sufficient investment is made in the road in the five sections detailed in para 13. The outcome is a trunk road which provides reliable journey times and is of a modern standard; and
- Moderate investment: This assumes investment is only possible on a limited number of sections and the key areas of concern (Tarbet to Inverarnan, Corran Ferry to Fort William) are not addressed. As a result, the moderate investment scenario only generates 20% of the benefits anticipated under the full investment scenario.

17. As this study is being prepared in advance of the Route Action Plan, we have had to make a number of assumptions as follows:

- Construction of the improvements to the A82 is assumed to start in 2010 and be complete by 2019 – a ten year construction period;
- The assessment is undertaken over a 30 year period from 2010 to 2039;
- For each of the two scenarios (full and moderate investment) sensitivity analysis has been undertaken. Each impact is assessed under the following assumptions:
  - Central forecast: our most likely forecast based on the survey results;
  - Low forecast: estimated by reducing the central forecast assumptions by 50% i.e. if sales are to increase by 5% in the central forecast, the impact on sales in the low forecast is only an increase of 2.5%; and
  - High forecast: estimated by increasing the central forecast assumptions by 50% i.e. if sales are to increase by 5% in the central forecast, the impact on sales in the high forecast is an increase of 7.5%.

## Economic Benefits: Study Area

### *Existing Businesses*

18. Businesses already based in the study area will benefit from the improved access which an upgraded A82 will provide. Businesses will be able to access suppliers and customers in a more cost effective way and they will have improved more reliable access to existing and new markets. They key industries in the study area which are likely to benefit most from the upgraded road include fish related activities, manufacturing, retail, timber, haulage and tourism.

19. Across these six industries, it is estimated that direct additional income to the study area of £381 million (discounted) over 2010 – 2039 could be created as a result of improvements to the A82. This is based on full investment and represents our central case. The discounted value of benefits represents the present value of the benefits. The road improvements will also increase employment in the study area by 700. These jobs would be created by 2019 and would be sustained over 2019 to 2039. Table 1 provides a summary of the additional benefits in the study area by sector under the full investment and moderate investment scenarios.

20. Moderate investment would not generate the same level of economic benefits as the key limiting aspects of the road would not be addressed. Additional income to the study area under moderate investment is estimated to be £76 million (discounted, central case).

**Table 1**

**Total Direct Impact, Study Area**

| **Full Investment, Central Case** | **Additional Impact, £ million, 2010 - 2039** | | |
|---|---|---|---|
| | **Undiscounted** | **Discounted** | **Employment** |
| Fish | 262 | 145 | 140 |
| Manufacturing | 117 | 65 | 130 |
| Retail | 99 | 55 | 0 |
| Timber | 9 | 5 | 20 |
| Haulage | 15 | 8 | 10 |
| Tourism | 187 | 103 | 400 |
| **TOTAL** | **687** | **381** | **700** |
| **Moderate Investment, Central Case** | | | |
| Fish | 52 | 29 | 30 |
| Manufacturing | 23 | 13 | 30 |
| Retail | 20 | 11 | 0 |
| Timber | 2 | 1 | <10 |
| Haulage | 3 | 2 | <10 |
| Tourism | 37 | 21 | 80 |
| **TOTAL** | **137** | **76** | **140** |

21. In addition to the direct impacts, there will be indirect and induced impacts throughout the study area as additional goods and services are purchased to meet the additional sales and additional direct and indirect employees spend their wages and salaries. A total of £41 million (discounted) of additional income is estimate to be generated in the study area over 2010 to 2039 under the full investment scenario (central case). The level of indirect and induced employment which could be created is 110.

22. Table 2 provides a summary of the total (direct, indirect and induced) impact on existing businesses of the two investment scenarios for the A82. Under full investment, the central case forecasts show additional income in the study area to be £421 million (discounted). Additional employment is estimated to be 800 in 2019 which would be sustained over 2020 to 2039. The range of potential impacts is £209 million to £637 million (discounted).

**Table 2**

**Total Impact (Direct, Indirect and Induced), Study Area**

| **Full Investment** | **Additional Impact, £ million, 2010 - 2039** | | |
|---|---|---|---|
| | **Lower** | **Central** | **Upper** |
| Total Income (undiscounted) | 378 | 762 | 1,150 |
| Total Income (discounted) | 209 | 421 | 637 |
| Employment | 400 | 800 | 1,190 |
| **Moderate Investment** | | | |
| Total Income (undiscounted) | 76 | 152 | 230 |
| Total Income (discounted) | 42 | 84 | 127 |
| Employment | 80 | 160 | 240 |

23. Under the moderate investment scenario, the additional benefits are substantially reduced and lie in the range £42 million to £127 million (discounted).

### *New Business Investment*

24. Transport infrastructure improvements, where they have a significant impact on improving the accessibility of a region , will improve "place competitiveness". This study found that 72% of businesses surveyed felt that road improvements to the A82 would attract new business to the area. This confirms the findings in a "*Smart, Successful Highlands and Islands"* which identifies transport links to be the greatest hurdle to business and the general prosperity of the region.

25. It is anticipated that A82 improvements will help business competitiveness and stimulate business investment across a wide range of sectors including renewable energy, timber, manufacturing (particularly niche, high value products) and outdoor and cultural activities.

26. Under the full investment scenario, additional income in the study area of £21 million to £62 million (discounted) is forecast. Under moderate investment, the range of additional income is £4 million to £12 million. Details are provided in Table 3.

**Table 3**

**Impact on Business Investment in the Study Area**

| **Full Investment** | **Lower** | **Central** | **Upper** |
|---|---|---|---|
| Total Income (undiscounted), £ million | 41 | 81 | 122 |
| Total Income (discounted), £ million | 21 | 42 | 62 |
| Employment (in 2019 and beyond) | 120 | 240 | 360 |
| **Moderate Investment** | | | |
| Total Income (undiscounted), £ million | 8 | 16 | 24 |
| Total Income (discounted), £ million | 4 | 8 | 12 |
| Employment (in 2019 and beyond) | 24 | 48 | 72 |

### *Population Impacts*

27. Research has shown that the economic performance of accessible rural areas has been better than remote rural area in recent years. Indeed, population growth in accessible rural areas has been greater than that in the remote rural areas of Scotland and across Scotland as a whole.

28. Over 1991 to 2001, the population of the study area fell by 3,100 and this population loss is forecast to increase to 6,100 over 2002 to 2018. It is anticipated that upgrading the A82 to improve access to the west Highlands and Islands will help to reduce the rate of population decline in the fragile study area.

### *Total Impact Study Area*

29. Table 4 provides a summary of the total additional income and employment which could be created in the study area as a result of upgrading the A82. This includes the benefits to existing businesses and the benefits from new investment, but excludes the benefits associated with population retention which have not been quantified. The full investment, central case forecast shows additional income to the study area over 2010-2019 of £463 million (discounted). Under the moderate investment scenario, this is reduced to £92 million (discounted). Hence, the full investment scenario is forecast to yield substantial economic benefits to the study area economy.

**Table 4**

**Impact Summary: Study Area**

| | £ million, discounted values | | |
|---|---|---|---|
| **Full Investment** | **Lower** | **Central** | **Upper** |
| Existing Businesses | 209 | 421 | 637 |
| New Businesses/Investment | 21 | 42 | 62 |
| **Total Income** | **230** | **463** | **699** |
| Employment (in 2019 and beyond) | 520 | 1,040 | 1,550 |
| **Moderate Investment** | | | |
| Existing Business | 42 | 84 | 127 |
| New Businesses/Investment | 4 | 8 | 12 |
| **Total Income** | 46 | 92 | 139 |
| Employment (in 2019 and beyond) | 104 | 208 | 312 |

## Economic Benefits: Scotland

### *Existing Businesses*

30. At the Scotland level, there will also be benefits from investment in the A82. However, the increase in income at the Scotland level will be less than for the study area as some of the benefit from increased sales to study area companies will displace sales from other Scottish based companies. The benefits arising from reduced costs to companies in the study area will also apply at the Scotland level.

31. It is estimated that direct additional income to Scotland of £252 million (discounted) over 2010 – 2039 could be created as a result of improvements to the A82. This is based on full investment and represents our central case. The road improvements will also increase employment in Scotland by 210. These jobs would be created by 2019 and would be sustained over 2019 to 2039. Table 5 provides a summary of the additional direct benefits in Scotland by sector under the full investment and moderate investment scenarios.

32. Moderate investment would not generate the same level of economic benefits as the key limiting aspects of the road would not be addressed. Additional income to Scotland under moderate investment is estimated to be £50 million (discounted, central case).

**Table 5**

**Total Direct Impact, Scotland**

| **Full Investment, Central Case** | **Additional Impact, £ million, 2010 - 2039** | | |
|---|---|---|---|
| | **Undiscounted** | **Discounted** | **Employment** |
| Fish | 240 | 133 | 110 |
| Manufacturing | 41 | 23 | 40 |
| Retail | 99 | 55 | 0 |
| Timber | 7 | 4 | 10 |
| Haulage | 12 | 7 | <10 |
| Tourism | 57 | 31 | 40 |
| **TOTAL** | **455** | **252** | **210** |
| **Moderate Investment, Central Case** | | | |
| Fish | 48 | 27 | 20 |
| Manufacturing | 8 | 5 | 10 |
| Retail | 20 | 11 | 0 |
| Timber | 1 | 0.5 | <10 |
| Haulage | 2 | 1 | <10 |
| Tourism | 11 | 6 | 10 |
| **TOTAL** | **90** | **50** | **40** |

33. In addition to the direct impacts, there will be indirect and induced impacts throughout Scotland as additional goods and services are purchased to meet the additional sales and additional direct and indirect employees spend their wages and salaries. A total of £61 million (discounted) of additional income is estimate to be generated in Scotland over 2010 to 2039 under the full investment scenario (central case). The level of indirect and induced employment which could be created is 170.

34. Table 6 provides a summary of the total (direct, indirect and induced) impact on existing businesses of the two investment scenarios for the A82. Under full investment, the central case forecasts show additional income in Scotland to be £313 million (discounted). Additional employment is estimated to be 370 in 2019 which would be sustained over 2020 to 2039. The range of potential impact is £156 million to £474 million (discounted).

**Table 6**

**Total Impact (Direct, Indirect and Induced), Scotland**

| **Full Investment** | **Additional Impact, £ million, 2010 - 2039** | | |
|---|---|---|---|
| | **Lower** | **Central** | **Upper** |
| Total Income (undiscounted) | 281 | 566 | 856 |
| Total Income (discounted) | 156 | 313 | 474 |
| Employment | 180 | 370 | 550 |
| **Moderate Investment** | | | |
| Total Income (undiscounted) | 56 | 113 | 171 |
| Total Income (discounted) | 31 | 50 | 95 |
| Employment | 40 | 70 | 110 |

35. Under the moderate investment scenario, the additional benefits are substantially reduced and lie in the range £31 million to £95 million (discounted).

### *New Business Investment and Population Impacts*

36. While upgrading the A82 is forecast to stimulate new business investment in the study area, it is anticipated that this will simply displace investment from elsewhere in Scotland. Hence, there is not forecast to be any additional impact at the Scotland level from new business investment.

37. While it has not been possible to quantify the extent to which population decline may be reversed in the study area as a result of upgrading the A82, it is anticipated that this impact will only apply in the study area and that there will be no net affect on population at the Scotland level.

### *Total Impact Scotland*

38. Hence, the total additional income and employment which could be created in Scotland as a result of upgrading the A82 derives only from the benefits to existing businesses in the study area. The full investment, central case forecast shows additional income to the study area over 2010-2019 of £313 million (discounted). Under the moderate investment scenario, this is reduced to £50 million. Hence, the full investment scenario is forecast to yield substantial economic benefits to the Scottish economy.

# 1. Introduction

## BACKGROUND

1.1 Tribal HCH was appointed by HITRANS in January 2005 to undertake a study to assess the economic benefits that improvements to the A82 between Tarbet and Fort William could bring to the communities of the west Highlands and Islands. A Route Action Plan is also being prepared for this section of the road by Scott Wilson on behalf of the Scottish Executive.

1.2 The A82 is the main route from Glasgow to Inverness which runs along the west side of Loch Lomond to Tarbet, north from Tarbet (through Glencoe) to Fort William and on to Inverness. The total length of the route from Balloch (at the southern end of Loch Lomond) to Inverness is 147 miles, but it is only the stretch from Tarbet to Fort William that is the subject of this study. Figure 1.1 shows the route of the road. The 68 miles of the A82 between Tarbet and Fort William provide:

- The main commercial corridor for goods and services to be transported into and out of the Western Highlands, Skye and the Western Isles.
- Access to Oban and the islands of Coll, Colonsay, Lismore, Mull, Tiree and Barra for business and leisure purposes for people travelling from the north and south;
- Access to Mallaig, Skye and the Western Isles for business and leisure visitors;
- Access to Glasgow and Inverness for people travelling from the western highlands and islands for business and leisure purposes; and

1.3 The A82 is a rural single carriageway and of the 147 miles between Balloch and Inverness, only 42 can be considered to be of a functional standard. The average width of the carriageway is below the current standard of 7.3 metres with much of the route also having sub standard verge width and edge constraints. Some sections of the route are very narrow and, along a stretch from Tarbet to Inverarnon, there is a permanent traffic constraint as the road is too narrow for two-way traffic flows. Indeed, along much of this section of the road, the carriageway is too narrow for two large vehicles to pass safely at other than a much reduced speed, causing significant disruption to other road users.

## STUDY AREA DEFINITION

1.4 Although it is the section of the A82 between Tarbet and Fort William which is the subject of the Route Action Plan in terms of the physical improvements, the economic impact of improvements to this section of road extends well beyond the immediate route corridor as the route is the main commercial corridor for goods and services to be transported into and out of the West Highlands, Skye and the Western Isles. The route is also an important leisure route for visitors to the west Highlands and Islands.

1.5 The Study Area for the economic impact assessment has therefore been defined as:

- The whole of the Western Isles;
- Skye and Lochalsh;
- Lochaber; and
- Lorn and the Isles.

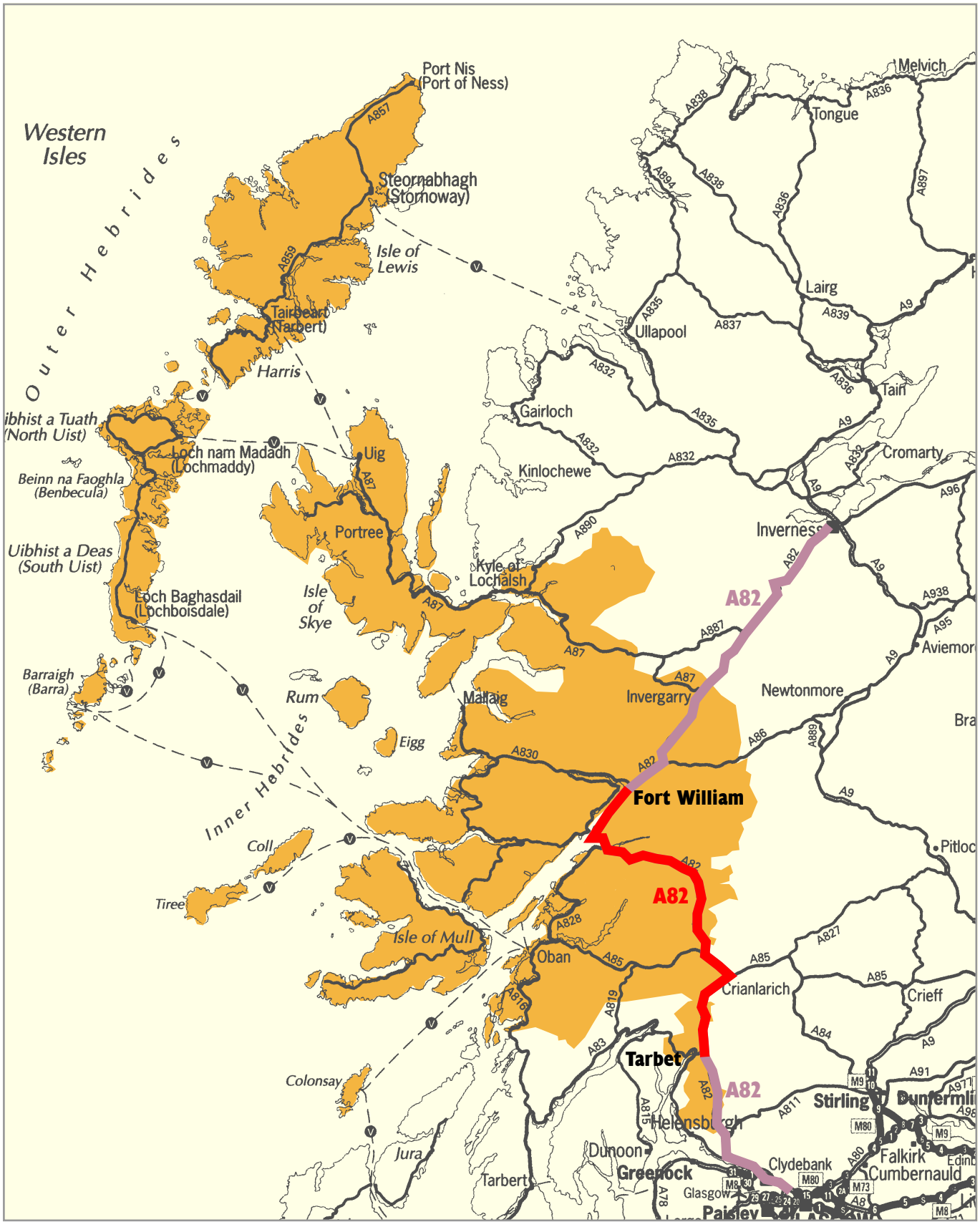
1.6 The study area is also shown in Figure 1.1.

## STRATEGIC CONTEXT

1.7 These overall conditions and the fact that the A82 is the main trunk road connecting the whole of the West Highlands and Islands with the Central Belt, mean that the communities of the West Highlands and Islands are inadequately served by the trunk road network. Current standards fall well short of the transport expectations of both businesses and residents in the West Highlands and Islands which are set out in *A Smart Successful Highlands and Islands* and this is also borne out by the business survey that was carried out as part of this study.

1.8 Set out in the new Highlands and Islands Enterprise (HIE) Strategy is the vision for an inclusive, tolerant society with access to employment, business and development opportunities across the region. The Strategy notes that improving transport links will play a *vital* part in reducing economic and social remoteness in parts of the Highlands and Islands. The consultation supporting the strategy provided almost complete agreement amongst the stakeholders that continued improvements in the transport infrastructure was essential to the long-term development of the region. Improved transportation and accessibility are essential to establish the level playing field upon which the islands and remote, sparsely populated areas can compete - for both people and business - in a global economy.

1.9 The Strategy highlights a package of measures that are important in strengthening both business and social fabric. Foremost amongst these is investment in transport infrastructure, combined with improvements to business premises and telecoms, affordable housing, education, recreation and healthcare. Much of the study area (shown in Figure 1.1) could be classified as a “fragile” area, being characterised by a weakening community through population loss, low incomes, limited employment opportunities, poor infrastructure, inadequate housing and remoteness. As such, these areas are given greatest priority by the HIE Network, with support targeted at projects that contribute to the development of sustainable communities. It is notable that the achievement of HIE’s vision is dependent on continued investment in the transport infrastructure, a significant increase in the supply of housing and the establishment of a higher-class higher education institution.




Case Study Area

Figure 1.1

A82 Study

TRIBAL HCH

1.10 Much of this sentiment is echoed in *Smart Successful Scotland* which emphasizes the national importance of productivity gains which, it notes, will be dependent on a number of different factors including: effective leadership supported by continued capital investment, skills investment and harnessing research, creativity and innovation. It notes that the challenges facing businesses are often more acute in the Highlands and Islands where higher input costs can combine with lower volumes, thereby keeping overall unit costs high. Continued improvements in the area's physical infrastructure - especially transport – is therefore required both to stem population decline and to create a more level playing field for business, thereby improving conditions for growth.

1.11 There is growing dissatisfaction with the roads infrastructure amongst local people in the study area with Community Plans highlighting transport as a priority issue. Improvements to the road transport infrastructure features within the top three issues that matter most to improving the well-being of residents in the communities of Highland, Argyll and the Western Isles. In particular, the Highland Community plan highlights the need for improvements to the main arterial routes into the Highlands (A9, A96 and A82).

## STUDY OBJECTIVES

1.12 This study was commissioned to help inform decision-makers of the economic benefits of up-grading the A82. The Scottish Executive commissioned Scott Wilson to prepare a Route Action Plan for the A82 between Tarbet and Fort William which should be available by the end of 2005. The Route Action Plan will provide options for improvements to the road and the estimated costs of these improvements.

1.13 The purpose of this report is to quantify the economic benefits that could arise in the west Highlands and Islands as a result of improvements to the A82 between Tarbet and Fort William which would remove the main constraints on the road and provide a reliable trunk road between the Central Belt and the Western Highlands and Islands. In particular, the study quantifies the income and employment which could arise in the local (west Highlands and Islands) and national economy from the upgrading of the A82 between Tarbet and Fort William to current standards.

1.14 The study is compatible with the economic activity and location impact (EALI) element of the of the Scottish Transport Appraisal Guidance (STAG). Appraisal under the economy objective of STAG has two components which should cover the full extent of economic impacts arising from a proposal. The first, Transport Economic Efficiency (TEE) covers the impact captured in standard cost benefit analysis – e.g. effects on transport costs. The second, economic activity and location impacts (EALIs), captures the impact of the proposed project on the local or national economy in terms of income and employment. It is the second of these components which is the subject of this report.

1.15 The potential impact of transport projects on economic development can be divided into those on overall economic activity and those on locations. STAG requires that EALI's are reported in two ways:

- As a net impact at the Scottish level; and

- In terms of its gross components which will distinguish impacts on particular areas and/or groups in society.

1.16 Hence, gross impacts will be quantified for the study area shown in Figure 1.1 and net impacts will be provided for Scotland as a whole.

## REPORT STRUCUTRE

1.17 The remainder of the report organised as follows:

- Section 2 considers the role of transport in the economy and examines the past evidence of the impact of road improvements;
- Section 3 sets out some background on the A82 and our approach;
- Section 4 provides an overview of the study area economy; and
- Section 5 presents our results.

# 2. Transport and the Economy

## INTRODUCTION

2.1 This section reviews the evidence on the mechanisms by which, and the extent to which, transport improvements impact on economic performance. There is a substantial body of literature on the role of transport infrastructure in promoting and stimulating economic development and growth; both directly through influencing business location decisions and indirectly through changing land use through the planning process. This section briefly sets out the theoretical reasons why we might expect transport infrastructure to have an impact on economic growth, and reviews UK case studies that assess the actual impacts that road infrastructure projects have had on costs of production, competition and prices, labour catchment areas, changes in land use and levels of inward investment.

2.2 There has not always been a universally agreed method of appraising transport projects. Prior to the publication of the Scottish Transport Appraisal Guidance (STAG) (and its equivalent in England and Wales "GOMMMS" or Guidance on the Methodology for Multi Modal Strategies), very few appraisals considered the way that transport projects affected income (GDP) or employment across localities. Even amongst those that did, the methods used to arrive at income/employment estimates varied widely which means that the case studies later in the section are not always directly comparable.

## THEORY

2.3 It is often argued that improvements to or additions to the road network will stimulate or strengthen economic growth in particular areas. The Scottish transport network is comprehensive and, island communities aside, most communities are fully accessible at least by road at all times. Roads investment is likely, in most cases, to make fairly modest impacts on overall accessibility. However, investment in transport infrastructure will usually make journeys faster, more fuel efficient or more predictable in terms of journey time. If journey reliability is increased then costs associated with unpredictability and risk may also be reduced. Hence, the economic effect of roads investment arises primarily through reductions in the cost of travel. This cost saving is included in the TEE calculation but that calculation does **not** set out the economic effects of the cost saving.

2.4 Transport investment can affect the location and pattern of economic activity and it can be used to reduce regional disparities. Road improvements can also impact on perceptions of an area, particularly if the area is remote and difficult to access. Road improvements can affect economic development through two main avenues. First road improvements can impact on existing businesses in terms of reducing transport costs, widening labour markets for recruitment and opening up new markets. Second, road improvements can generate new business activity in the area through either new investing companies or new investment in existing businesses. The ways in which road investment can affect economic activity are discussed below.

2.5 **Lowering the costs of production**. Transport improvements can reduce business costs and lower the overall costs of production thereby allowing businesses to operate more efficiently. Firms in areas where transport costs have fallen may, therefore, be expected to expand output and employment. From the standpoint of the national economy, net output may be increased because overall national costs have been reduced. However it may also be the case that increases in output at a local level displace production elsewhere by improving the competitive position of firms in one location relative to firms elsewhere.

2.6 **Widening labour catchment areas**. Access improvements and reductions in travel costs may improve the functioning of labour markets, resulting in gains for businesses. Improved transport might expand the labour force (if more people are willing to enter the labour market), improve productivity (if workers are willing to work longer hours) and reduce the costs of labour (if employment is relocated from a lower productivity area to a higher productivity area.[2] However these impacts are more likely to arise in densely populated urban areas. In more rural areas, widening the labour catchment may ease recruitment problems (if they exist) by expanding the potential labour pool. However transport improvements affect ease of movement in both directions and infrastructure improvements which make it easier for people to work elsewhere may lead to tighter local labour market conditions. This type of impact is likely to benefit one area at the expense of another unless the transport improvement increases access to employment for people who were previously unable to secure employment at all.

2.7 **Opening up markets and stimulating competition**. The provision of improved transport infrastructure may increase the potential market for businesses operating in remote rural areas. However the "two way" road effect means that this will also open up areas to external competition which often reduce prices for businesses and consumers in that area. This may bring net benefits at the national and local level but may create losses for some local businesses.

2.8 **Stimulating inward investment**. Enhancing transport infrastructure may increase the attractiveness of an area to new businesses which will lead to increased employment opportunities. These businesses may be new to the UK as a whole (e.g. foreign direct investment (FDI)) or new to the local / regional economy (e.g. they have relocated from elsewhere in the UK). The origin of the relocating business is important in economic development terms as its presence in one area may be at the expense of another area. However evidence[3] suggests that transport is a necessary but not sufficient condition in the choice of business location. It is therefore unlikely that improvements in the transport system will affect business location, unless transport is the missing element from the region's "assets".

2.9 **Opening inaccessible sites for development**. New or enhanced transport infrastructure might enable some sites to be brought forward for development which would not otherwise have been possible. This will create employment opportunities at these new sites. These impacts will be local rather than national or regional in character.

[2] See DfT (2005) "Transport, Wider Economic Benefits and Impacts on GDP"
[3] MCQuiad (2004)

2.10 **Reorganisation of land use**. Transport improvements may lead to a change in the pattern of land use around the transport improvement with more transport intensive uses (including consumer activities) locating closer to transport interchanges

## PAST EVIDENCE

2.11 While it is relatively easy to identify the means by which road improvements may impact on economic development, it is quite complex to quantify the actual effect of the road improvement on measures of business performance such as changes in output and employment. Our literature search has found some studies which have attempted to quantify output and employment effects, but very few of the cases enable assessments of the impact after the road was constructed (ex post studies) to be compared with the results of studies done before the road was built (ex-ante studies). This make it difficult to draw conclusions about the effect that different road schemes have had on economic growth in local areas.

2.12 A number of studies have been reviewed and summaries of the key results are presented in Table 2.1. The results in the Table are organised using the mechanisms discussed in paras 2.5 to 2.10. The roads for which detailed studies are available tend to be either bridges or urban roads around major towns and cities and are not directly to comparable to the A82. The up-grading of the A9 Trunk Road to Inverness is of particular interest to this study since the City of Inverness and its hinterland have emerged as examples of significant economic growth in the Scottish economy, in sharp contrast to much of the rest of the Highlands and Islands.

2.13 Unfortunately it has not been possible to source an appraisal or evaluation of the A9 Trunk Road improvements because the upgrade was undertaken in the 1970s. However a study by TRL[4] identified that the upgrading of the A9 was a major factor in both improving the accessibility of Inverness from the central belt and also in changing perceptions about the peripherality of Inverness. The report noted that significant employment growth in the region during the early 1990s (at a time when employment in Scotland as a whole had been falling) was almost certainly partly due to the improved strategic accessibility of Inverness. "*Without the improved access as a result of the A9 improvement, this would almost certainly not have been possible*." (page 28, section 3.1.6)

2.14 The TRL report also notes the tourism benefits that have resulted from improvements in the relative ease of travelling to and from Inverness which has meant it is better placed to compete for tourism in an international marketplace. The report goes on to say "*This suggests that the effects may have provided, not just net gain to the area, but also to the UK as a whole*." (conclusion 2 on page 32).

2.15 Of course, there are a wide range of reasons for the success of this region which, in no particular order, include:

[4] "A Study of Transport and Development Changes Around Inverness" 1994, by Transport Research Laboratory (an Executiive Agency of the Department of Transport), authors Derek Halden and Kevin Sharman

- Strong employment growth driven by the region's activities as a regional capital and geographic hub (in terms of public administration, healthcare, utilities and transport) combined with strong growth in visitor and leisure services.
- The industrial structure of the region has contributed towards its growth. The region is over-represented by strong growth sectors (utilities, tourism, public administration and health), and, in contrast, slower growing sectors like manufacturing are under-represented.
- Growth in public sector employment. The City is an administrative centre for the region, carrying out administration and business functions for its hinterland. The city also serves as a retail centre and focus for delivery of health services which spreads far wider than the Inverness TTWA. The creation of Inverness Medical also led to the concentration of medical skills and expertise in the area.
- Growth in home-working has meant that it is possible for many people to enjoy the quality of life in the Highlands while remaining economically active.

2.16 A recent study examining the growth of Inverness[5] attaches a great deal of importance to the quality of the infrastructure (including transportation and communication links) in this region which facilitated exports and movement of people and ideas. In particular, the upgrade of the A9 Trunk road in the 1970s/80s is mentioned for its role in strengthening the city's role as a gateway for the Northern Highlands while opening up the Black Isle and other areas as part of the Inverness commuter belt. The improvements to the A9 undoubtedly played a significant role in improving access to the Central Belt and in doing so, attracted business to the area (particularly retail businesses) and stimulated growth in tourism.

2.17 All of these factors have undoubtedly contributed to the high rates of population growth in this region of 7.3% between the 1991 and 2001 Census. The population across Scotland as a whole only increased by 1.3% over 1991-2001.

2.18 Table 2.1 summarises the findings from a number studies including: the Skye Bridge, M4/Severn Bridge/Second Severn Bridge, A55 North Wales Expressway, M62 Liverpool to Hull, M25 Orbital Road, M40 London to Birmingham, road improvements around Merthyr, M77 between Glasgow and Ayr, A40 between St Clears and Harverfordwest. A full bibliography is provided in Appendix A.

[5] Source: "Accounting for success: Understanding and monitoring the growht of Inverness", March 2004. A congentsi report for Highlands and Islands Enterprise and Inverness and Nairn Enterprise.

**Table 2.1**

**Review of Case Study Evidence**

| Economic Impact | Case Study Evidence |
|---|---|
| Lowering costs of production | ▪ Second Severn Crossing: 52% of companies believed access to supplies would be improved.<br>▪ A55: 30% of businesses felt the A55 road improvements had reduced production costs either through reducing delivery charges or by new suppliers entering the local market. A majority of firms indicated their delivery costs to customers were lower which improved their competitiveness.<br>▪ A838 (Kinlochbervie to Lairg): 44% of respondents thought the scheme would significantly reduce their business costs and allow them to expand turnover.<br>▪ Severn Bridge: the opening of the bridge would change South Wales from being a high transport cost location to an average transport cost location. Adopting a series of assumptions (from unspecified sources) the study estimated that employment in indigenous businesses in South Wales would increase by 3,800<br>▪ M62: adopting a similar approach to the Severn Bridge, the study estimated that there would be almost 3,700 additional jobs in indigenous manufacturing in the study area as a result of construction of the motorway.<br>▪ A55: assuming that road improvements reduced transport costs by 10% and using input-output tables, the study estimated that road improvements would generate an additional 350 jobs. |
| Widening Labour Catchment | ▪ M4: a minority of firms in South Wales thought the M4 would extend the labour catchment area of their plant (17% and 18% of large and small manufacturing plants surveyed and 24% of distribution firms surveyed).<br>▪ A55: A larger minority of firms in North Wales (35% of manufacturing companies surveyed and 34% of distribution companies surveyed) thought that the A55 improvements could influence travel to work patterns and extend the potential labour catchment areas of their plants.<br>▪ Second Severn Crossing: since levels of commuting across the estuary were low, the benefits of the second crossing were not likely to be sufficient to widen the pool of labour available.<br>▪ Overall there is reasonable evidence that road improvements can widen the labour catchment area for companies. However conclusions concerning the size and significance of the impacts are weak. It appears that the scale and significance of impacts is heavily influenced by local factors such as economic conditions, settlement patterns and land-use patterns. |

| | |
|---|---|
| Increased market potential ("two way" road) | ▪ Improvements in transport accessibility not only open up the "wider economy" to businesses in remoter regions, but also work in the opposite direction. There is evidence that local shops lost trade when bypassed by the A9 [HIDB 1979], retail trade in Dingwall suffering as a consequence of the transport improvements in the Inverness area.<br>▪ Few studies estimate the impact of increased competition separately from the impact of reduced costs of production, although the effect of increased competition is recognised in the many survey responses as lowering prices which in turn, reduce production costs.<br>▪ Skye Bridge: businesses in the construction sector working in Skye confirmed that the opening of the Bridge had made it easier for companies based elsewhere in Scotland to access their markets in Skye. Home-owners may have benefited from lower prices.<br>▪ The effects of roads investment in these cases is analogous to the removal of a tariff or trade barrier. Firms which were protected from outside competition will experience losses, but local consumers (and other local firms) will benefit from access to lower cost supplies. Improving transport access to remote areas promotes long-term development, however, the available evidence does not allow these effects to be quantified with any confidence. Evidence suggests that road improvements in rural areas could have greater impacts on accessibility / competition than in the context of a developed urban transport system. |
| Impacts on Inward Investment | ▪ M4: Berkshire companies were asked to determine the critical reasons for their choice of location in the Thames Valley. The percentage of firms mentioned: Heathrow Airport (75%), M4 motorway (63%), other motorways / roads (40%), Access to suppliers (40%), Availability of premises (40%).<br>▪ The Second Severn Crossing was found to be a potential major influence on 6% (or 27) companies surveyed in terms of their decision to locate or expand in South Wales in future. (Pieda, 1992). Other key location factors related to the site (price, size, availability of grants), proximity to markets and proximity to former sites.<br>▪ Severn Bridge: had the potential to create 9,000-12,000 jobs in South Wales. This approach involved analysis of comparative rates of firm in-movement but limited information was provided on the assumptions used or comparator areas.<br>▪ Methyr: some inward investors confirmed that they would not have considered the area if the dualling of the A470 had not been completed. Six inward investment companies said it was instrumental in their decisions to locate in the area.<br>▪ The fixed links to Berneray and Scalpay resulted in the start up of a small number of bed and breakfast businesses associated with the increased tourist traffic. |

| | |
|---|---|
| | ▪ M606: A case study of five manufacturing companies in the Bradford area revealed that the road network was of secondary importance in location decisions. Determining factors included: personal factors, labour factors and land and buildings. However the small-scale nature of this study means it is unlikely to be statistically robust.<br>▪ Evidence suggests lack of certainty over future transport links has led to postponement of business investment decisions in Eriskay (EKOS 1999) and the postponement of inward investment on Unst (EKOS, 2001). Lack of investment in the A830 Mallaig road also delayed investment in visitor facilities (EKOS 1997). While investment in transport within the Inverness area coincided with significant private sector business investments and significant economic growth.<br>▪ Improvement in road infrastructure can have a positive impact on perceptions of an area, particularly if the area is remote and difficult to access (Pieda, 1992) and enhance the attractiveness of the area for development (Cleary and Thomas, 1973). However transport is by no means the dominant factor – transport matters more to some projects than to others. It is difficult to establish the quantitative significance of these impacts relative to other influences on economic performance. |
| Opening sites for development | ▪ M40: new types of development became feasible (e.g. major shopping centres) as a result of changes in the topography of the landscape. Development took place on land not previously developed and outside the provisions of the approved development plan. The viability of the development was dependent on significant traffic generation.<br>▪ A9: the population growth within Inverness and its surrounding areas has been along a north-south axis parallel to the upgraded A9. There has been little development to the west (Beauly) or to the east (Nairn) – areas which have seen little change in accessibility over the last two decades, particularly when compared to the A9 corridor.<br>▪ A470:– contributed toward the opening up of a new retail development area to the west of Merthyr.<br>▪ M25: played an important role in enlarging the catchment areas for regional shopping and warehouses. It was important in 10% of planning applications for retail developments in the 7 authorities through which the M25 passed.<br>▪ A40 / A82 / A4119: housing development was affected by roads and investment. There was strong evidence that house building rates had increased on sites near the road following the road improvements. In some cases this outcome was supported by planning policy decisions to make land available on sites near the road. The strongest impacts on the housing market will be felt where road improvements increases the accessibility of communities to main employment centres.<br>▪ M77: evidence of urban expansion to the north of Newton Mearns and adjacent to the M77. The road is also likely to have influenced the pattern of housing development leading to an increase in the level of housing completions.<br>▪ |

| | |
|---|---|
| Re-organisation of land use | ▪ Road infrastructure improvements may lead to changes in land use patterns along routes or at junctions. A number of models exist to identify the impact of transport change on land use. This is likely to have limited application on the A82. |

Source: Tribal HCH, Bibliography in Appendix A

2.19 In summary the review of evidence allows the following main conclusions to be drawn:

- Major road improvements do, in practice, reduce production costs in the areas which they serve. This can lead to a reduction in prices, increase in business profits and / or stimulate competition.
- The evidence on the impact of labour catchments is variable. Road improvements can widen the geographical extent of labour markets but the scale and importance of the effect is highly variable and sensitive to local circumstances.
- In some circumstances roads investment may influence the decision of inward investors to locate in a particular region, but the quality of transport links can be an important factor in determining the choice of location within an area by businesses. i.e. it can affect the choice of one town over another. Tourism businesses can be the exception to this rule.
- At the local level, patterns of property development can be strongly affected by roads investment.

# 3. Approach to the Study

## INTRODUCTION

3.1 This section provides an overview of the characteristics of the A82 between Tarbet and Fort William and sets out our approach to the study.

## A82

3.2 As discussed in paras 1.2 to 1.3 the A82 is the main strategic route connecting the whole of the west Highlands and Islands (Argyll, the North Argyll Islands, the western Highland area, Skye, the Small Isles and the Western Isles) with the Central Belt and its associated transport infrastructure linking to Europe and the rest of the world.

3.3 The A82 Trunk Road Route Strategy Study[6] identifies many sub-standard features associated with the route including:

- High accident rate;
- Sub-standard overtaking opportunities;
- Sub-standard alignment;
- Sub-standard carriageway width;
- Inadequate public transport infrastructure;
- Inadequate tourist facilities;
- Poor quality signing, white lining and street furniture; and
- Sub-standard bridge clearances.

3.4 The stretch of road between Tarbet and Fort William is the subject of this study, and the main issues affecting this section of road are outlined below:

- Tarbet to Inverarnan: a very narrow stretch of road where, at one point, the road is too narrow for two vehicles to meet and a permanent traffic control has been established which restricts traffic to one way working;
- Crianlarich: This is the junction of the A82 and the A85, but there are issues with height and geometric restrictions on railway bridges which requires heavy goods lorries, buses etc. to travel in the centre of the carriageway with single way working.
- Glencoe: The sections of the A82 lying north and south of Glencoe junction are of good construction and open alignment. However in the vicinity of the junction leading to Kinlochleven there are a number of accesses which are a problem and the junction also acts as a focal point for buses and car sharing with random parking all of which leads to problems. The junction requires and improved design to cater for buses, car parking as well as pedestrians and cyclists.

[6] A82 Trunk Road route Strategy Study, Prepared by HiTrans and Lochaber/Oban and Lorn Areas for the Scottish Executive

- Ballachulish to Corran Ferry: approximately 6kms of road with poor alignment, inadequate overtaking and sight distances which leads to frustration among motorists. The road is narrow with no curve widening and the verges are soft and presenting evidence of overrun by larger vehicles. The approaches to the Corran Ferry junction are also badly in need of improvement.
- Corran Ferry to Fort William: A stretch of road which has poor alignment, poor visibility, few stopping laybys, views of the loch screened by trees which also restricts forward visibility and no overtaking opportunities. This has led to relatively high accident levels in the past. There is also lots of queuing and platoons of vehicles which makes it very difficult and uncomfortable for cyclists as well as impossible for pedestrians.

3.5 The result of these problems is that the road is unreliable in terms of journey time, poses significant risks and additional inconvenience and costs in terms of minor accidents (e.g. clipping wing mirrors). It does not provide the driver experience that is expected of a major trunk road. Indeed, previous work has found that:

- The A82 is a vital business artery for the whole of the west Highlands and Islands;
- The costs of delay to regional businesses are very high, particularly in the food sector; and
- The short break tourist sector suffers from the poor reliability record of the road.

## POTENTIAL IMPACT OF ROAD IMPROVEMENTS

3.6 It is anticipated that improvements to the A82 which bring the road to a modern standard and provide for reliable journeys will impact on the economy of the west Highlands and Islands in the following ways:

- **Impacts on existing businesses**: Upgrading the A82 will impact on businesses in two ways. First, it will impact on costs (consistent more reliable journeys will reduce costs associated with delays, minor accidents, additional driver time etc) and will enable businesses to obtain goods/deliver goods more cost effectively. Secondly, it may enable businesses to expand their markets through quicker, more reliable access to new customers and potential suppliers. This will be assessed through analysis of the impact of improvements on the main sectors of the west Highlands and Islands economy.
- **Impacts on new businesses**: Enhancements to the A82 will improve access to the west Highlands and Islands and may impact on the perceptions of the accessibility of the area. This will be assessed in terms of the effect on the ability of the area to attract new business investment.

- **Impacts on population**: The population of the west Highlands and Islands is forecast to decline over the period 2002 to 2018 from 78,400 to 72,300. This is a drop of 8% and is driven by population decline of 17% in the Western Isles, 2% in Argyll and Bute and 4% in Highland. Research[7] has shown that accessible rural areas have performed better than remote rural areas in the past. Hence, there will be potential for the A82 upgrading to improve accessibility and reverse population decline.

## APPROACH TO THE STUDY

3.7 The approach to the study has involved a combination of desk research, consultations, workshops and a telephone survey of businesses throughout the study area.

3.8 Desk Research has been used to:

- review the literature on the economic impact of road improvements;
- obtain background information on the economic performance of the economies under consideration; and
- review basic traffic information regarding the A82.

3.9 Three workshops were held during the course of the study to discuss the key issues relating to the A82. The organisations participating in the workshops included:

- Highland Council;
- Northern Constabulary;
- Belford Hospital;
- Nevis Range;
- National Trust;
- Ferguson Transport
- Forestry Commission;
- Visit Scotland;
- Loch Lomond and the Trossochs National Park;
- Argyll Timber Transport Group;
- Strathclyde Police;
- West Coast Motors;
- Argyll and Bute Council;
- Argyll and the Islands Enterprise;
- Lochaber Enterprise.

[7] "Factors Affecting the Competitiveness of Businesses in Rural Areas", DTZ Pieda

3.10 Individual consultations were also held with a number of organisations to obtain information which is relevant to the analysis and to discuss the potential impact on the Western Highlands and Islands. Consultations were undertaken with:

- Highland Council;
- Argyll and Bute Council;
- Visit Scotland;
- Argyll and the Islands Enterprise;
- Lochaber Enterprise;
- Loch Lomond and the Trossochs National Park;
- NHS Argyll and Clyde;
- Western Isles Local Economic Forum;
- Western Isles Enterprise;
- Western Isles Chamber of Commerce;
- Western Isles Tourist Board;
- Mallaig Harbour Authority;
- City Link;
- Comhairle nan Eilean Siar; and
- Barra and Vatersay Housing Association.

3.11 A telephone business survey was undertaken with a sample of businesses throughout the study area. The survey used a number of questionnaires covering the main sectors of the Study Area economy and sought to understand the use businesses currently make of the A82, the problems they encounter and what they think the impact would be on their business of improvements to the A82 which made the route reliable and offered a modern standard of road to travel. A total of 92 businesses were interviewed throughout the study area.

3.12 The information from the desk research, consultations, workshops and survey was used to provide estimates of the following:

- Gross estimates of the additional income and employment which could be created in the Study Area by sector;
- Summary tables for each sector of the economy which provide contextual information on the current position of the sector, the means by which the sector will benefit from road improvements and the relative significance of the quantified benefits; and
- Net estimates of the additional income and employment which could be created in the Scottish economy by sector.

# 4. Study Area Economy

## INTRODUCTION

4.1 This section provides a socio-economic overview of the study area economy and is structured as follows:

- Demographic profile, including population trends;
- Employment structure and change;
- Business sector; and
- Unemployment.

## DEMOGRAPHIC PROFILE

4.2 In 2001 the total resident population of the study area was estimated at 78,900, or 1.6% of the total population of Scotland as a whole. Population change for the study area over the period 1991 to 2001 is shown in Table 4.1. Over the period, the study area experienced steady population decline - largely driven by the rapid population decline of the Western Isles compared to almost no change in population across the Highlands and Islands Enterprise (HIE) area and Scotland as a whole. The sub-areas of North Argyll, Lochaber and Skye and Lochalsh performed very differently: Lochaber experienced steady population decline, while Skye and Lochalsh experienced steady population growth. The North Argyll sub-area experienced a slight increase in population, despite the Argyll and the Islands LEC area experiencing a slight decline in population over the same period.

**Table 4.1**

**Population Change, 1991 - 2001**

| | 1991 | 2001 | Change | % Change |
|---|---|---|---|---|
| **Study Area** | **81,900** | **78,900** | **-3,100** | **-3.7** |
| Argyll & the Islands LEC | 71,000 | 70,200 | -900 | -1.2 |
| Lochaber LEC | 19,300 | 18,700 | -600 | -3.0 |
| Skye & Lochalsh LEC | 11,800 | 12,100 | 400 | 3.2 |
| Western Isles LEC | 29,600 | 26,500 | -3,100 | -10.5 |
| Highlands & Islands Enterprise | 430,400 | 433,700 | 3,400 | 0.8 |
| Scotland | 4,998,600 | 5,062,000 | 63,400 | 1.3 |

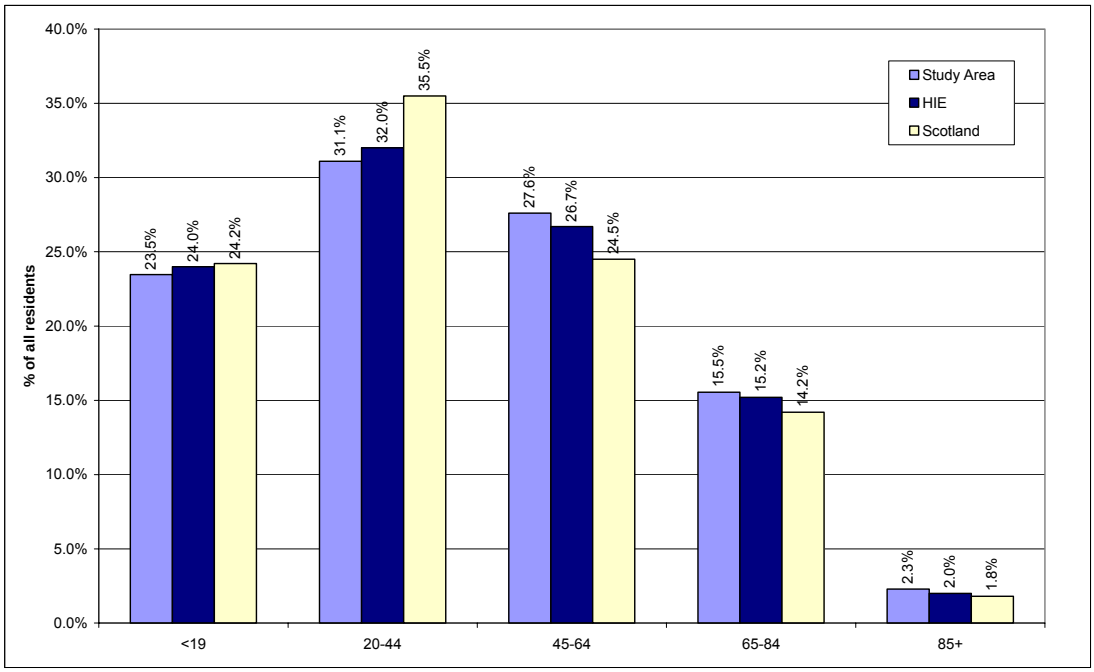
Source: GROS, Census 2001

Note: All data have been rounded

4.3 Figure 4.1 shows a breakdown of population for the study area by age structure. The following key points can be made:

- The age profile of the study area is broadly similar to Scotland as a whole. Some 75% of the population are aged between 20 and 64 years, a total of 58,600 residents;
- However, the study area exhibits a relatively high proportion of middle aged and elderly people (45% of all residents are aged 45 and over compared to an average of 41% across Scotland as a whole);
- The areas of Tiree and Coll, Harris and South Uist in particular, have a high proportion of elderly people;
- In addition, the study area exhibits a relatively low proportion of residents in the 20-44 age group (31% of all residents compared to an average of 36% across Scotland as a whole); and
- The younger population is concentrated in the main towns of Oban, Fort William and Benbecula.

**Figure 4.1: Population by age group, 2001**




Source: Census 2001

4.4 Table 4.2 shows the proportion of working age residents who are economically active in the study area, compared to the averages for the Highland and Islands Enterprise area and Scotland as a whole. The following key points can be made:

- The study area (68.4%) and the HIE area (68.0%) are characterised by high economic activity rates relative to the average across Scotland as a whole (65.0%);
- There are relatively high proportions of the working age residents in employment, in both the study area (62.4%) and the HIE area (62.1%), compared to the average for Scotland as a whole (58.0%);

- This is driven by the significantly higher than average proportions of working age residents who are self-employed: 12.8% in the study area and 10.6% in the Highlands and Islands Enterprise area compared to only 6.6% across Scotland;
- The unemployment rates in both the study area (4.3%) and the HIE area (4.0%) are very similar to the average of 4.0% across Scotland; and
- The study area and the HIE area have a lower than average proportion of full-time students in employment: 1.6% and 1.8% respectively, compared to 3.0% across Scotland.

**Table 4.2**

**Economically Active Population, 2001 (%)**

| | Part-time Employed | Full-time Employed | Self Employed | Unemployed | Full-time student | All people aged 16-74 | Economically Active |
|---|---|---|---|---|---|---|---|
| **Study Area** | **13.4** | **36.2** | **12.8** | **4.3** | **1.6** | **57,100** | **68.4** |
| HIE | 13.0 | 38.5 | 10.6 | 4.0 | 1.8 | 315,000 | 68.0 |
| Scotland | 11.1 | 40.3 | 6.6 | 4.0 | 3.0 | 3,731,100 | 65.0 |

Source: Census 2001

4.5 Table 4.3 provides a summary of the reasons why working age residents are economically inactive within the study area compared to the HIE area and Scotland as a whole. The key points from this analysis include the following:

- There are relatively high proportions of retired working age residents in both the study area (14.7%) and the HIE area (15.0%), compared to the average for Scotland as a whole (13.9%);
- The study area and the HIE area also have a lower than average proportion of economically inactive students: 2.5% in both areas, compared to 4.3% across Scotland; and
- There are relatively low proportions of permanently sick or disabled working age residents in both the study area and the HIE area: 5.4% in both areas, compared to 7.4% across Scotland.

**Table 4.3**

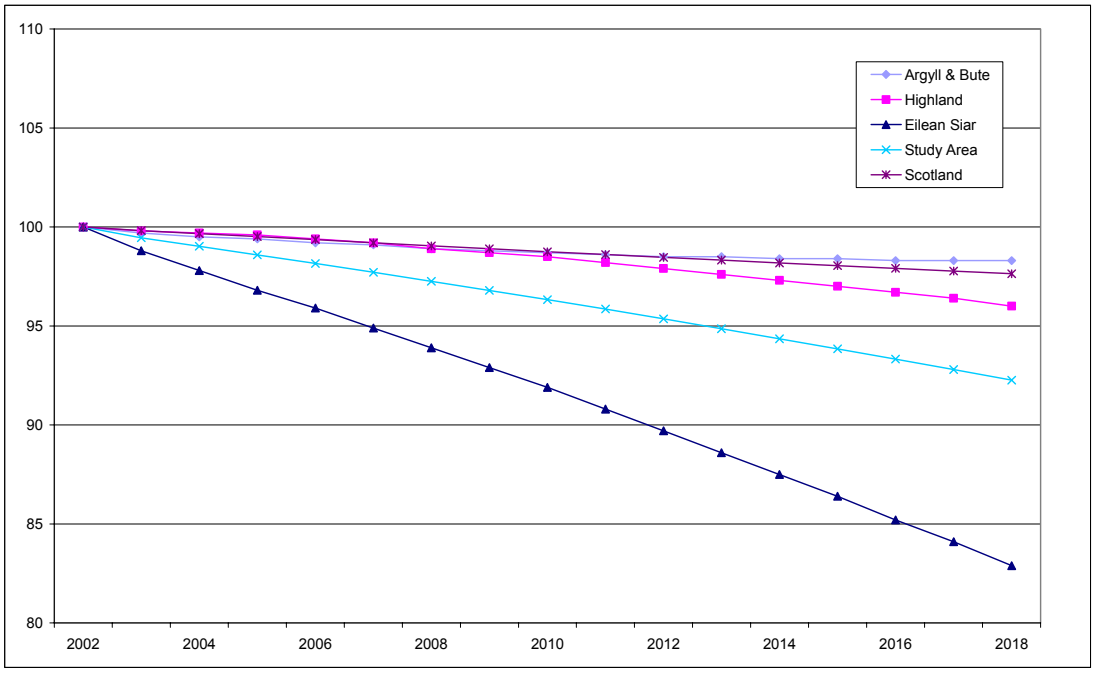
**Economically Inactive Population, 2001 (%)**

| | Retired | Student | Looking after home/ family | Permanently sick/ disabled | Other | All people aged 16-74 | Economically Inactive |
|---|---|---|---|---|---|---|---|
| **Study Area** | **14.7** | **2.5** | **5.4** | **5.4** | **3.6** | **57,100** | **31.6** |
| HIE | 15.0 | 2.5 | 5.7 | 5.4 | 3.4 | 315,000 | 32.0 |
| Scotland | 13.9 | 4.3 | 5.5 | 7.4 | 3.9 | 3,731,100 | 35.0 |

Source: Census 2001

4.6 Over the period 2002 to 2018 the population of the study area is estimated to show a steady decline from around 78,400 to 72,300, a drop of almost 6,100 residents or 8% (see Figure 4.2), compared to a drop of only 2% across Scotland. The most rapid decline in population is forecast among residents in the Eilean Siar local authority area, with the population expected to drop by around 17% during the period. At the same time, the population of Argyll and Bute and the Highland local authority areas is expected to drop by only 2% and 4% respectively.

**Figure 4.2: Population Change, 2002-2018**




Source: GROS

## EMPLOYMENT STRUCTURE AND CHANGE

4.7 A total of 35,200 people were employed in the study area in 2002, representing almost 2% of total employment across Scotland. These data relate to employees in employment only and exclude the self-employed. As Table 4.2 shows, self-employment accounts for a higher proportion of the economically active population in the study area than across Scotland as a whole – some 12.8% of the economically active are self-employed in the study area compared to 6.6% in Scotland.

4.8 Over the period 1998 to 2002 employment in the study area declined by 4.3% (net decline of 1,600 jobs) against a national average growth rate of 5.5%. Employment decline in the study area was most rapid in the Western Isles sub-area, where the number of local jobs contracted at almost four times the average rate seen across the study area as a whole. By contrast, employment in the Skye and Lochalsh sub-area grew by 5.2%, a net growth of 220 jobs (Table 4.4).

**Table 4.4**

**Employment* Change, 1998-2002**

| | 1998 | 2002 | Change | % Change |
|---|---|---|---|---|
| North Argyll | 13,530 | 13,500 | -30 | -0.2 |
| Lochaber | 8,190 | 8,170 | -20 | -0.2 |
| Skye & Lochalsh | 4,330 | 4,560 | 220 | 5.2 |
| Western Isles | 10,750 | 8,980 | -1,770 | -16.5 |
| Study Area | 36,810 | 35,210 | -1,600 | -4.3 |
| Scotland | 2,137,730 | 2,255,750 | 118,020 | 5.5 |

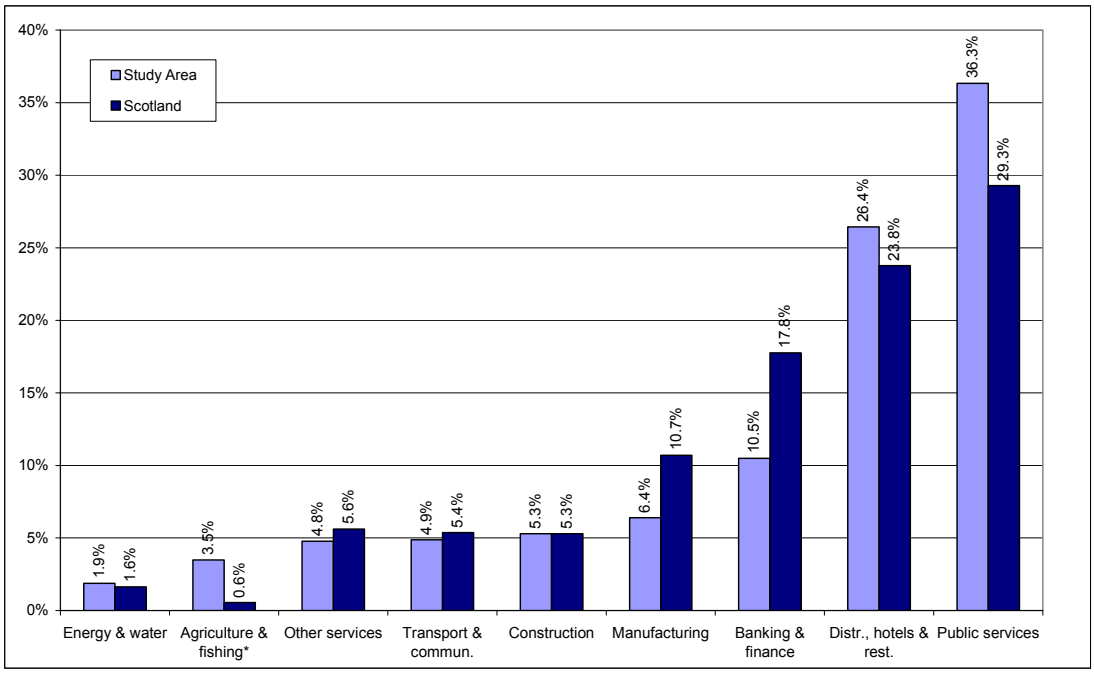
Source: Annual Business Inquiry, ©crown copyright

*employment data does not include all agriculture activities (agriculture class SIC:0100 excluded) or the self-employed.

4.9 Figure 4.3 illustrates the industrial structure of the study area in 2003. The following key points can be made:

- Across the study area almost three quarters of all employment is concentrated in just three sectors: public services, distribution, hotels and catering and banking and financial services;
- Overall, the study area shows a similar industrial structure to that seen across Scotland as a whole with service activities accounting for some 80% of all jobs;
- The study area is significantly over-represented in the public services sector: of the 13,900 jobs, around 70% are concentrated in the North Argyll and the Western Isles sub-areas;
- The study area has a relatively large distribution, hotels and catering sector (26.4% compared to 23.8% across Scotland), driven by the concentration of retail and tourism related activities in the Skye and Lochalsh and Lochaber sub-areas;
- Furthermore, the study area has a relatively large agriculture and fishing sector, with the Western Isles sub-area accounting for around two fifths of all agriculture and fishing jobs in the study area; and
- Alongside this, the study area is characterised by a lower than average proportion of employment in banking and financial services and in manufacturing activities. Of the 4,000 jobs in the banking and financial services sector in the study area over half are concentrated in the North Argyll sub-area and of the 2,500 jobs in manufacturing activities in the study area over two fifths are concentrated in the Lochaber sub-area.

**Figure 4.3: Employment Structure, 2003**



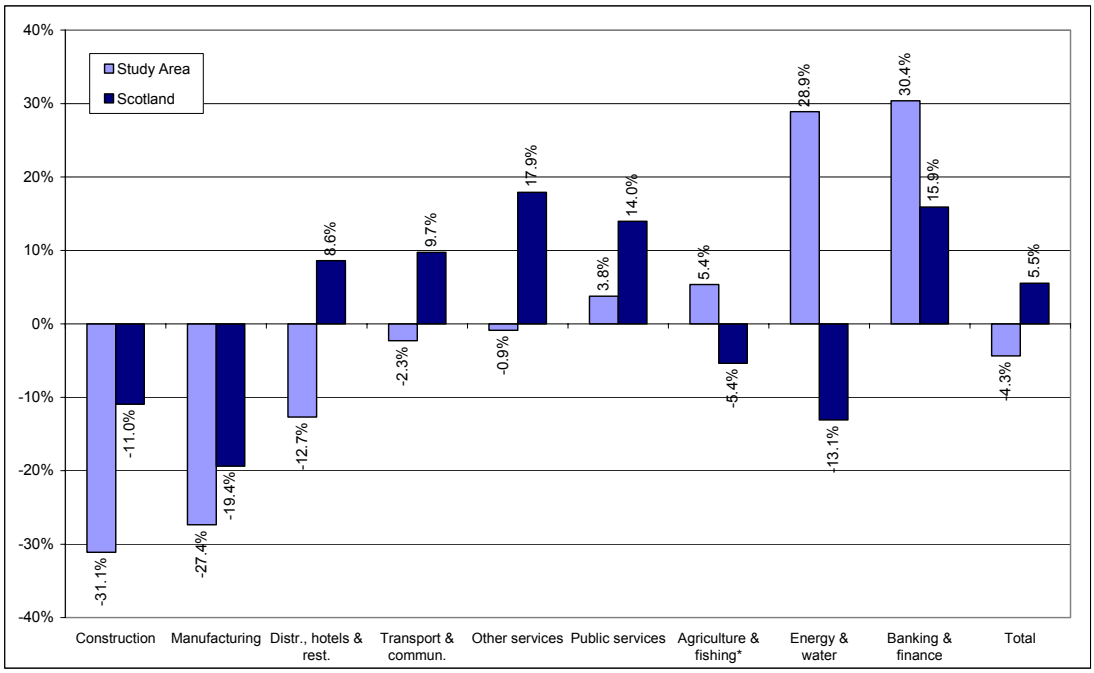

Source: Annual Business Inquiry ©crown copyright

*data does not include all agriculture activities (agriculture class SIC:0100 excluded).

4.10 Figure 4.4 illustrates employment change in the study area by employment sector. The main employment growth in the study area was in the banking and financial services sector (a net increase of 600 jobs), while there was employment loss in most other sectors. Sectors showing significant employment decline over the period 1998-2002 include:

- Construction – net decline of 31% (net loss of 700 jobs), with losses concentrated in the Western Isles sub-area;
- Manufacturing – in common with the rest of Scotland, manufacturing activities in the study area showed a sharp decline dropping by 27%, a net loss of 800 jobs; and
- Distribution, hotels and catering – this sector showed a net drop of 13%, a loss of almost 1,400 jobs.

**Figure 4.4: Employment change by industry, 1998-2002**




Source: Annual Business Inquiry, ©crown copyright

* data does not include all agriculture activities (agriculture class SIC:0100 excluded).

## BUSINESS SECTOR

4.11 Table 4.5 shows the sizeband distribution of business units in the study area and the four sub-areas in 2003. The majority (84%) of business units in the study area are small with only 1-10 employees. In the four sub-areas the proportion of business units with 1-10 employees ranges from 83% to 87%.

**Table 4.5**

**Sizeband Distribution of Business Units by Number of Employees, 2003**

| | 1-10 | 11-49 | 50-199 | 200+ | Total |
|---|---|---|---|---|---|
| North Argyll | 1,120 | 150 | 20 | * | 1,280 |
| Lochaber | 880 | 150 | 20 | * | 1,050 |
| Skye & Lochalsh | 620 | 100 | 10 | 0 | 730 |
| Western Isles | 990 | 180 | 30 | * | 1,190 |
| Study Area | 3,600 | 580 | 80 | * | 4,250 |

Source: Annual Business Inquiry

* data suppressed for reasons of confidentiality

4.12 Total Gross Value Added (GVA) generated by businesses located in the HIE area is presented in Table 4.6. GVA is measured as the sum of incomes earned from the production of goods and services in the area and is built up from individual income components including: compensation of employees, gross operating surplus, mixed income and taxes (less subsidies) on production. The sum of GVA generated by different activities in the economy represents the gross domestic product of the economy.

4.13 Data for this indicator are available across Scotland at NUTS 2 and NUTS 3 level. The NUTS system was created by Eurostat as a single hierarchical classification of spatial units used for production of statistics across the European Union. The NUTS 2 level and NUTS 3 level count together a combination of council areas, LEC areas, and parts thereof, for the presentation of statistical data.

4.14 The study area used in this report is covered by the NUTS 3 areas of the Lochaber, Skye and Lochalsh and Argyll and the Islands LEC areas; and the Western Isles LEC area. The study area also makes up part of the NUTS 2 HIE area where it accounts for around 18% of the population within the NUTS 2 HIE area.

4.15 As Table 4.6 illustrates the HIE area accounted for £3,677 million or 5.3% of all GVA generated across Scotland in 2001. Over the period 1998-2001 GVA generated by the HIE area grew by 9.8%, a rate slightly higher than that of Scotland as a whole (9.3%). However, over the same period GVA generated by Lochaber Enterprise, Skye and Lochalsh Enterprise, Argyll and the Islands Enterprise and Western Isles Enterprise areas grew at a rate slightly below that of the HIE area: 6.3% and 7.8% respectively. Therefore, GVA generated by the study area is likely to have grown at a rate slightly below that of the HIE area.

**Table 4.6**

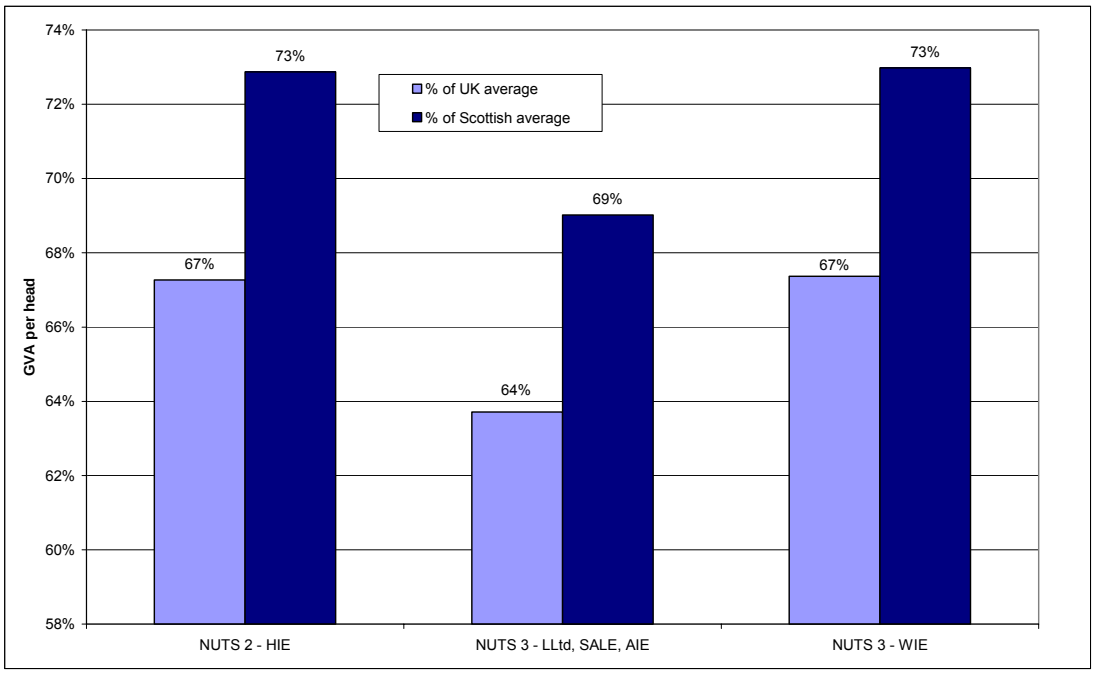
**Change in GVA by NUTS 1, 2 and 3 Area at Current Basic Prices, 1998-2001 (£ million)**

| NUTS 1 | NUTS 2 | NUTS 3 | 1998 | 2001 | Change | % Change |
|---|---|---|---|---|---|---|
| Scotland | | | 63,285 | 69,179 | 5,894 | 9.3% |
| | HIE | | 3,348 | 3,677 | 329 | 9.8% |
| | | LE, SALE, AIE | 896 | 952 | 56 | 6.3% |
| | | WIE | 245 | 264 | 19 | 7.8% |

Source: Office for National Statistics, 2004

4.16 GVA per head is often used as a measure of the productivity of an industry or area. Figure 4.5 illustrates GVA per head in the NUTS 2 and NUTS 3 level areas as a percentage of the UK and Scottish averages. In 2001 GVA per head in the HIE area was estimated at £9,954 or 73% of the Scottish average and only 67% of the UK average. GVA per head in the WIE area is similar to that of the HIE area, while GVA per head in the LLtd, SALE, AIE area is slightly lower: only 69% of the Scottish average and 64% of the UK average.

**Figure 4.5: GVA per Head as a % of UK and Scottish Average by NUTS area 2 & 3, 2001**



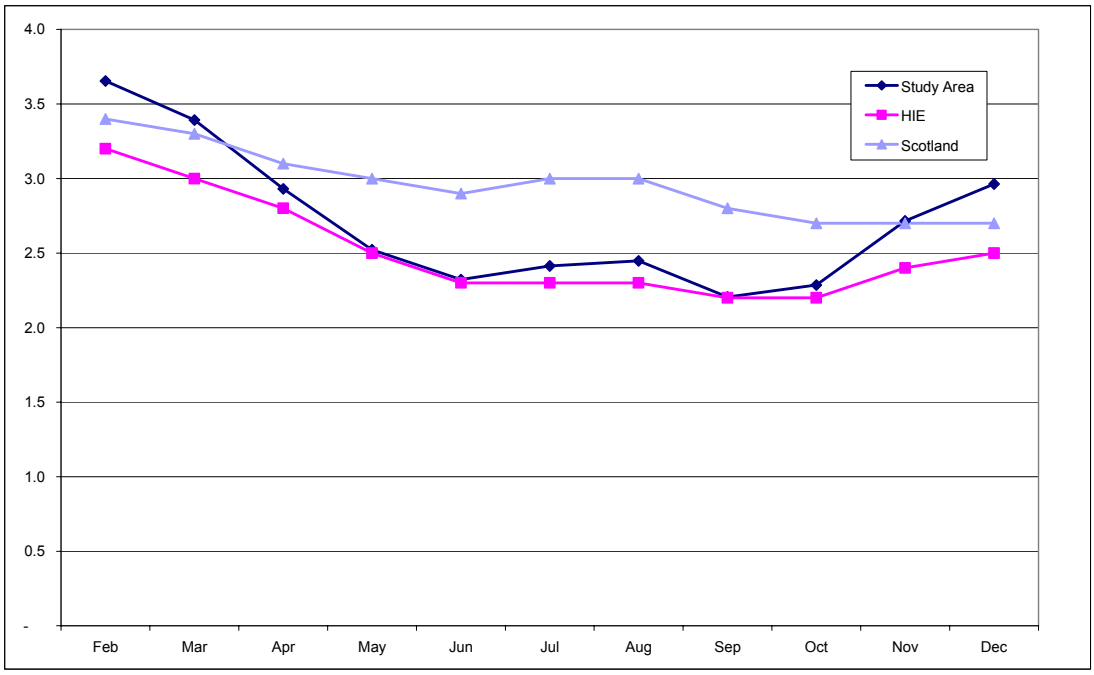

Source: Office for National Statistics

## UNEMPLOYMENT

4.17 As at December 2004 3.0% of the resident working age population in the study area were registered as unemployed, compared to only 2.5% across the HIE area and 2.7% across Scotland as a whole.

4.18 Although the study area had a rate of unemployment above the Scottish average at the end of 2004, as Figure 4.6 shows, during the period April to October, the study area had unemployment rates below the Scottish averages. This highlights the seasonal nature of unemployment in the study area. Unemployment rates across the HIE area also have a seasonal component, although they remained below the Scottish average during 2004.

**Figure 4.6: Unemployment Rates, 2004**




Source: Office for National Statistics

## SUMMARY

- In 2001 the total resident population of the study areas was estimated at 78,900;
- Over the period 1991 to 2001 the study area experienced steady population decline which was largely driven by rapid population decline in the Western Isles sub-area; against almost no change in population across the Highlands and Islands Enterprise area and across Scotland as a whole;
- The study area is characterised by a relatively high proportion of elderly people and by relatively high rates of economic activity among working age residents; and
- Over the period 2002 to 2018 the population of the study area is forecast to decline by 8% - largely driven by rapid decline forecast for the Eilean Siar local authority area.
- Overall, the study area shows a similar industrial structure to that seen across Scotland as a whole with service activities accounting for some 80% of all jobs;
- Key industry sectors include public services, wholesale/retailing and tourism related activities, and financial and other business services;
- Over the period 1998 to 2002 employment in the study area declined by 4.3%, largely driven by a rapid decline in employment in the Western Isles compared to a national average growth rate of 5.5%; and
- There was employment loss in most sectors in the study area, particularly in construction and manufacturing activities, with the main employment growth in the banking and financial services sector.
- In 2003 there were around 4,250 business units within the study area, of which the majority (84%) were small with only 1-10 employees;

- The HIE area accounted for £3,677 million or 5.3% of all GVA generated across Scotland in 2001, while the LE, SALE, AIE and WIE areas accounted for 1.4% and 0.4% respectively;
- Over the period 1998 to 2001 GVA generated by the HIE area grew by 9.8%, a rate slightly higher than that of Scotland as a whole (9.3%) while GVA generated by the LE, SALE AIE and WIE areas grew at a rate slightly below that of the HIE area: 6.3% and 7.8% respectively; and
- In 2001 GVA per head in the HIE area was estimated at £9,954 or 73% of the Scottish average and only 67% of the UK average. While GVA per head in the WIE was similar to that of the HIE area, GVA per head in the LE, SALE, AIE area was slightly lower at only 69% of the Scottish average and 64% of the UK average.
- As at December 2004 3.0% of the resident population in the study area were registered as unemployed, compared to 2.7% across Scotland as a whole;

# 5. Economic Activity and Location Impact Analysis

## INTRODUCTION

5.1 This section quantifies the potential impacts (in income and employment terms) which may arise as a result of improving the A82 between Tarbet and Fort William such that the route is up to modern standards and provides a reliable journey time between Fort William and the Central Belt. The analysis is presented under the different impact mechanisms discussed in para 3.6.

5.2 This study has been prepared in advance of the schemes which will be developed as part of the Route Action Plan. The analysis is not based on any specific schemes, but the requirement that upgrade work is undertaken such that the route is developed to a modern standard which provides a reliable journey time. It is assumed that upgrading is required along these five main sections:

- Tarbet to Inverarnan: this section requires re-alignment of the full length to current national standards (Highway Link) providing a 7.3 metre carriageway with 1 metre edge strips, 2 metre verges and facilities for cyclists and walkers. The road should provide safe overtaking opportunities and draw off laybys on a regular basis.
- Crianlarich: the required works include bypassing the main constraints of the two railway bridges to the west of the village with a new 7.3 metre carriageway and providing an upgraded junction between the A82 and A85 trunk roads.
- Glencoe: this would involve improvement to the junction layout to cater for the traffic and the buses which stop in the area.
- Ballachulish to Corran Ferry: this section of should be re-designed to current national standards including a 7.3 metre carriageway with 1 metre edge strips. Opportunities for overtaking on this section of the route should also be investigated.
- Corran Ferry to Fort William: this section requires a similar design standard to the Ballachulish to Corran Ferry section. There is currently no overtaking and limited stopping opportunities which need to be addressed.

## ASSUMPTIONS

5.3 During the primary research, businesses and other stakeholders were asked to rate the five sections of road outlined in para 5.2 on a scale of one to four where one represents very good through to four representing very poor. The average scores (across all businesses) for each section of road are:

- Tarbet to Inverarnan – 3.0
- Crianlarich – 2.3
- Glencoe – 1.8
- Ballachulish to Corran Ferry – 2.1
- Corran Ferry to Fort William – 2.5

5.4 While all sections of the road have ratings that suggest businesses and stakeholders have concerns about the road, the section causing most concern is the section from Tarbet to Inverarnan, closely followed by Corran Ferry to Fort William and Crianlarich.

5.5 Estimating the potential impact of road improvements is not an exact science and to reflect the uncertainty associated with forecasting the economic impact of this type of investment, we have prepared forecasts under two investment scenarios:

- Full investment: This assumes that sufficient investment is made in the road in the five sections detailed in para 5.2. The outcome is a trunk road which provides reliable journey times and is of a modern standard; and
- Moderate investment: This assumes investment is only possible on a limited number of sections and the key areas of concern (Tarbet to Inverarnan, Corran Ferry to Fort William) are not addressed. As a result, the moderate investment scenario only generates 20% of the benefits anticipated under the maximum investment scenario.

5.6 As this study is being prepared in advance of the Route Action Plan, we have had to make a number of assumptions as follows:

- Construction of the improvements to the A82 is assumed to start in 2010 and they are complete by 2019 – a ten year construction period;
- The assessment is undertaken over a 30 year period from 2010 to 2039;
- For each of the two scenarios (full and moderate investment) sensitivity analysis has been undertaken. Each impact is assessed under the following assumptions:
  - Central forecast: our most likely forecast based on the survey results;
  - Low forecast: estimated by reducing the central forecast assumptions by 50% i.e. if sales are to increase by 5% in the central forecast, the impact on sales in the low forecast is only an increase of 2.5%; and
  - High forecast: estimated by increasing the central forecast assumptions by 50% i.e. if sales are to increase by 5% in the central forecast, the impact on sales in the high forecast is an increase of 7.5%.

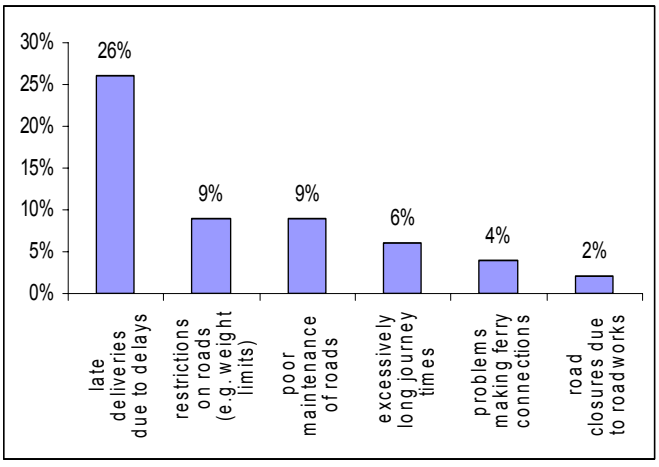
5.7 As discussed in para 3.6 improvements to the A82 will impact on existing businesses, inward investment and population. Each of these is considered below.

## POTENTIAL IMPACTS: EXISTING BUSINESSES

5.8 Upgrading the A82 between Tarbet and Fort William will provide businesses located in the west Highlands and Islands with reliable access to the Central Belt. The extent to which the businesses will benefit from the improvements to the A82 will depend upon the sectors in which they are operating and the importance of the road for accessing markets and suppliers. Hence, the analysis of the impact of improvements to the A82 between Tarbet and Fort William is undertaken on a sector by sector basis covering fish related industries, tourism, timber, manufacturing, retail, and haulage. The business survey identified that most businesses in these sectors felt that the improvements would allow them to both increase sales and reduce costs.

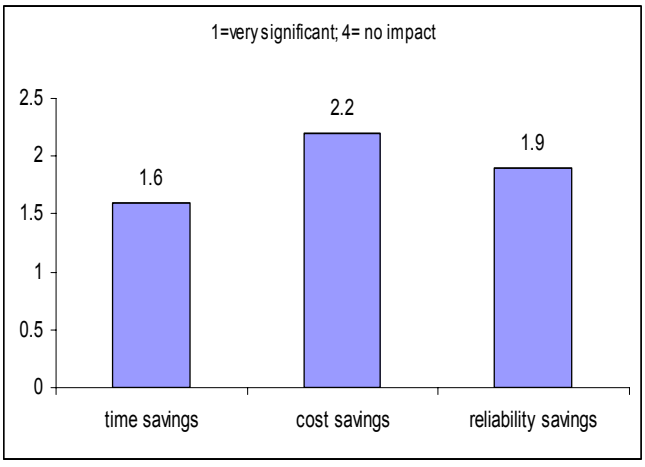
5.9 The business survey found that more than half (57%) of all respondents cited that they commonly had transport problems related to receiving or making deliveries. The main issue relates to late deliveries due to delays (26% of respondents) with 9% citing restrictions on the A82 and poor maintenance. This is shown in Figure 5.1. Businesses ranked the impact that this would have in terms of time, cost and reliability savings. In aggregate, businesses said that improvements would have the greatest impact on time savings, followed by reliability savings and then cost savings. This is shown in Figure 5.2.

**Figure 5.1: Commonly Cited Transport Problems in Making or Receiving Deliveries**




Source: Tribal HCH Business Survey

**Figure 5.2: Significance of Impact on Business of removing problems on the A82**




Source: Tribal HCH Business Survey

5.10 The general approach for each sector is to base the analysis on the business survey results which sought to understand the potential impact improvements to the road would have on each business. The results for each sector (based on the sample of results) have been grossed up to assess the impact on all businesses within the sector in the west Highlands and Islands (as defined in Figure 1.1). This takes account of the fact that the A82 is the main transport corridor for businesses located throughout the study area and not just those in the immediate vicinity of the A82 route corridor.

5.11 The main stages and assumptions adopted in the calculations are as follows:

- Calculate the value of sales and costs in the study area economy for the sectors being analysed;
- Calculate the level of sales required to support one job in the study area;
- Identify the average change in sales and costs across businesses in the sector within the sample;
- Assume that this change will be achieved by 2019 (ten years after construction work begins) and that all businesses in the sector in the Western Highlands and Islands will be affected by the change. There is assumed to be a gradual build-up of impacts from 2015 until the full impact is achieved in 2019. This impact is then assumed to continue over the remaining period of analysis (2020 to 2039) ;
- Calculate the total value (undiscounted) of the increased income to the study area over the 30 year period and the discounted value of income assuming that 2010 is year 1. The latter provides a discounted benefit flow which can be compared to costs when they become available. However, care should be taken that the discounted income benefits are compared to costs on a similar basis i.e. a discount rate of 3.5% is used with 2010 representing year 1 in the cost analysis; and
- Calculate the increase in employment anticipated in 2019 when the increased in sales and the cost reductions have occurred. Employment is also expected to build up from 2015 to 2019 and the increased level of employment achieved in 2019 is then sustained through to 2039. Note that the employment estimates are derived by applying a "sales per employee" ratio to the increase in sales. The employment estimates assume that any increase in sales is translate into an increase in employment. In reality, there may be moves from part-time to full-time employment, seasonal to non-seasonal or no change in employment as the business takes more profit. Hence, the focus of the economic appraisal should be on income.

5.12 The results are presented below for each of the key sectors.

## Fish Related Industries

### *Overview*

5.13 Scotland is one of Europe's most important fishing nations due to its location in the centre of some of the worlds' most productive fishing grounds. Fishing is especially important to many of Scotland's remote, and fragile coastal communities. The Scottish fishing industry is well positioned to take advantage of a rising global demand for seafood, based on its reputation as a healthy, natural and renewable product. However this depends on the ability of the industry to continue to get fresh fish to more distant markets.[8]

5.14 Scotland's sea fish catching and processing sectors make up a diverse industry from the small (sometimes part-time) prawn boat operating close to shore to secondary processors preparing ready made meals.

[8] Source: A Strategic Framework for Scottish Sea Fisheries", 2005. The Scottish Executive.

5.15 The fishing industry in the study area supports a number of ports and harbours which depend on landings from predominantly foreign-owned vessels. In terms of landings by UK vessels, the study area ports of Mallaig[9], Portree and Oban landed 44,000 tonnes of fish in 2003 which accounts for 13% of total landings in Scotland by UK vessels. Fish-based industries are vital in sustaining these communities.

5.16 Fish production and processing[10] (which includes fish farming and aquaculture) directly employs 13,900 people in Scotland (representing around 0.5% of total Scottish employment). However, in the study area over 1,900 persons are directly employed in fish and fish processing sectors. This represents 5% of local employment. Hence, fishing is over **ten times** more important to the study area economy than it is to the Scottish economy as a whole.

5.17 Within the study area, fishing is particularly important in Lochaber and the Western Isles. In Lochaber it employs 6% of the working population and employment has expanded by 120 jobs over the period 1998 to 2002 – an increase of almost 28%.

5.18 Fishing is also important to the Western Isles economy, where the industry employs 8% of the working population. There are 33 seafood companies in the Western Isles including Marine Harvest, Stolt Seafarms, Western Isles Seafoods, West Minch Salmon, Salar and Harris Fish Farm Ltd. The main seafood products leaving the Western Isles include: gutted whole salmon and salmon fillets, smoked salmon, salmon smolts, salmon eggs, live shellfish, shucked scallop and whitefish. Fresh salmon is the most important product shipped out of the Islands with 500 tonnes leaving the Islands each week. The bulk of salmon produced still goes out as whole gutted fresh fish, although several companies are producing smoked salmon – which increases the proportion of value-added salmon products from the Isles.

5.19 Almost all the seafood (40 articulated trucks every week) leaves the Islands by chilled freight or vivier truck. For road freight, products must arrive in Glasgow before 3pm and Inverness before noon to connect with trucks distributing to UK and near-continental markets for early the next morning. Journey time and the reliability of journey time is critical to this industry. Almost all the major companies in the Western Isles intend to expand production over the next three years, with total production likely to increase to around 40,000 tonnes p.a.[11] However this depends on the industry's ability to get fresh fish to more distant markets, highlighting the importance of efficient transport infrastructure.

[9] Includes 4 HGVs (38 tonnes equivalent) twenty times per year from the Western Isles

[10] We define "fish production and processing" to be SIC05: Fishing, operation of fish hatcheries and fish farms, etc. and SIC152 "Processing and preserving of fish and fish products".

[11] "Seafood from the Western Isles: An Overview of Storage and Distribution Issues", A report for Eilean Siar by Nuatilus Consultants

5.20 Improvements to the road infrastructure would increase the reliability of journeys and reduce average journey time in getting produce to market. These developments would enable producers to increase export sales. Export sales growth would occur through both increasing the value of goods (obtaining higher prices for products since a reduction in the mortality rate of live shellfish leads to improved value) and increasing the volume of goods to more distant, new markets. This is consistent with the finding of the Nautilus Consultants report which states "There is undoubtedly potential for supplying other markets in Europe including France, Benelux, Italy and Portugal." [12]

### *Potential Impact*

5.21 A total of 12 fish related businesses were interviewed in the study area covering a range of activities from fishing/fish farming to fish processing and other fish related service activities. The survey found that:

- Businesses greatest concerns relate to access to customers which scored an average rating of 3.6 out of 5 where 5 is "very poor";
- On average 96 deliveries were made per week by each business and 43% of deliveries made and supplies received were made using the A82;
- Some 79% of respondents made allowances to avoid problems on the A82 when planning deliveries or business trips including leaving additional time and taking an alternate route (typically the A9, A85 or A84). This means that actual recorded traffic on the A82 will tend to under-state the volume of traffic that would use the A82 if it were more reliable;
- On average, businesses believed that improvements to the A82 would allow them to increase sales by 7% and reduce their costs by 5%.

5.22 The turnover of fish related businesses in the study area in 2005 was estimated to be almost £194 million. This is equivalent to almost 7% of turnover from all sectors in the local economy and accounts for 14% of total sales from the fish sector across Scotland as a whole. Fish exports generate about 75% of the revenues in the sector.[13]

5.23 The income created by any economic activity is measured by gross value added (GVA). In 2005, GVA in fish related businesses was estimated to be £62 million in the study area.

5.24 Using the survey results reported in paragraph 5.21, we have assumed that road improvements would result in an increase in industry sales of 7% and reduction in costs of 5% by 2019. This produces an increase in GVA which is projected to be maintained for the remaining 20 years in the analysis period. Table 5.1 thus shows:

- The total value of income (benefits) to the study area of upgrading the A82 between Tarbet and Fort William over 2010 to 2039 under the full investment scenario;

[12] Source: "Seafood from the Western Isles: An overview of storage and distribution issues" a report for Eilean Siar by Nautilus Consultants

[13] http://www.scotland.gov.uk/library3/economics/ser-27.asp

- The discounted value of income to the study area of upgrading the A82 between Tarbet and Fort William over 2010 to 2039 under the full investment scenario and assuming a discount rate of 3.5% with 2010 representing year 1; and
- The additional employment in the study area arising in 2019 as a result of the full investment scenario. This "step change" in employment would continue through to 2039.

5.25 The affect of the estimated change in sales and costs on fish related businesses is forecast to create additional income in the study area of £262 million over 2010 to 2039 (full investment, central case, undiscounted). The lower and upper sensitivities indicate a range of additional income of £128 million to £401 million.

5.26 In employment terms, full investment is estimated to support an additional 140 jobs by 2019 in the study area. This would represent a sustained increase in employment from 2019 onwards.

5.27 The Table also shows the results for Scotland as a whole under full investment. The increase in income at the Scotland level will be less than for the study area as some of the increase in sales may displace sales from other Scottish fish-based industries. The results in the Table assume that 20% of sales are displaced at the Scotland level. In calculating the national impact, there is no displacement associated with reduced transport costs as these are also a benefit at the national level.

**Table 5.1**

**Impact on Fish Related Businesses – Full Investment**

| Study Area | | Additional Impact, £million, 2010 - 2039 | | |
|---|---|---|---|---|
| | Baseline | Lower | Central | Upper |
| Total Income (undiscounted) | £62 m | 128 | 262 | 401 |
| Total Income (discounted) | | 71 | 145 | 222 |
| Employment | 1,930 | 70 | 140 | 200 |
| **Scotland** | | | | |
| Total Income (undiscounted) | £446 m | 118 | 240 | 366 |
| Total Income (discounted) | | 65 | 133 | 203 |
| Employment | 13,900 | 50 | 110 | 160 |

5.28 At the Scotland level, the total value of additional benefits from upgrading the A82 is estimated to be £240 million over 2010 – 2039. By 2019, 110 additional jobs are estimated to be created in fish related businesses which would be sustained over 2020 to 2030.

5.29 Table 5.2 shows the results for the study area and Scotland under the moderate investment scenario. The central case is estimated to created £52 million of additional income in the study area over 2010 to 2039. At the Scotland level the additional income is £48 million.

**Table 5.2**

**Impact on Fish Related Businesses – Moderate Investment**

| **Study Area** | | **Additional Impact, £ million, 2010-2039** | | |
|---|---|---|---|---|
| | **Baseline** | **Lower** | **Central** | **Upper** |
| Total Income (undiscounted) | £62 m | 26 | 52 | 80 |
| Total Income (discounted) | | 14 | 29 | 44 |
| Employment | 1,930 | 10 | 30 | 40 |
| **Scotland** | | | | |
| Total Income (undiscounted) | £446 m | 24 | 48 | 73 |
| Total Income (discounted) | | 13 | 27 | 41 |
| Employment | 13,900 | 10 | 20 | 30 |

## Manufacturing

### *Overview*

5.30 Transport infrastructure is important to manufacturing businesses in terms of getting goods to market on time and at reasonable cost. McCann (1998)[14] notes that factors such as timing, reliability and perception of cost can be as important as cost itself. Increased focus on Just in Time (JIT) practices has increased demands on the logistics elements of the supply chain. JIT does not necessarily imply close geographical proximity between supply source and customer, but rather impacts on factors such as certainty and precise timing of delivery.

5.31 Transport needs vary from one manufacturing business to another. Gillis and Casavant (1994)[15] highlight that investment in road infrastructure is especially important for light industrial and commercial businesses. In contrast high-tech manufacturing sectors (computing, software, R&D, biotechnology and certain food manufacturers) are heavily dependent on air freight and services. Heavy industry is likely to incur the highest relative transport costs and therefore be highly location-dependent (i.e. the heavier manufacturing businesses tend to locate closest to end-markets).

[14] McCann (1998) "The Economics of Industrial Location: A Logistics Cost Approach"
[15] Gillis and Casavant (1994) "Linking Transportation Improvements to new business development in eastern Washington"

5.32 Manufacturing[16] is significantly less important to the study area than it is in Scotland as a whole. In part, this reflects the higher costs in getting manufactured goods to market compared to many areas in the central belt of Scotland. Manufacturing directly employs 10% of the working population (or 226,000 people) in Scotland compared to 4% (or 1,400 persons) in the study area.

5.33 Manufacturing businesses in the study area tend to be smaller on average than in Scotland as a whole. The study area has, relative to the comparative size of its economy, 25% more small businesses (employing under 10 persons) than Scotland as a whole and a significantly lower proportion of medium sized and large companies. In Scotland, nearly 10% of all manufacturing businesses employ over 50 persons compared with only 1% in the study area.

### Potential Impact

5.34 A total of six manufacturing businesses were interviewed in the study area covering a range of activities such as the manufacture of beverages, specialist foods, jewellery, metal components, and welding and fabrication. The survey found that:

- Businesses greatest concerns related to access to suppliers which scored an average rating of 4.5 out of 5 where 5 is “very poor”;
- Businesses rated the quality of transport infrastructure and the quality of transport services at 3.5 and 3.7 out of 5 where 5 is “very poor”;
- On average 99 deliveries were made every week and a relatively high proportion of these (50%) were made using road hauliers on contract;
- Some 75% of deliveries made and supplies received were made using the A82 (either north bound or south bound) and 73% of respondents made allowances to avoid problems on the A82 when planning deliveries or business trips. These allowances included leaving additional time and taking an alternate route (typically the A9, A85 or A84);
- On average, manufacturing business thought improvements to the A82 would allow them to increase sales by 9% but that their costs would also increase by 1%.[17]

[16] We define manufacturing as SIC15 to SIC37 inclusive. This includes: Manufacture of food/beverages, tobacco products, textiles, clothing, leather, pulp, paper and paper products, coke and petroleum products, chemicals, rubber and plastics, non-metallic minerals, basic metals, fabricated metal products, machinery and aequipment office machinery and computers, electrical machinery, radio, tv and communications equipment, medical, precision and optical equipment, motor vehicles, transport and furniture.

[17] The increase in costs seems anomalous until you consider that businesses may have been allowing for the fact that if sales increased by 9% then costs would also rise.

5.35 Turnover in the manufacturing sector in the study area was estimated to be £224 million in 2005 which is equivalent to almost 8% of total turnover in the local economy. Across Scotland as a whole, the manufacturing sector accounts for approximately 20% of turnover.

5.36 Income in the study area (as measured by GVA) from manufacturing activities is estimated to be £74 million in 2005.

5.37 Using the data in para 5.34 we have assumed that the increase in sales of 9% and increase in costs of 1% will occur by 2019 and that the resulting change in income continues for the remaining 20 years in the analysis period. Table 5.3 shows:

- The total value of income (benefits) to the study area of upgrading the A82 between Tarbet and Fort William over 2010 to 2039 under full investment;
- The discounted value of income to the study area of upgrading the A82 between Tarbet and Fort William over 2010 to 2039 under full investment and assuming a discount rate of 3.5% with 2010 representing year 1; and
- The additional employment in the study area arising in 2019 as a result of the full investment scenario

5.38 Under full investment (central case) the potential impact of upgrading the A82 is estimated to be an increase in the income of the manufacturing sector in the study area of £117 million over 2010 to 2039. This is accompanied by an increase in employment of 130 in 2019 which will be sustained throughout the remaining period of analysis. The sensitivity results range from additional income of £59 million to £173 million.

5.39 The Table also shows the results for Scotland as a whole under full investment. The increase in income at the Scotland level will be less than for the study area as some of the businesses in the study area may compete directly with other Scottish manufacturers. This sector comprises a range of different activities from small specialist manufacturers of food and beverages to engineering components. In practice, the level of displacement will be lower for “niche” market products than other types of manufacturing, but it is not possible to break the sector into sub-sectors in this study. Hence, the results in the Table assume that, on average, 70% of sales are displaced at the Scotland level.

**Table 5.3**

**Impact on Manufacturing Businesses – Full Investment**

| Study Area | | Additional Impact, £ million, 2010 - 2039 | | |
|---|---|---|---|---|
| | **Baseline** | **Lower** | **Central** | **Upper** |
| Total Income (undiscounted) | £74 m | 59 | 117 | 173 |
| Total Income (discounted) | | 33 | 65 | 96 |
| Employment | 1,440 | 70 | 130 | 200 |
| **Scotland** | | | | |
| Total Income (undiscounted) | £12,742 m | 21 | 41 | 61 |
| Total Income (discounted) | | 11 | 23 | 34 |
| Employment | 226,000 | 20 | 40 | 60 |

5.40 After allowing for displacement, the additional income to the Scottish manufacturing sector is estimated to be £41 million (central case, undiscounted) over 2010 to 2039. This supports 40 additional jobs from 2019.

5.41 Table 5.4 shows the results for the study area and Scotland under the moderate investment scenario.

**Table 5.4**

**Impact on Manufacturing Businesses – Moderate Investment**

| Study Area | | Additional Impact, £ million, 2010 - 2039 | | |
|---|---|---|---|---|
| | Baseline | Lower | Central | Upper |
| Total Income (undiscounted) | £74 m | 12 | 23 | 35 |
| Total Income (discounted) | | 7 | 13 | 19 |
| Employment | 1,440 | 10 | 30 | 40 |
| **Scotland** | | | | |
| Total Income (undiscounted) | £12,742 | 4 | 8 | 12 |
| Total Income (discounted) | | 2 | 5 | 7 |
| Employment | 226,000 | <10 | 10 | 10 |

5.42 The moderate investment scenario is estimated to create additional income in the study area of £23 million (central case, undiscounted) over 2010 to 2039 and support 30 additional jobs. At the Scotland level the additional income is estimated to be £8 million.

## Retail

### *Overview*

5.43 In general, transport infrastructure improvements can impact on retail businesses by reducing costs (i.e. reducing delivery costs for both supplies and sales). Transport improvements can also lead to increased sales in certain locations where the accessibility of the retail outlets to local populations in increased - so expanding the catchment of the outlets.

5.44 Retailing[18] directly employs 11% of the working population (or 260,000 people) in Scotland and 10% of the working population in the study area (or 3,800 employees).

5.45 Retail employment in the study area is concentrated in smaller retail businesses which employ fewer than ten people. In the study area, the smallest retail units account for almost 90% of all retail outlets compared with 84% in Scotland as a whole.

5.46 Within the study area, annual retail sales amount to £284 million in 2005. Retailing in the study area accounts for approximately 1.5% of total retail sales across Scotland as a whole.

5.47 Income in the study area (as measured by GVA) from retailing activities is estimated to be £69 million in 2005.

[18] We define "retailing" as SIC52: Retail trade.

### *Potential Impact*

5.48 A total of 14 retail businesses were interviewed within the study area from a number of sub-sectors including supermarkets and food stores, clothing, electrical, farming, climbing equipment and building merchants. The survey found that:

- Businesses greatest concerns related to the quality of transport infrastructure and transport services which both scored an average rating of 3.4 out of 5 where 5 is "very poor";
- On average 150 deliveries were made or received every week by businesses in the survey;
- The retail businesses interviewed were very heavy users of the A82 with 95% of deliveries made and supplies received made using the A82 (either north bound or south bound); and
- Retailers stated that improvements to the A82 would allow them to reduce costs by an average of 2% and also predicted sales increases averaging 9%.

5.49 While individual retailers expect road improvements to lead to increased sales, it is not clear that this conclusion can apply to the retail sector as a whole. The road improvements are expected to increase tourism – which will increase spending in the retail sector. This effect is, however, considered below under the tourism heading. It is not evident that the road improvements would materially increase the retail catchment of the study area as a whole (though they may benefit some locations) and one must also recognise that improving access to Glasgow could lead to a loss of retail spending. For these reasons, we have not included in the impact analysis any gains from increased retail sales other than through tourism spend which is considered below.

5.50 We assume that a reduction in retail sector costs of 2% will occur by 2019 and that the resulting change in income continues for the remaining 20 years in the analysis period. Table 5.5 shows:

- The total value of income (benefits) to the retail sector in the study area of upgrading the A82 between Tarbet and Fort William over 2010 to 2039 under full investment;
- The discounted value of income to the sector of upgrading the A82 between Tarbet and Fort William over 2010 to 2039 under full investment and assuming a discount rate of 3.5% with 2010 representing year 1; and
- The additional employment in the retail sector in the study area arising in 2019 under the full investment scenario

5.51 Upgrading the A82 is estimated to create an additional £99 million of (undiscounted) income from the retail sector in the study area over 2010 to 2039. There would be no direct impacts on employment. The low estimate of impact is additional income of £49 million and the high estimate is £148 million.

5.52 The Table also shows the results for Scotland as a whole under the full investment scenario. The increase in income at the Scotland level will the same as for the study area as the cost saving is a saving at the national as much as the local level. This yields an estimated additional income of £99 million over 2010 to 2039.

**Table 5.5**

**Impact on Retail Businesses – Full Investment**

| **Study Area** | | **Additional Impact, £ million, 2010 - 2039** | | |
|---|---|---|---|---|
| | **Baseline (annual)** | **Low** | **Central** | **Upper** |
| Total Income (undiscounted) | £69 m | 49 | 99 | 148 |
| Total Income (discounted) | | 27 | 55 | 82 |
| Employment | 3,800 | 0 | 0 | 0 |
| **Scotland** | | | | |
| Total Income (undiscounted) | £4,840 m | 49 | 99 | 148 |
| Total Income (discounted) | | 27 | 55 | 82 |
| Employment | 260,000 | 0 | 0 | 0 |

5.53 Table 5.6 shows the results for the study area and Scotland under the moderate investment scenario.

**Table 5.6**

**Impact on Retail Businesses – Moderate Investment**

| Study Area | | Additional Impact, £ million, 2010 -2039 | | |
|---|---|---|---|---|
| | Baseline (annual) | Low | Central | Upper |
| Total Income (undiscounted) | £69 m | 10 | 20 | 30 |
| Total Income (discounted) | | 5 | 11 | 16 |
| Employment | 3,800 | 0 | 0 | 0 |
| **Scotland** | | | | |
| Total Income (undiscounted) | £4,840 m | 10 | 20 | 30 |
| Total Income (discounted) | | 5 | 11 | 16 |
| Employment | 260,000 | 0 | 0 | 0 |

5.54 The moderate investment scenario is estimated to generate additional income in the study area and at the Scotland level of £20 million (central case, undiscounted) over 2010 to 2039. There is no difference in income generated at the study area and Scotland level as all the income is associated with a reduction in costs and not increased sales.

## Timber

### *Overview*

5.55 Scotland's timber industry operates in a global and increasingly competitive marketplace. In recent years, the Forestry Cluster team and its partners have promoted Scotland widely, raising its' international profile, as an opportunity for investment in forest industries. Scottish Enterprise believe that Scotland offers excellent opportunities for, and is likely to benefit from, substantial new inward investment over the next decade.[19] Significant research effort has been undertaken in recent years to increase value-added to Scottish timber and this has implications for both growers and processors. It is expected that this will lead to increased investment and employment in these industries. A number of new market possibilities exist for wood including biomass (woodfuel) and wood-plastics composites.

[19] http://www.forestryscotland.com/ "Opportunities for investment in Scotland's forest industries. The 3rd cluster report 2004-05".

5.56 The outlook for Scotland's forest industries is extremely positive. Timber output is expected to grow at an average 0.6% p.a. to 2010.[20] By 2010 there will be an additional 3.4m$^3$ of volume above 2004 levels, and by 2030 this will rise further to around 5.5m$^3$. In addition, timber prices are now stabilising, after a long period of decline. Sitka spruce – Scotland's predominant species – has many key competitive advantages since it excels in strength and brightness and can be converted to paper using relatively low levels of energy. Significant new investment plans are being announced in many parts of the industry including sawmilling, panel manufacture, paper and bio-energy.

5.57 The timber industry is, in employment terms, almost twice as important to the study area economy as to Scotland as a whole. The timber industry[21] employs 0.5% of the working population in Scotland (or 11,400 persons) compared with almost 1% in the study area (324 persons).

5.58 Within the study area – Lochaber - home to one of Scotland's largest forests, is relatively more dependent on forest industries, directly employing 2.5% of the working population. Furthermore, Lochaber accounts for over two-thirds of employment in the timber industry within the study area. Employment in timber sectors within the study area expanded by a net growth of 50 jobs (or 15.6%) over the period 1998 to 2002.

5.59 Some 4% of all timber businesses in the study area have more than 50 employees, although the industry is dominated by small business – 90% of timber businesses in the study area have less than ten employees.

***Potential Impact***

5.60 The business survey included three timber related companies within the study area, covering a range of activities including forestry, timber harvesting, forest management, saw milling and the manufacturing of timber products. The survey results were also supplemented by discussions with the Forestry Commission and the Argyll Timber Transport Group. The survey found that:

- Businesses greatest concerns related to the quality of transport infrastructure and access to customers with average ratings of 4.3 and 4.0 respectively out of 5 where 5 represents "very poor";
- These businesses made an average of 50 deliveries per week ;
- The businesses interviewed were very high users of the A82 with 85% of deliveries made and supplies received made using the A82 (either north bound or south bound;
- Local timber businesses identified the Tarbet to Ardlui section of road as representing "a very significant problem"; and
- On average, timber businesses thought improvements to the A82 would allow them to increase sales by 5%. Businesses also noted an increase in costs of 1%.

[20] "Opportunities for investment in Scotland's forest industries. The 3rd cluster report 2004-05".

[21] We define "timber" to be SIC02: Forestry, logging and related service activities, SIC20: Manufacture of wood and products of wood and cork.

5.61 Within the study area, timber sales were valued at £29 million in 2005. Although Scotland is a net importer of timber, 75% of Scottish-produced timber is exported. Approximately 40,000 $m^3$ of sawn hardwood timber is produced in Scotland per year of which only 10,000 $m^3$ is processed in Scotland, the rest is exported to England or overseas.[22] The study area accounts for almost 3% of total turnover in Scotland in the timber sector.

5.62 Income in the study area (as measured by GVA) from timber industries is estimated to be £11 million in 2005.

5.63 Using the data in para 5.60 we have assumed that the increase in sales of 5% and the increase in costs of 1% will occur by 2019 and that the resulting change in income continues for the remaining 20 years in the analysis period. Table 5.7 shows:

- The total value of income (benefits) to the study area of upgrading the A82 between Tarbet and Fort William over 2010 to 2039 under full investment;
- The discounted value of income to the study area of upgrading the A82 between Tabet and Fort William over 2010 to 2039 under full investment and assuming a discount rate of 3.5% with 2010 representing year 1; and
- The additional employment in the study area arising in 2019 as a result of the full investment scenario

5.64 Over 2010 to 2039 additional income of £9 million is forecast for the study area from the timber sector and 20 additional jobs from 2019. The additional income is estimated to be in the range £4 million to £13 million.

5.65 The Table also shows the results for Scotland as a whole under full investment. The increase in income at the Scotland level will be less than for the study area as some of the additional output in the study area is expected to be displacement from other parts of Scotland. We have assumed that 20% of additional sales are displaced at the Scotland level which yields additional income to Scotland of £7 million (central case, undiscounted).

[22] http://www.scotland.gov.uk/cru/kd01/orange/sdsp-10.asp

**Table 5.7**

**Impact on Timber Businesses in the Study Area – Full Investment**

| Study Area | | Additional Impact, £ million, 2010 - 2010 | | |
|---|---|---|---|---|
| | Baseline | Lower | Central | Upper |
| Total Income (undiscounted) | £11 m | 4 | 9 | 13 |
| Total Income (discounted) | | 2 | 5 | 7 |
| Employment | 320 | 10 | 20 | 20 |
| **Scotland** | | | | |
| Total Income (undiscounted) | £451 m | 4 | 7 | 13 |
| Total Income (discounted) | | 2 | 4 | 7 |
| Employment | 11,400 | <10 | 10 | 20 |

5.66 Table 5.8 shows the results for the study area and Scotland under the moderate investment scenario.

**Table 5.8**

**Impact on Timber Businesses – Moderate Investment**

| Study Area | | Additional Impact, £ million, 2010 0 2039 | | |
|---|---|---|---|---|
| | Baseline | Lower | Central | Upper |
| Total Income (undiscounted) | £11 m | 1 | 2 | 3 |
| Total Income (discounted) | | 0.5 | 1 | 1 |
| Employment | 320 | <10 | <10 | <10 |
| **Scotland** | | | | |
| Total Income (undiscounted) | £451 | 1 | 1 | 3 |
| Total Income (discounted) | | 0.5 | 0.5 | 1 |
| Employment | 11,400 | <10 | <10 | <10 |

5.67 The moderate investment scenario is estimated to generate additional income in the study area of £2 million over 2010 to 2039. At the Scotland level, the additional income is estimated to be £1 million over the period (central case, undiscounted).

### Haulage

#### *Overview*

5.68 The haulage industry is essential to the success of the Scottish economy because the majority of Scottish businesses rely upon road transport to get their goods to market. However haulage companies are under increasing pressure in the face of new regulations, high fuel prices and increasing labour costs.

5.69 The recent introduction of the Road Transport (Working Time) Regulations has led to considerable concern within the haulage industry. While the regulations affect haulage companies across the UK, the impact is more marked in remote rural areas (including much of the Highlands and Islands of Scotland) because goods have to travel further to get to market. This was confirmed in a report produced for the Road Haulage Association by The Centre for Economics and Business Research (CEBR).[23]

5.70 The haulage industry is marginally more important to the study area than to Scotland as a whole. In Scotland, the haulage industry[24] directly employs 0.9% of the working population (or 21,400 people) compared to 1.1% of the study area (or 420 persons). Within the study area, employment is concentrated in the Lochaber area and the Western Isles.

5.71 Within the study area, 87% of haulage companies (or 55 businesses) are small enterprises employing 10 persons or under. Although this is fairly representative of the industry as a whole, the average company size in the study area tends to be smaller on average than in the rest of Scotland.

#### *Potential Impact*

5.72 A total of 13 haulage businesses were interviewed across the study area covering the following sub-sectors of activity - general road haulage, livestock haulage, the haulage of quarry produced materials and removals. The business survey was supplemented by an in-depth discussion with one of the larger haulage companies based in the study area and operating across the UK. The survey found that:

- Businesses greatest concerns related to the availability of labour and the quality of transport infrastructure which were rated as 3.7 and 3.5 respectively out of 5 where 5 represents “very poor”;

[23] The Centre for Economics and Business Research (CEBR), 2001 "Fair Play On Fuel Towards Parity with Europe”.
[24] We used SIC6024 “Freight transport by road” to define the road haulage sector.

- Labour shortages are causing significant problems in this sector, and the new Working Time Directive (WTD) – introduced in April 2005 - is compounding driver shortages because drivers are limited to working an average 48 hours per week. This has most significant repercussions for drivers in remote rural areas where journey times tend to be longer and are often more unreliable due to the poor quality of transport infrastructure;
- Haulage companies interviewed in the study area make an average 60 trips per week, of which 37% went via the A82 (northbound) and 37% went via the A82 (southbound);
- Some 46% of respondents said they had more breakdowns on the A82 than on any other road in the Highlands and Islands, adding to insurance costs for this route.
- Haulage companies ranked the A82 as very unsatisfactory in terms of journey time and safety. The Tarbet to Ardlui section of road was deemed the least satisfactory stretch. **All** hauliers interviewed reported making allowances to avoid problems on the A82 which included leaving additional time (92% of respondents) and taking an alternate route[25] to avoid the A82 (38% of respondents). In-depth discussions with a haulage company operating in the study area revealed that 95% of their LGVs divert to the A85/84 after Crianlarich even although this adds 45 minutes to the journey time. The diversion is to avoid the Loch Lomondside stretch of the A82 because the risk of accidents was unacceptably high and added a significant premium to their insurance costs.
- Haulage businesses believed that improvements to the A82 would allow them to reduce costs by an average of 2% per annum. The reduction in costs comprises a number of elements:
  - A reduction in the number of forced diversions would decrease both labour and fuel costs. Labour costs could be reduced by 2% p.a. - the A85/84 diversion adds 45 minutes to each journey from the west Highlands and Islands to the central belt. One diversion per week would add 1.6% to labour costs[26], and would compound problems faced by hauliers in relation to the WTD. We assume the total impact will be to increase labour costs for hauliers operating within the study area by 2% p.a..[27] Fuel costs could be reduced by 2% p.a. - the additional mileage caused by the diversion increases fuel costs by £6,000 per vehicle p.a. This translates to a 2% p.a. increase in fuel costs for haulage companies operating primarily within the study area.
  - Reduce maintenance costs by 3% p.a.. The poor state of the A82 (narrow carriageways with crumbling edges, pit-holes, and adverse camber) causes larger vehicles to incur abnormally high maintenance costs and causes suspension problems. This increases wear and tear and depreciation by £2,000 per vehicle per year, adding 3% to maintenance costs.

[25] Alternate routes used include: A85 (23%), A86 (8%), A9 (8%) and A84 (8%).

[26] 45 minutes represents 1.6% of the working week, where the working week is 48 hours on average.

[27] Note this is a conservative estimate of the impact on labour costs because we assume that each LGV driver will make only one trip per week on the A82. In reality most drivers operating within the study area would make multiple trips in a week.

- Reduce insurance costs by 2% p.a.. A reduced level of breakdowns and accidents on the A82 would reduce the insurance costs of running vehicles on the A82 by 2% p.a.
- Shorter journey times reduce the opportunity cost of tying LGVs and their drivers up for longer than is necessary.

5.73 When asked what impact improvements to the A82 would make to their business, all of the haulage respondents indicated it would allow them to offer a faster service to customers; 77% said it would enable them to offer a more reliable service to customers; 69% stated it would allow them to offer a more competitive service to customers and 31% mentioned it would enable them to offer different services to customers.

5.74 Hauliers expected that road improvements, by improving journey time reliability, would open up new markets (e.g. fresh fish exports to new European markets). In general, we would expect turnover in the sector to rise in line with the activity of the "customer" sectors. Predicted increases in business in these sectors range from 2% to 9%. Taking account of the views of hauliers surveyed, we have assumed that haulier turnover would be increased by an average of 2% p.a. as a result of the road improvements.

5.75 Within the study area, sales from the haulage sector were valued at almost £32 million in 2005. This is equivalent to 1% of total sales across all sectors in the local economy in 2003 and accounts for 2% of total sales from the haulage sector across Scotland as a whole.

5.76 Income in the study area (as measured by GVA) from the haulage sector is estimated to be £16 million in 2005.

5.77 We have assumed that the increase in sales of 2% and reduction in costs of 2% will occur by 2019 and that the resulting change in income continues for the remaining 20 years in the analysis period. Table 5.9 shows:

- The total value of income (benefits) to the study area of upgrading the A82 between Tarbet and Fort William over 2010 to 2039 under full investment;
- The discounted value of income to the study area of upgrading the A82 between Tarbet and Fort William over 2010 to 2039 under full investment and assuming a discount rate of 3.5% with 2010 representing year 1; and
- The additional employment in the study area arising in 2019 as a result of the full investment scenario

5.78 Over 2010 to 2039, additional income of £15 million is forecast for the study area from the haulage sector. The additional income range is forecast to be £7 million to £22 million.

5.79 The Table also shows the results for Scotland as a whole under full investment. The increase in income at the Scotland level will be less than for the study area as some of the additional output in the study area is expected to be displacement from other parts of Scotland. The performance of the haulage industry in the study area is very much related to the amount of goods being moved by other industries e.g. fish exports. We have assumed that 40% of the additional sales are displaced from other Scottish companies. This yields an estimate of additional income at the Scotland level of £12 million over 2010 to 2039.

**Table 5.9**

**Impact on Haulage Businesses – Full Investment**

| Study Area | | Additional Impact, £ million, 2010 - 2039 | | |
|---|---|---|---|---|
| | **Baseline** | **Lower** | **Central** | **Upper** |
| Total Income (undiscounted) | £16 m | 7 | 15 | 22 |
| Total Income (discounted) | | 4 | 8 | 12 |
| Employment | 420 | <10 | <10 | 10 |
| **Scotland** | | | | |
| Total Income (undiscounted) | £813 m | 6 | 12 | 18 |
| Total Income (discounted) | | 3 | 7 | 10 |
| Employment | 21,400 | <10 | <10 | <10 |

5.80 Table 5.10 shows the results for the study area and Scotland under the moderate investment scenario. The moderate investment scenario is estimated to generate additional income in the study area of £3 million over 2010 to 2039. At the Scotland level, additional income is estimated to be £2 million over the period.

**Table 5.10**

**Impact on Haulage Businesses – Moderate Investment**

| Study Area | | Additional Impact | | |
|---|---|---|---|---|
| | Baseline | Lower | Central | Upper |
| Total Income (undiscounted) | £16 m | 1 | 3 | 4 |
| Total Income (discounted) | | 0.8 | 2 | 2 |
| Employment | 420 | <10 | <10 | <10 |
| **Scotland** | | | | |
| Total Income (undiscounted) | £813 m | 1 | 2 | 4 |
| Total Income (discounted) | | 0.7 | 1 | 2 |
| Employment | 21,400 | <10 | <10 | <10 |

## Tourism

### *Overview*

5.81 Tourism is one of the fastest-growing industries in the 21st century and presents Scotland with significant economic opportunities. However not only is it fast-growing, it is also fiercely competitive. Growth in budget travel has increased competition between tourist destinations. Scotland has had to improve its product offering and marketing to remain competitive with world class tourism destinations around the world. The Tourist Boards have worked hard to ensure the effective marketing of Scotland as a destination in new markets that have established direct flights to Scotland. Scottish tourists only account for 40% of tourist spending in the HIE area, compared with 46% across Scotland as a whole.

5.82 The study area has a world-renowned reputation as an area of great scenic beauty and rich cultural heritage and provides Scotland with an opportunity to grow nature-based tourism as identified in the Loch Lomond and the Trossachs National Park Strategy. A large section of the land area is designated as being of national or international natural heritage importance (e.g. National Scenic areas, or Sites of Scientific Interest).

5.83 Fort William has been extensively marketed as the Outdoor Capital of the UK over the last few years and has been successful in promoting the area and its reputation as a centre for outdoor pursuits and is driving growth in a number of niche tourist markets that are both lucrative and fast-growing (biking, walking, climbing and watersports).

5.84 Fort William will play host to the World Mountain Biking Cup Finals in September 2005 for the third year in a row. This event is expected to attract 17,000 spectators to the Highlands, bringing significant economic benefits to Scotland. This will be a key event in the build-up to the UCI Mountain Bike & Trials World Championships which is also coming to Fort William in September 2007. With the Nevis Range ski area and Leanachan Forest, Fort William has established itself as one of the best competition venues in the world with a reputation for high standards, good organisation, and excellent courses and facilities. Forest Enterprise have invested in a network of quality forest trails for all levels of cyclists and bikers to develop this particular niche tourist activity.

5.85 Other fast-growing niche tourist markets include climbing, walking, downhill biking and adventure tourism. The study area has generated significant tourist revenues in these fast-growing niche markets in recent years. Indeed, 35% of all Scotland's watersports-related tourism takes place in the Argyll and the Isles, Loch Lomond, Stirling and the Trossachs (AILLST) region which also accounts for 22% of all walking tourism and 23% of all cycling tourism. Hence, the study area punches well above its weight in these sectors.[28]

5.86 The AILLST region is the focus for a high-profile summer marketing campaign to enhance its' international brand. This intense promotional activity at Scotland's main airports and railway stations should raise awareness of, and increase the number of UK and international visitors to the region. The programme of activity includes a large scale poster campaign affording a series of panoramic views of the region at sites in Edinburgh, Glasgow, Aberdeen and Prestwick Airports plus Glasgow Central, Glasgow Queen Street, Edinburgh Haymarket and Edinburgh Waverley railway stations. A targeted campaign at car touring holidays will be promoted through a new "Highlights of Scotland" leafleting campaign that will be distributed with every Dollar/Thrifty car hire and through information stands at gateway locations (including the Superfast Ferry Terminal and airport hotels). An online version of the touring leaflet is also available at www.highlightsofscotland.com.

5.87 The ongoing success of these tourism initiatives will ultimately be dependent on much-needed enhancements to the transport infrastructure and notably to the A82 route which is the main arterial route into the west Highlands. The importance of transport within a tourism context is set out in a number of reports and policy documents. OECD (2002) observes that "tourists expect quick access to and from destinations", especially important for short breaks, and this requires an efficient transport system. SACTRA (1999)[29] notes that "good transport links are important in tourism because natural assets are fixed in their location" and goes onto say that "tourism is especially important to many peripheral and rural economies and transport costs are often a significant proportion of the total costs of taking a short break or holiday". Actions that decrease transport costs (either financial or non-financial) will therefore have a disproportionate impact on the propensity to take a trip.

5.88 The White Paper "Rural Scotland: People, Prosperity and Partnership" – recognises that transport plays a very different role in rural compared with urban areas. "In rural areas, transport has a clear role in enhancing accessibility, promoting economic development and preventing depopulation".

[28] Source: Loch Lomond and Trossachs Plan VisitScotland Visitor Attraction Monitor (2002 and 2003); personal communication
[29] Standing Advisory Committee on Trunk Road Assessments (1999)

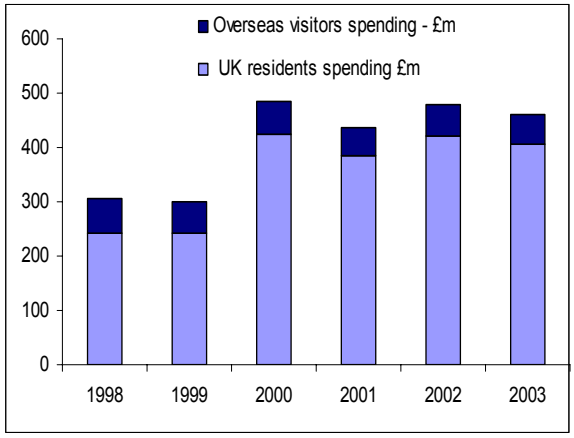
5.89 One striking characteristic of the study area is the relatively high dependence on "tourism" sectors[30] for local employment. In the study area, over 14% of total employment (or 4,400 persons) are employed directly by industries heavily dependent on tourist spending. This is nearly **three times** the Scottish average of 5.7% and highlights the dependency of the economy on one sector.

5.90 This means that any step-change in the quality of the transport infrastructure in the west Highlands will generate disproportionate economic benefits from increased visitor numbers.

5.91 In the AILLST area, total tourist spending (by overseas tourists and UK residents) increased markedly from £300 million to nearly £500 million in 2000 due to a sharp increase in the number of UK visitors. Since 2000, spending has fluctuated between £480million and £500 million p.a., although it declined to £420million in 2001 because of a slowdown in consumer spending and the outbreak of foot and mouth disease (Figure 5.1). Within Highland region total tourist spending was almost £700 million in 2000, declining to £570million following the difficult year in 2001, from which spending has failed to substantially recover. Total tourist spending has fluctuated between £565million and £580 million p.a. since 2001 (Figure 5.2).

**Figure 5.1**

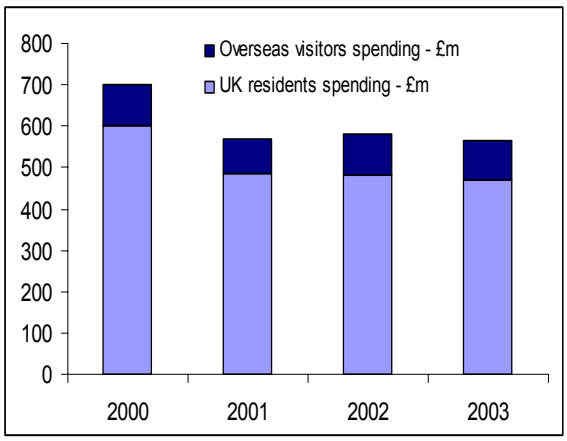
**AILLST area – Tourist spending (£m)**




**Source**: UKTS and IPS replicated in www.hie.co.uk/aie/tourism_sector.htlm

**Figure 5.2**

**Highland Region – Tourist spending (£m)**




**Source**: UKTS and IPS replicated in www.hie.co.uk/aie/tourism_sector.htlm

5.92 To calculate the value of tourism in the study area, we pro-rated the tourism impacts derived from the United Kingdom Tourism Survey (UKTS) and International Passenger Survey (IPS) that are available for the HIE and AILLST areas.[31] Table 5.11 shows that tourism is a significant sector in the study area. It generates over £210 million of spending every year and directly employs 4,400 people, or 14% of total employment, compared with 6% across Scotland as a whole.

[30] We define "tourism" to be SIC 551: Hotels, 552:Camping sites, 553: Restaurants, 554: Bars, 633 Activities of travel agencies, 925: Library, museums, etc, 926: Sporting activities, 927: Other recreational activities. We attribute 100% of employment in hotels and camping sites to tourism and only 50% of employment in other remaining sectors.

[31] We pro-rated the tourist board areas according to the relative importance of tourist-based employment in the study area. We defined tourist-based employment as employment in the SIC5 category "Distribution Hotels and Restaurants".

**Table 5.11**

**Tourism in the Study Area: Overseas, UK and Day Tripper**

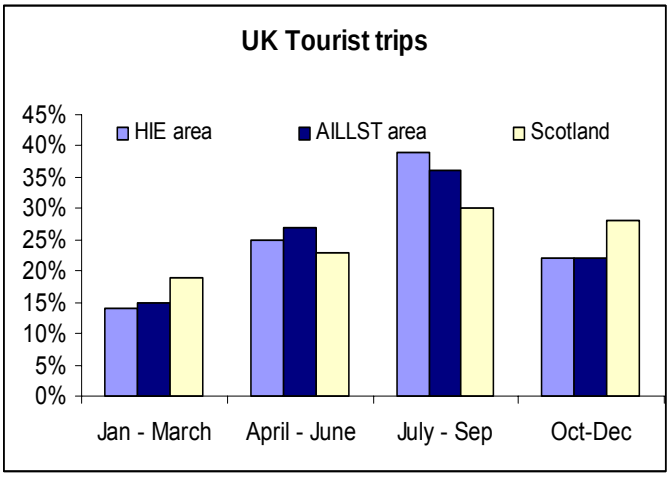
| | Overseas Tourists | UK Tourists | Day Tripper | Total |
|---|---|---|---|---|
| Trips (m) | 0.10 | 0.85 | 4.75 | 5.70 |
| Bednights (m) | 0.43 | 3.58 | - | 4.02 |
| Expenditure (£m) | 22.83 | 141.51 | 47.60 | 211.94 |
| Average spend per trip | £228.30 | £166.50 | £10 | |
| Average spend per night | £53.10 | £39.50 | - | |

Source: www.scotexchange.net "Tourism in Argyll, The Isles, Loch Lomond, Stirling and the Trossachs" 2003, "Tourism in the HIE area, 2003"

5.93 Seasonality is a more significant issue in the study area than it is for Scotland as a whole especially with regards to the overseas market. The tourist season is much shorter in the HIE and AILLST (Figures 5.3 and 5.4). Only 11% of overseas tourist trips take place in Oct to March in the HIE area compared with 24% for Scotland as a whole. The poor driving conditions combined with poor light in the north of Scotland during the winter season makes driving particularly hazardous. Road improvements would improve driving conditions, and, with this bring potential to extend the tourist season and reduce seasonality.

**Figure 5.3**

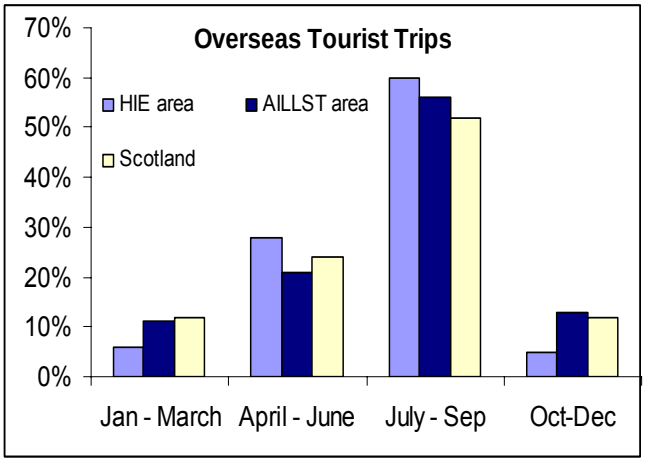
**Seasonality in Trip-Taking, UK Tourists (2003)**




Source: www.scotexchange.net

**Figure 5.4**

**Seasonality in Trip-Taking, Overseas Tourists (2003)**



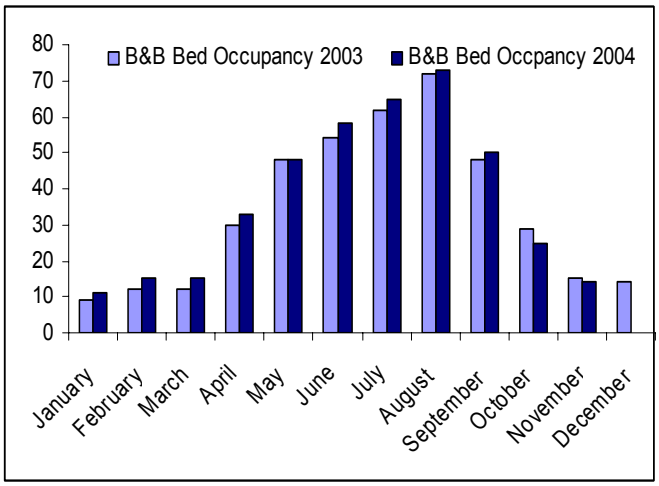

Source: www.scotexchange.net

5.94 Seasonality is also reflected in occupancy data. There are very low occupancy rates across all sectors in both HIE and AIE during the autumn and winter months. Across the HIE area, B&B occupancy struggles to get above 10% from November to March. Hotel bed occupancy rates are above 50% only from May to September which results in a very short season (Figure 5.5).

5.95 In the AIE area, occupancy rates are marginally higher. Although in the hotel sector, bed occupancy rates again are above 50% only between May and September and are as low as 15% to 20% from December to February (Figure 5.6). The B&B sector performs little better, with bed occupancy rates struggling to get above 20% between November and March.

**Figure 5.5**

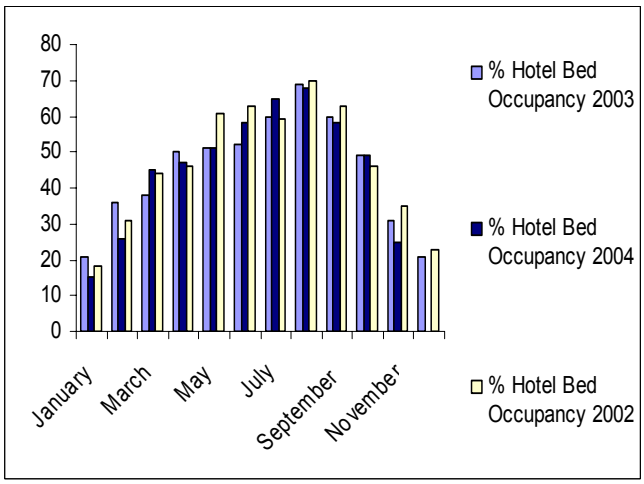
**B&B/Guest House Bed Occupancy Rate HIE area**




Source: www.scotexchange.net

**Figure 5.6**

**Hotel Bed Occupancy Rate AIE area**

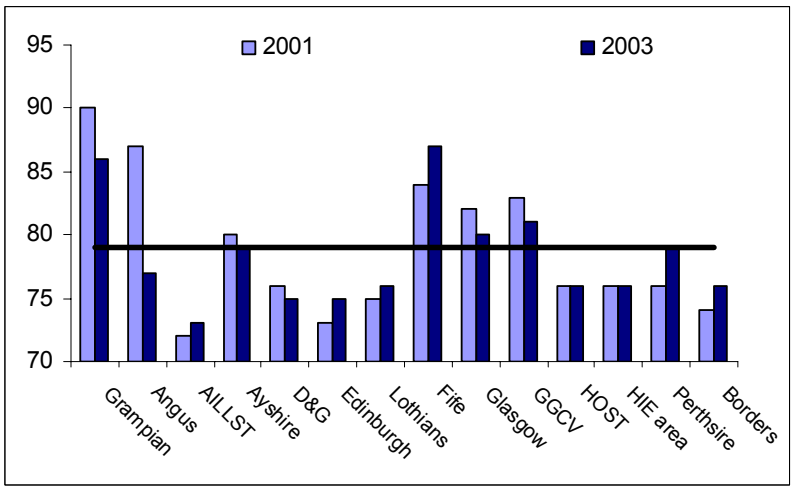



Source: www.scotexchange.net

5.96 There is a relatively low level of repeat visitors to both the HIE and AILLST areas (Figure 5.7). In 2003, 73% of all visitors had been to the AILLST area before, and 76% of all visitors in the HIE area had been before (compared with 79% average across all areas). The areas with the highest level of repeat visitors were: Fife (87%), Aberdeen and Grampian (86%), Greater Glasgow and Clyde Valley (81%), and Glasgow (80%).

**Figure 5.7**

**Repeat Visitors**




Source: www.scotexchange.net "Time of Trip"

5.97 The Highlands Visitor Survey (1997) asked visitors to identify a number of areas that the local bodies responsible for tourism could have improved upon to make a trip to the Highlands more enjoyable. Amongst those who thought improvements could be made (48% of respondents), 6% mentioned improvements to signposting and lack of tourist information while 5% cited improvements to the roads infrastructure.

5.98 The Highlands Visitor Survey for the Lochaber area asked visitors why the visit to the area was worse than they expected. 7% of respondents stated that it was because of the poor quality of roads in the area. Where a holiday or short break fails to meet expectations, fewer repeat trips are likely.

### *Potential Impact*

5.99 It is likely that significant tourism benefits would be generated in the study area by upgrading the A82 and therefore increasing the accessibility (and *perceptions* of accessibility through improving journey time reliability), of some of Scotland's most scenic landscapes. Positive impacts are likely to be derived from increased numbers of day-trips, reduced seasonality, higher levels of tourist satisfaction generating more repeat visitors and a greater number of short break and leisure visitors.

5.100 A total of 26 tourism businesses were interviewed in the study area. The survey found that:

- Businesses rated the quality of transport infrastructure and transport services at 3.7 and 3.9 respectively out of five where five represents "very bad" – this was significantly poorer than access to customers, suppliers and availability of labour.
- Some 50% of respondents cited difficulties in receiving deliveries, and commonly cited problems included missed ferries (15%), road restrictions (12%), long journey times (8%) and late deliveries due to delays (4%).
- More than half (54%) the businesses reported having problems when making business trips, and in these instances, commonly cited problems included; delays/roadworks (35%), excessive journey times (15%), volume of traffic (12%) and poor maintenance of roads (12%).
- The Tarbet to Ardlui section of road was rated as causing the greatest difficulties. Anecdotally there were stories of "shell-shocked" tourists arriving in Tourist Information Centres after skirmishes with larger vehicles.
- Respondents thought that upgrading the A82 would have a significant impact on their business.
- On average, respondents estimated that upgrading the A82 would lead to a 9% increase in sales and reduce their costs by 1%.

5.101 Within the study area, tourism expenditure was estimated at £219 million in 2005. This is equivalent to almost 8% of total turnover across all sectors in the local.

5.102 Income in the study area (as measured by GVA) from the tourism sector is estimated to be £72 million in 2005.

5.103 Using the data in para 5.100 we have assumed that the increase in sales of 9% and reduction in costs of 2% will occur by 2019 and that the resulting change in income continues for the remaining 20 years in the analysis period. Table 5.12 shows:

- The total value of income (benefits) to the study area of upgrading the A82 between Tarbet and Fort William over 2010 to 2039 under full investment;
- The discounted value of income to the study area of upgrading the A82 between Tarbet and Fort William over 2010 to 2039 under full investment and assuming a discount rate of 3.5% with 2010 representing year 1; and
- The additional employment in the study area arising in 2019 as a result of the full investment scenario

5.104 Over 2010 to 2039 additional income of £187 million is forecast for the study area from the increased expenditure of visitors. This is estimated to support an increase in employment of 400 in 2019 which would be sustained through to 2039. The additional income is forecast to be in the range £93 million to £282 million.

5.105 The Table also shows the results for Scotland as a whole under full investment. The increase in income at the Scotland level will be less than for the study area as some of the additional output in the study area is expected to be displacement from other parts of Scotland. Additional tourism expenditure is assumed to be 90% displaced at the Scotland level. This yields additional income at the Scotland level of £57 million.

**Table 5.12**

**Impact on Tourism Businesses – Maximum Investment**

| Study Area | | Additional Impact, £ million, 2019 - 2039 | | |
|---|---|---|---|---|
| | Baseline (annual) | Lower | Central | Upper |
| Total Income (undiscounted) | £72 m | 93 | 187 | 282 |
| Total Income (discounted) | | 51 | 103 | 156 |
| Employment | 4,400 | 200 | 400 | 600 |
| **Scotland** | | | | |
| Total Income (undiscounted) | £2,351 | 28 | 57 | 85 |
| Total Income (discounted) | | 16 | 31 | 47 |
| Employment | | 20 | 40 | 60 |

5.106 Table 5.13 shows the results for the study area and Scotland under the moderate investment scenario. The moderate investment scenario is estimated to generate additional income in the study area of £37 million over 2010 to 2039. At the Scotland level additional income is estimated to be £11 million.

**Table 5.13**

**Impact on Tourism Businesses – Moderate Investment**

| **Study Area** | | **Additional Impact, £ million, 2019 - 2039** | | |
|---|---|---|---|---|
| | **Baseline (annual)** | **Lower** | **Central** | **Upper** |
| Total Income (undiscounted) | £72 m | 19 | 37 | 56 |
| Total Income (discounted) | | 10 | 21 | 31 |
| Employment | 4,400 | 40 | 80 | 120 |
| **Scotland** | | | | |
| Total Income (undiscounted) | £2,351 m | 6 | 11 | 17 |
| Total Income (discounted) | | 3 | 6 | 9 |
| Employment | | <10 | 10 | 10 |

## Total Impact on Existing Businesses

5.107 Table 5.14 provides a summary of the total direct impact of the improvements to the A82 on the study area and Scotland as a whole over 2010 to 2039 using the central forecast by sector. It is estimate that additional income of almost £690 million could be created in the study area as a result of improvements to the A82. This would support 700 additional jobs in the study area.

**Table 5.14**

**Total Direct Impact – Full Investment, Central Case**

| Study Area | Additional Impact, £ million, 2010 - 2039 | | |
|---|---|---|---|
| | **Undiscounted** | **Discounted** | **Employment** |
| Fish | 262 | 145 | 140 |
| Manufacturing | 117 | 65 | 130 |
| Retail | 99 | 55 | 0 |
| Timber | 9 | 5 | 20 |
| Haulage | 15 | 8 | 10 |
| Tourism | 187 | 103 | 400 |
| **TOTAL** | **687** | **381** | **700** |
| **Scotland** | | | |
| Fish | 240 | 133 | 110 |
| Manufacturing | 41 | 23 | 40 |
| Retail | 99 | 55 | 0 |
| Timber | 7 | 4 | 10 |
| Haulage | 12 | 7 | <10 |
| Tourism | 57 | 31 | 40 |
| **TOTAL** | **455** | **252** | **210** |

**Note:** Columns may not sum due to rounding

5.108 In addition to the direct impacts, there will be indirect and induced impacts throughout the study area and Scotland as additional goods and services are purchased to meet the additional sales and the additional direct employees spend their wages and salaries. These indirect and induced impacts are shown in Table 5.15. A total of £74 million additional income is estimated to be generated in the study area over 2010 to 2039 under the central case (undiscounted).

**Table 5.15**

**Total Indirect and Induced Impact – Full Investment**

| Study Area | Additional Impact, £ million, 2010 - 2039 | | |
|---|---|---|---|
| | Lower | Central | Upper |
| Total Income (undiscounted) | 37 | 74 | 111 |
| Total Income (discounted) | 21 | 41 | 62 |
| Employment | 60 | 110 | 170 |
| **Scotland** | | | |
| Total Income (undiscounted) | 55 | 111 | 165 |
| Total Income (discounted) | 30 | 61 | 91 |
| Employment | 80 | 170 | 250 |

5.109 Combining the results in Tables 5.14 and 5.15 yields the total impact in the study area and Scotland of the full impact scenario. This is shown in Table 5.16. The central case forecasts show additional income in the study area to be over £760 million and additional employment to be 800 in 2019 (which would be sustained over 2020 to 2039). The additional income is forecast to be in the range £378 million to £1,150 million (undiscounted).

5.110 For Scotland as a whole, the additional income is forecast to be £566 million over 2010 to 2039 in the central case. This would support 370 additional jobs.

**Table 5.16**

**Total Impact – Full Investment (Direct, Indirect and Induced)**

| Study Area | Additional Impact, £ million, 2010 - 2039 | | |
|---|---|---|---|
| | Lower | Central | Upper |
| Total Income (undiscounted) | 378 | 762 | 1,150 |
| Total Income (discounted) | 209 | 421 | 637 |
| Employment | 400 | 800 | 1,190 |
| **Scotland** | | | |
| Total Income (undiscounted) | 281 | 566 | 856 |
| Total Income (discounted) | 156 | 313 | 474 |
| Employment | 180 | 370 | 550 |

5.111 Tables 5.17 to 5.19 provide the direct, indirect and induced and total impacts under the moderate investment scenario. The total impact in the study area of the moderate investment scenario is forecast to be additional income of £84 million (discounted) over 2010 to 2039. The employment impact is 160 jobs.

5.112 At the Scotland level, the moderate investment scenario is estimated to generate £50 million (discounted) of additional income and employment of 70.

**Table 5.17**

**Total Direct Impact – Moderate Investment**

| Study Area | Additional Impact, £ million, 2010 - 2039 | | |
|---|---|---|---|
| | Undiscounted | Discounted | Employment |
| Fish | 52 | 29 | 30 |
| Manufacturing | 23 | 13 | 30 |
| Retail | 10 | 11 | 0 |
| Timber | 2 | 1 | <10 |
| Haulage | 3 | 2 | <10 |
| Tourism | 37 | 21 | 80 |
| **Total** | **137** | **76** | **140** |
| **Scotland** | | | |
| Fish | 48 | 27 | 20 |
| Manufacturing | 8 | 5 | 10 |
| Retail | 20 | 11 | 0 |
| Timber | 1 | 0.5 | <10 |
| Haulage | 2 | 1 | <10 |
| Tourism | 11 | 6 | 10 |
| **Total** | **90** | **50** | **40** |

**Table 5.18**

**Total Indirect and Induced Impact – Moderate Investment**

| Study Area | Additional Impact, £ million, 2010 - 2039 | | |
|---|---|---|---|
| | Lower | Central | Upper |
| Total Income (undiscounted) | 7 | 14 | 22 |
| Total Income (discounted) | 4 | 8 | 12 |
| Employment | 10 | 20 | 30 |
| **Scotland** | | | |
| Total Income (undiscounted) | 11 | 22 | 33 |
| Total Income (discounted) | 6 | 12 | 18 |
| Employment | 20 | 30 | 50 |

**Table 5.19**

**Total Impact – Moderate Investment**

| Study Area | Additional Impact, £ million, 2010 - 2039 | | |
|---|---|---|---|
| | Lower | Central | Upper |
| Total Income (undiscounted) | 76 | 152 | 230 |
| Total Income (discounted) | 42 | 84 | 127 |
| Employment | 80 | 160 | 240 |
| **Scotland** | | | |
| Total Income (undiscounted) | 56 | 113 | 171 |
| Total Income (discounted) | 31 | 50 | 95 |
| Employment | 40 | 70 | 110 |

## BUSINESS INVESTMENT IMPACTS

### Overview

5.113 Transport infrastructure improvements, where they have a significant impact on improving the accessibility of a region, will improve "place competitiveness" which will benefit companies in a range of sectors. This is recognised in a number of important strategy documents, including Scotland's Transport White Paper (June 2004) which notes that transport infrastructure plays an important role in terms of improving the competitiveness of businesses within rural areas because of the significant potential for improving the accessibility of these areas. "The accessibility of rural areas has a significant impact on their local economies and social wellbeing". It goes on to note that "Tourism is a major industry for many rural areas and the quality and availability of transport connections affects their competitiveness".

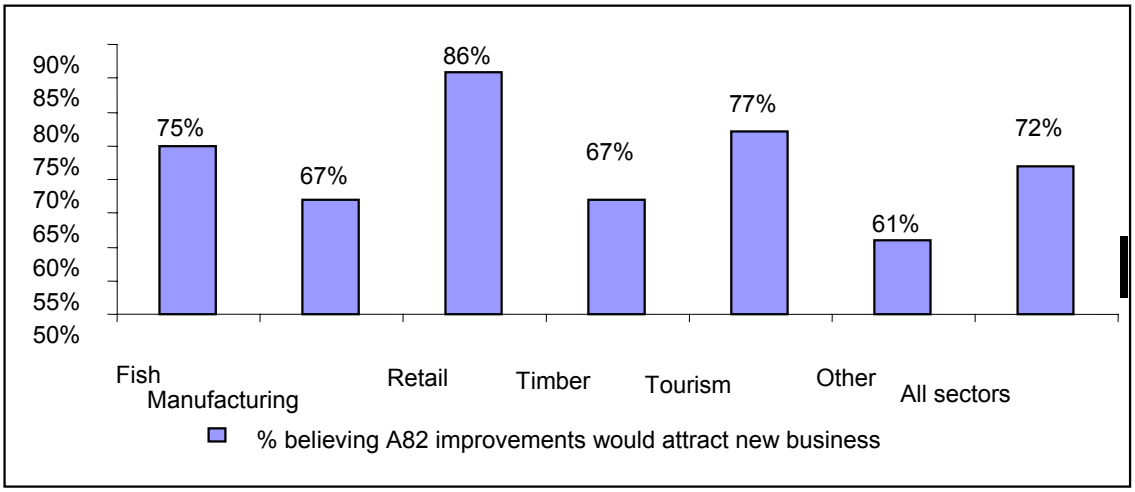
5.114 Evidence from McQuaid (2004) suggests that transport is a necessary but not sufficient condition in the choice of business location. It is therefore unlikely that improvements in the transport system will affect business location, *unless transport is the missing element from the region's "assets"*. Since the A82 is the main arterial route between the west Highlands and Islands and the central belt of Scotland, there are strong grounds for arguing that this is the case and the impact of improvements will be felt across the economy.

5.115 "Travel Choices for Scotland: The Strategic Roads Review" acknowledges the significant role that transport provision plays in rural areas: "Businesses depend on good transport infrastructure and services to give them access to labour, to their suppliers and to their customers". In addition, "transport provision is important to local economies, not least because it can influence businesses in deciding *where* to invest.

5.116 Tribal HCH's business survey found evidence to support the notion that improvements to the A82 would have a positive impact on business investment. This included the following:

- A very high proportion of businesses believed that improvements would attract new business to the area (72%); and
- The proportion was higher for retail businesses (86%) and for tourism businesses (77%). This is shown in Figure 5.8

**Figure 5.8: Survey of Local Businesses**




Source: Tribal HCH Business Survey 2005

5.117 While a high proportion of businesses interviewed believed that improvements to the A82 will attract new business to the area, it is very difficult to quantify what the impact would be on business location decisions. Neither Lochaber Enterprise (LE) nor Argyll and Islands Enterprise (AIE) are aware of any cases where the poor quality of the A82 had deterred inward investors or new businesses from setting up in the area over the past three years. However this certainly does not mean that there have been no instances where potential investors have been put off investing in the area. The west Highlands and Islands area may not feature as a potential location as it is perceived by the company to be inaccessible.

5.118 To the extent that enhancing the A82 improves the accessibility of remote, rural settlements within the west Highlands and Islands then this is likely to increases the relative attractiveness of these areas and should lead to increased income and employment opportunities within the study area.

5.119 Data are not available on the number of inward investment projects to the study area in recent years, but data are available on business start-ups. Lochaber Enterprise assisted 133 businesses in total over the period 2000/01-2004/05 (this is equivalent to 26 companies on average each year.). A significant proportion (36%) of businesses assisted – or 48 in total over the period 2000/01 to 2004/05 - fell into the "other services" category (which excludes tourism and creative industries). In addition, 28 manufacturing businesses (21%), and 20 tourism businesses (15%) were assisted.

5.120 AIE have assisted 763 businesses over the same period (equivalent to 153 each year). "Other services" account for over 70% of the businesses starting up over the period 2000/01 to 2004/05. Over the same time-frame, 79 creative industry businesses (or 11% of the total) and 58 tourism businesses (or 8%) were assisted.

### *Potential Impact*

5.121 A "*Smart Successful Highlands and Islands*" Strategy Consultation found that transport links (both within the Highlands and Islands) and to the rest of the UK and abroad were felt to be the greatest hurdle to business and the general prosperity of the region. Businesses, community and voluntary organisations highlighted improvements to transport links as a priority for the long-term development of the Highlands and Islands. Indeed, improvements to transport links were a number one priority in improving business competitiveness and in supporting rural communities.

5.122 **"***The perceptions of remoteness can be as damaging as the physical reality, particularly when trying to attract inward investment*." Highlands and Islands Airports Limited in "A Smart Successful Highlands and Islands.

5.123 The Strategy sets out the priorities for the Enterprise Network in recognition of the principles underpinning *Smart Successful Scotland* relating to engaging activities that add value to the economy. It is noted that confidence in the region, amongst businesses and residents, is very high and should act as a catalyst for investment and new activity. The Highlands is in a strong position to capitalise on its natural assets and attractive natural environment which is important to newcomers to the area. The aspiration of the Network is to create more businesses in sectors that exploit the region's assets, including renewable energy, timber, product manufacturing in niche and high-value products (such as food and drink), outdoor activities, cultural activities and the knowledge economy.

5.124 The renewables sector is recognised as extremely important in the future prosperity of the Highlands because of the abundance of natural resources combined with the distance and relative inaccessibility to the main UK energy producers. Wind turbine towers are manufactured in Argyll for export. This is one example of an industry where the road network is of very important to the future growth in this sector because the transport of wind turbines and other materials require carriageways of sufficient breadth. There are opportunities to extensively develop wind, marine and biomass energy in the Highlands, provided the right kind of support and incentives are available. Transport infrastructure is of critical importance.

5.125 It is anticipated that A82 improvements will help business competitiveness and stimulate business investment across a wide range of sectors, including: renewable energy, timber, manufacturing (particularly in niche and high-value products such as food and drink), and outdoor and cultural activities. By improving the accessibility of the west Highlands and Islands this will increase the desirability of the area to entrepreneurs which will bring benefits to the knowledge economy.

5.126 Our estimate of the potential impact on inward investment is based on the following assumptions:

- Assume that the full investment scenario generates ten new businesses in the study area by 2019 and a further 10 new businesses are created every ten years from 2020 to 2039;

- Assume that average employment in each business is eight.

5.127 The additional income and employment supported by business investment is shown in Table 5.20. The results are only shown for the study area as all new businesses are assumed to be displacing others at the Scotland level.

5.128 Under the full investment (central case), the forecast shows additional income to the study area of £81 million from business investment over 2010 to 2039. This is reduced to £16 million in the moderate investment case.

**Table 5.20**

**Impact on Business Investment in the Study Area**

| **Full Investment** | **Lower** | **Central** | **Upper** |
|---|---|---|---|
| Total Income (undiscounted), £ million | 41 | 81 | 122 |
| Total Income (discounted), £ million | 21 | 42 | 62 |
| Employment (in 2039) | 120 | 240 | 360 |
| **Moderate Investment** | | | |
| Total Income (undiscounted), £ million | 8 | 16 | 24 |
| Total Income (discounted), £ million | 4 | 8 | 12 |
| Employment (in 2039) | 24 | 48 | 72 |

## POPULATION IMPACT

5.129 Research has shown that the economic performance of accessible rural areas has been better than remote rural areas in recent years. Indeed, remote rural areas have been characterised by lower levels of output per head and lower wages. We have divided the rural Scottish local authorities into groups:

- Remote rural: Highland, Argyll and Bute, Western Isles, Orkney and Shetland; and
- Accessible rural: Aberdeenshire, Angus, Borders, Dumfries and Galloway, East Ayrshire, Moray, Perth and Kinross, South Ayrshire and Stirling.

5.130 Table 5.21 provides a summary of the change in population in these two groups and Scotland as a whole over 1991 to 2001. The Table shows that while the population of remote rural areas has increased by 0.3% over 1991 to 2001, the population of the accessible rural areas has increased at more than twice the Scottish rate over the same period – 2.8% per annum in accessible rural areas compared to 1.3% in Scotland.

**Table 5.21**

**Population Change, 1991 - 2001**

| | 1991 | 2001 | %Change |
|---|---|---|---|
| Remote Rural Areas | 325,630 | 326,720 | 0.3 |
| Accessible Rural Areas | 1,098730 | 1,130230 | 2.9 |
| Scotland | 4,998570 | 5,062,010 | 1.3 |

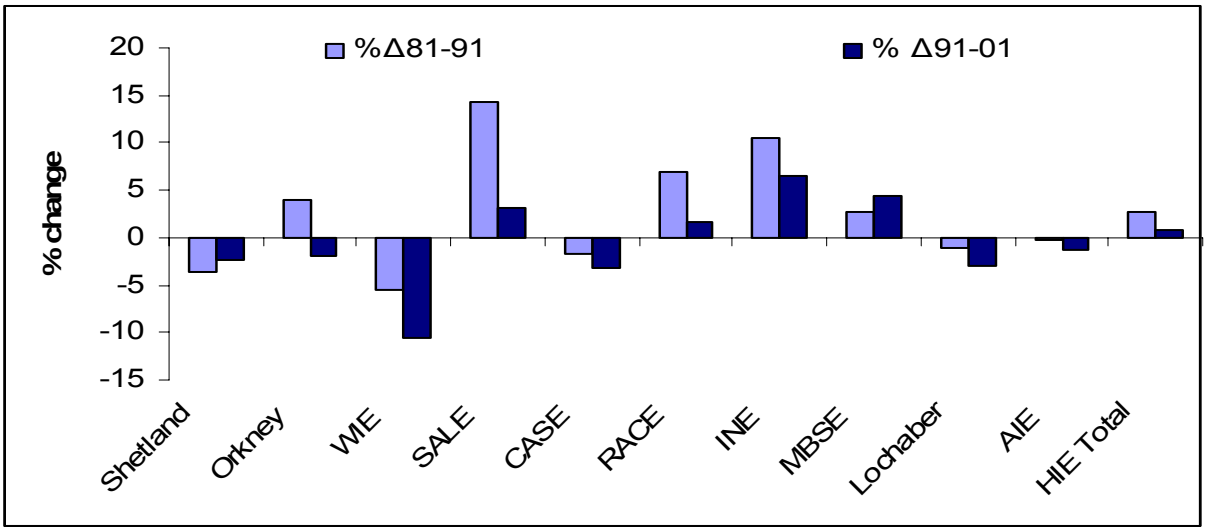
Source: Census of Population 1991 and 2001

5.131 Throughout the 1990s, population has concentrated around the larger HIE area settlements, while the more remote and fragile areas are continuing to suffer from out migration (Figure 5.9). The Western Isles experienced a 10.5% contraction in population in the 10 years to 2001 (twice the rate of the previous decade). Within the Western Isles only 4 of the 31 wards experienced population growth during the 1990's. A total of 18 wards experienced population decline of over 10%, including Daliburgh and Eriskay at almost 25% and North Benbecula at over 35%. In the last 10 years the only island to experience an increase in population is Vatersay – reversing the large outflow of people seen during the 1980's. The decrease on some of the other islands has been significant – in particular, Benbecula and Eriskay have each lost over a quarter of their 1991 population.

5.132 AIE experienced a population contraction of 1.3% in the ten years to 2001 (this rate of decline was 3 times faster than the previous decade). Only 2 of the 11 census wards within AIE's fragile areas experienced population growth. Although wards within Oban and Lochgilphead contracted, their fringes expanded. The main areas of growth in AIE were the wards within commuting distance of Oban and Lochgilphead.

5.133 The only part of Lochaber to show population growth during the 1990's was the Ardnamurchan and Morvern peninsula – which included an "Initiative at the Edge" area. Fort William and its hinterland shrunk by over 350 people.

**Figure 5.9: Population Change by LEC area**




Source: GROS

5.134 Section 4 highlighted that the population of the study area had fallen by almost 4% over 1991 to 2001 and that the population decline was forecast to continue over 2002 to 2018. The reduction in population over 1991 -2001 in the study area was 3,100 and this is forecast to almost double to 6,100 over 2002 to 2018. It is anticipated that upgrading the A82 to improve access to the west Highlands and Islands will help to reduce the rate of population decline in the fragile study area.

## CONCLUSIONS

5.135 Upgrading the A82 to provide a modern, reliable road between Tarbet and Fort William will generate a range of economic benefits for the economy of the west Highlands and Islands. As the route is the main commercial corridor for goods and services to be transported into and out of the west Highlands, Skye and the Western Isles, the benefits of upgrading the road will extend well beyond the immediate route corridor. There are three means by which the road s estimated to generate economic benefits.

5.136 **Existing Businesses**: First, it will provide existing businesses with improved, more reliable access to markets and more cost effective access to customers and suppliers. The combined impact of increase sales and reduced costs across the key sectors of the economy is estimated to generate £381 million (discounted) of income and support employment of 700. The employment impact is forecast to occur by 2019 and would be sustained throughout the remainder of the period of analysis. In addition to the direct impact, there will be indirect and induced impacts. Combining the direct, indirect and induced impacts yields total additional income in the study area of £421 million (discounted) and employment of 800. This assumes that the investment in the A82 is made in full.

5.137 At the Scotland level, full investment is estimate to generate additional income to existing businesses of £313 million (discounted) and support employment of 370.

5.138 Failure to make the full investment in the road is estimated to yield a fraction of the economic benefits, as the key sections of the route which cause the most concern would not be addressed. The additional income in the study area forecast under the moderate investment scenario is £84 million (discounted) with employment of 160. At the Scotland level the additional income to existing businesses would be £50 million with employment of 70.

5.139 **New Business Investment**: Second, transport infrastructure improvements, where they have a significant impact on improving the accessibility of a region, will improve "place competitiveness". This study found that 72% of businesses surveyed felt that road improvements to the A82 would attract new business to the area.

5.140 It is anticipated that A82 improvements will help business competitiveness and stimulate business investment across a wide range of sectors including renewable energy, timber, manufacturing (particularly niche, high value products) and outdoor and cultural activities.

5.141 Under the full investment scenario, additional income in the study area of £42 million (discounted, central case) is forecast. Under moderate investment, additional income of £8 million (discounted, central case) is forecast.

5.142 While upgrading the A82 is forecast to stimulate new business investment in the study area, it is anticipated that this will simply displace investment from elsewhere in Scotland. Hence, there is not forecast to be any additional impact at the Scotland level from new business investment.

5.143 **Population Impacts**: Research has shown that the economic performance of accessible rural areas has been better than remote rural areas in recent years. Indeed, population growth in accessible rural areas has been greater than that in remote rural areas of Scotland and across Scotland as a whole.

5.144 Over 1991 to 2000, the population of the study area fell by 3,100 and this population loss if forecast to increase to 6,100 over 2002 to 2018. It is anticipated that upgrading the A82 to improve access to the west Highlands and Islands will help to reduce the rate ofpopulation decline in the fragile study area.

### Total Impact Study Area

5.145 Table 5.22 provides a summary of the total additional income and employment which could be created in the study area as a result of upgrading the A82. This includes the benefits to existing businesses and the benefits from new investment, but excludes the benefits associated with population retention which have not been quantified. The full investment, central case forecast shows additional income to the study area over 2010-2019 of £463 million (discounted). Under the moderate investment scenario, this is reduced to £92 million (discounted). Hence, the full investment scenario is forecast to yield substantial economic benefits to the study area economy.

**Table 5.22**

**Impact Summary: Study Area**

| | £ million, discounted values | | |
|---|---|---|---|
| **Full Investment** | **Lower** | **Central** | **Upper** |
| Existing Businesses | 209 | 421 | 637 |
| New Businesses/Investment | 21 | 42 | 62 |
| **Total Income** | **230** | **463** | **699** |
| Employment (in 2019 and beyond) | 520 | 1,040 | 1,550 |
| **Moderate Investment** | | | |
| Existing Business | 42 | 84 | 127 |
| New Businesses/Investment | 4 | 8 | 12 |
| **Total Income** | 46 | 92 | 139 |
| Employment (in 2019 and beyond) | 104 | 208 | 312 |

## Total Impact Scotland

5.146 The total additional income and employment which could be created in Scotland as a result of upgrading the A82 derives only from the benefits to existing businesses in the study area. The full investment, central case forecast shows additional income to Scotland over 2010 to 2019 of £313 million (discounted). Under the moderate investment scenario, this is reduced to £50 million. Hence, the full investment scenario is forecast to yield substantial economic benefits to the Scottish economy.

# APPENDIX A

# Bibliography

## BIBLIOGRAPHY


Bryan J, Munday M, Welsh Economy Research Unit, “Turning the Corner? Road Improvements and Economic Development in Merthyr”, 1997

Bannister D, Berechman J, “Transport Investment and Economic Development”, 2000

CAG Consultants, “New Jobs without New Roads” Friends of the Earth 2001

Cameron G, Muellbauer J, “The Housing Market and Regional Commuting and Migration Choices”, Centre for Economic Policy Research, 1998

Centre for Economics and Business Research Ltd, “Roads and Jobs: The Economic Impact of

Different Levels of Expenditure on the Roads Programme”, Summary, 1994

Cleary E. J, Thomas R. E, “The Economic Consequences of the Severn Bridge and its Associated Motorways”, Bath University Press, 1973

Cogentsi (2004) “Accounting for Success: Understanding and Monitoring the Growth of Inverness” Report for Highlands and Islands Enterprise and Inverness and Nairn Enterprise

Department for Transport (DfT) “Transport, Wider Economic Benefits and Impacts on GDP”, 2005

Department of the Environment, Transport and the Regions, “Guidance of the Methodology for Multi-Modal Studies”, Volume 1, 2000

Department of the Environment, Transport and the Regions, “Guidance of the Methodology for Multi-Modal Studies, Volume 2, 2000

Department of Transport, Department of the Environment, “A New Approach to Trunk Road Planning”, 1997

Department of Transport; Department of the Environment, “A New Approach to Trunk Road Planning”, 1997

EKOS (2001) “Socio-economic impact of a fixed link between Yell and Unst” Report to Highlands and Islands Enterprise

EKOS (1999) “Eriskay and Sound of Barra Integrated Transport Project” Abridged version, Final report

EKOS (1997) “Economic Impacts of the Failure to Upgrade the A830” Report for the Mallaig Steering Group

Ernst and Young, “Transport Infrastructure, Business Costs and Business Location”,

Faber Maunsell, “The Draft Regional Transport Strategy for the North East”, Consultation Summary, 2002

Greenpeace “Roads, Jobs and the Economy” 1994

Halden D, Sharman K, “A Study of Transport and Development Changes Around Inverness”, Transport Research Laboratory, 1994

Headicar P, Bixby B, “Concrete and Tyres: Local Development Effects of Major Roads M40 Case Study”, Council for the Protection of England, 1992

HIDB (1979) “The Economic Effects of Bypasses on Local Business” Transport Research Paper 5, HIDB Inverness

Jubilee Line Extension Impact Study Unit, “The Concepts and Methodological Framework for Assessing the Impacts of the JLE”, Working Paper No. 4.

Mackie PJ, Tweddle G, Institute for Transport Studies, “Measuring the Benefits Gained by Industry from Road Network Improvements”, ITS Working Paper 391, 1993

McQuaid R W, Greigh M (2004) “The Importance of Transport in Business Location Decisions” Report to the DfT

McQuaid R W and Greig M (2002) “An Assessment of the Economic Impact of the Skye Bridge Tolls” Final report prepared for the Highland Council. Napier University, Edinburgh.

McQuaid R, Greig M, Employment Research Institute and Transport Research Institute, Napier University, “Transport and the Scottish Economy: Key Issues”, 2002

Nakamura H, “The Economic Evaluation of Transport Infrastructure: Needs for International Comparisons”, Institute for Transport Policy Studies (www.elsevier.com/locate/tranpol)

National Assembly for Wales, “Welsh North-South Transport Links Study: Transport Strategy – Executive Summary”, 2000

Newbery D, “Efficiency Benefits of Transport Cost Reductions”, Department of Applied Economics (Cambridge), Executive Summary, 1998

Newbery D, “Measuring the Indirect Benefits of Transport Cost Reductions”, Department of Applied Economics (Cambridge), 1998

OECD, “Impact of Transport: Infrastructure Investment on Regional Development”, OECD.

Parkinson M, Department of Transport, “The Effect of Road Investment on Economic Development in the UK”, Working Paper No 43, 1981

Pieda (1997) “Transport Costs and the Economy of the Highlands and Islands” Report to the SODD.

Robson B et al, “Regions in Partnership: the Trans-Pennine Corridor Study”, 1995

Scottish Executive Development Department, “Travel Choices for Scotland: Strategic Roads Review”, volumes 1 and 2, 1999

Steer, Davis and Gleave “Research into Guidance on the Economic Impact Report: Draft” DTLR 2001

Steininger Karl W, “Transport, Access and Economic Growth”, World Economics, Volume 3 No. 2, April-June 2002

Transport and Economic Development, “Report on STSG Dundee Conference, 1 October 1999”

University of Leeds Institute for Transport Studies, University of Manchester Department of Planning and Landscape, University of Manchester Centre for Urban Policy Studies, “Regions in Partnership: The Trans-Pennine Corridor Study”, 1995

Welsh Assembly Government, “Review of Trunk Roads”, 2002

Welsh Assembly Government, “Trunk Road Forward Programme”, 2002

Welsh Office, “Transporting Wales into the Future”, 1998

Whitelegg J, “Roads, Jobs and the Economy”, 1994

# APPENDIX B

# EALI: Summary Assessment Tables

## Appendix B: Summary Assessment Table

| **EALI: Summary Assessment Table – Full Investment** | | | | |
|---|---|---|---|---|
| | **Local Impacts (Gross)** | | **National Impacts (Net of Displacement)** | |
| **Sector** | **Gains/Gainers** | **Losses/Losers** | **Gains/Gainers** | **Losses/Losers** |
| Fish Related | +140 jobs<br>+£145 m income | Zero | +110 jobs<br>+£133 m income | Zero |
| Manufacturing | +130 jobs<br>+£65 m income | Zero | +40 jobs<br>+£23 m income | Zero |
| Retail | 0 jobs<br>+£55 m income | Zero | As local | Zero |
| Timber | +20 jobs<br>+£5 m income | Zero | +10 jobs<br>+ £4 m income | Zero |
| Haulage | +10 jobs<br>+£8 m income | Zero | <10 jobs<br>+£7m income | Zero |
| Tourism | +400 jobs<br>+£103 m income | Zero | +40 jobs<br>+£31 m income | Zero |
| Indirect/Induced Impacts | +110 jobs<br>+£41 m income | Zero | +170 jobs<br>+£61 income | Zero |
| New Business Investment | +240 jobs<br>+£42 m income | Zero | Zero | Zero |
| Total Impacts | +1,040 jobs<br>+£463 m income | Zero | +370 jobs<br>+£313 m income | Zero |
| Notes: Employment figures relate to 2019 and are assumed to be sustained over 2020 to 2039<br>Income figures related to whole period 2010 to 2019 and are discounted figures representing the central case | | | | |

| **EALI: Summary Assessment Table – Moderate Investment** | | | | |
|---|---|---|---|---|
| | **Local Impacts (Gross)** | | **National Impacts (Net of Displacement)** | |
| **Sector** | **Gains/Gainers** | **Losses/Losers** | **Gains/Gainers** | **Losses/Losers** |
| Fish Related | +30 jobs<br>+£29 m income | Zero | +20 jobs<br>+£27 m income | Zero |
| Manufacturing | +30 jobs<br>+£13 m income | Zero | +10 jobs<br>+£5 m income | Zero |
| Retail | 0 jobs<br>+£11 m income | Zero | As local | Zero |
| Timber | <10 jobs<br>+£1 m income | Zero | <10 jobs<br>+ £0.5 m income | Zero |
| Haulage | <10 jobs<br>+£2 m income | Zero | <10 jobs<br>+£1 m income | Zero |
| Tourism | +80 jobs<br>+£21 m income | Zero | +10 jobs<br>+£6 m income | Zero |
| Indirect/Induced Impacts | +20 jobs<br>+£8 m income | Zero | +30 jobs<br>+£12 income | Zero |
| New Business Investment | +48 jobs<br>+£8 m income | Zero | Zero | Zero |
| Total Impacts | +210 jobs<br>+£92 m income | Zero | +70 jobs<br>+£50 m income | Zero |
| Notes: Employment figures relate to 2019 and are assumed to be sustained over 2020 to 2039<br>Income figures related to whole period 2010 to 2019 and are discounted figures representing the central case | | | | |