

BEYOND LIFELINE SERVICES: HOW INVESTING IN TRANSPORT CAN UNLOCK THE ECONOMIC POTENTIAL OF PERIPHERAL AREAS

Tony Jarvis
Highlands and Islands Enterprise

1. INTRODUCTION

The provision of transport for remote mainland and island communities is often justified on the basis that these are 'lifeline' services. The understanding is that such services do not make economic sense (i.e. they cost more to deliver than the economic benefits they generate) but that they are nevertheless socially desirable in order to maintain these communities. In addition, there may be a reluctance to consider significant improvements to the level of services provided due to political priorities coupled with lack of demonstrable benefits versus the relatively high cost of implementing the improvements.

Recent experience in the Highlands and Islands is now starting to challenge the traditional view of lifeline transport provision. There is growing evidence that where transport links are improved, significant economic benefits can be generated, even in relatively small communities. It would appear that there is an unmet demand for transport in many parts of the Highlands and Islands. In these places, high costs and poor accessibility have constrained business growth and deterred visitors for many years, but where costs have been reduced and accessibility improved, the local economies have responded positively.

This paper will consider the results of research undertaken for Highlands and Islands Enterprise and HITRANS (the Highlands and Islands Regional Transport Partnership) with respect to both the constraints of current transport provision, and the impacts of recent transport improvements in the Highlands and Islands. In particular it will evaluate the role of trunk roads in providing access to west coast and island communities, and examine how enhanced air and ferry links are assisting in the regeneration of island economies. The paper will also indicate how future transport improvements will need to move beyond a lifeline approach in order to unlock further economic potential in the region.

2.

LIFELINE TRANSPORT SERVICES IN THE HIGHLANDS & ISLANDS

2.1 Definitions

A report for HITRANS in 2004 reviewed the case for investment in ‘Lifeline’ roads¹. It stated:

“The Scottish Executive in a consultation document, issued in 2000, offered the following as one of their objectives in relation to ‘lifeline’ ferry services, “...to ensure the provision of a suitable standard of transport connection, in terms of quality, frequency and capacity, to island (or, in some cases, remote peninsula) communities which would otherwise suffer social and economic disadvantage.”

The report noted that this interpretation was limited in some respects. In particular, lifeline services were only applicable for islands and remote peninsular communities, whereas there are many other mainland (non-peninsular) communities equally dependent on a transport lifeline of some kind. Also, the wording appeared to “epitomise the obligation of the public authorities to the provision of a suitable “*transport connection*” to remote communities, “*which would otherwise suffer social and economic disadvantage*.” In other words, the implications were that lifeline services were provided largely to prevent further social or economic decline, rather than to positively encourage social and economic development.

Further, the research for the report included a large number of business surveys throughout the west coast and island areas, seeking respondents’ view on which were the most critical lifeline roads for their business. One of the striking features of this was not so much the dependence on the local roads connecting these businesses to either ferry ports or main road links, although this was certainly an issue for many, but the significant number of responses that highlighted trunk roads as being the most critical transport lifelines. The point was made that many businesses could accept a lower quality of road provision locally, but that the quality of strategic road links, such as the A82, had a much greater impact on their operations.

In defining what a lifeline service is, and what it should aim to do, we need to think more broadly than has often been the case in the past. Certainly all air and ferry services to islands are transport lifelines, but so too are many transport links for mainland communities, including air and ferry services, and also trunk roads. Moreover, their purpose should not be merely to prevent decline, but to positively encourage development in these areas, especially where this is currently being constrained by the quality of transport connections.

2.2 Description of services

In 2004, it was reported that all ferry services in the Highlands and Islands carried 8.1 million passengers, and over 2.5 million vehicles, at a cost to the public purse of £68.5 million². This includes ferry services managed by the Scottish Executive for the West Coast and Hebridean network and the Northern Isles, operated by Calmac and Northlink respectively, plus services operated on behalf of local authorities in Argyll and Bute, Highland, Orkney and Shetland. The services vary from those operating 30 or more times per day (for example, across Yell Sound in Shetland, the Corran Ferry near Fort William, and the Luing Ferry in Argyll and Bute) to those operating maybe just two or three times per week in winter (such as Colonsay, Coll and the Small Isles). Some routes are very heavily used (those to Arran and Bute each carry over 700,000 passengers per annum), whilst some of the more infrequent routes to places like Fair Isle and North Ronaldsay carry less than 1,000 passengers per year.

The Scottish Executive funds the network of ten airports throughout the region that are operated by Highlands and Islands Airports Ltd (HIAL). Currently all airports require an annual subsidy (totalling £24 million in 2003/4), although Inverness has the potential to become profitable in the near future. Air services between Barra, Campbeltown and Tiree are also subsidised through a Public Service Obligation (PSO) mechanism, but the rest are operated on a commercial basis. The 'low-cost' revolution has not reached the islands, where services are generally operated by 18 or 33 seater aircraft with fares generally between £100-£300 return. Nevertheless, for businesses, and for residents conducting personal business or visiting friends and relatives, these are important lifeline links. The Executive has recently announced a scheme to provide 40% reduction in air fares for residents of the islands and Caithness (served by Wick Airport), which will improve the viability of these services. The local authorities in Argyll & Bute, Orkney and Shetland also directly fund the operation of small island airports and air services.

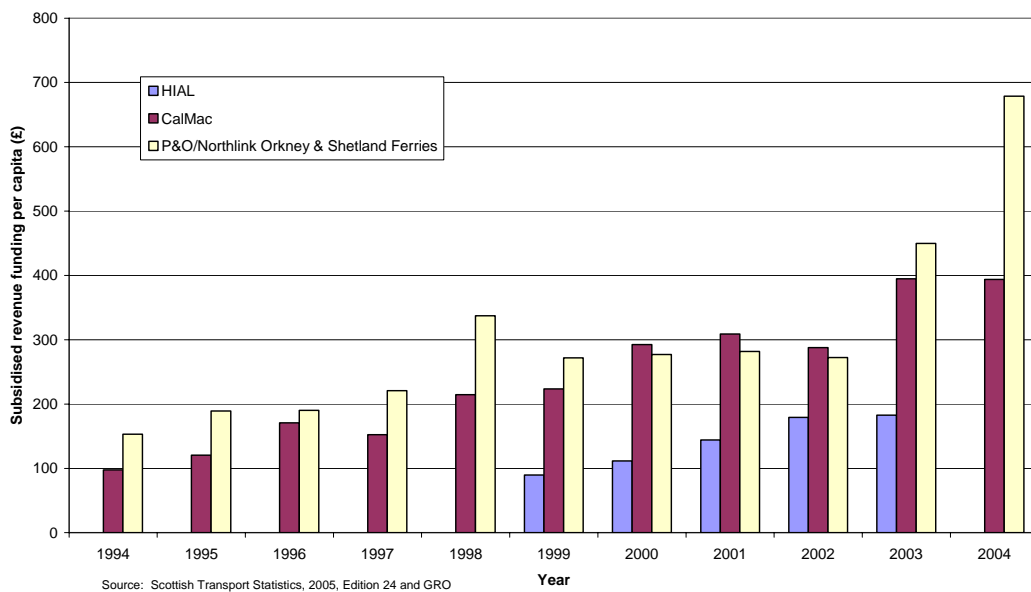
Finally, road and rail can also provide important lifeline functions. The A82, A9 and A96 are all critical to the operation of the economy in the region, and some areas are completely dependent on just one of these. The poor quality of these roads in relation to the level and type of traffic they are carrying is probably the most significant transport issue for many businesses, whilst recent disruptions by landslides have highlighted the transport system's inability to cope if just one of these is temporarily blocked. Strategic feeder roads and local roads vary greatly in quality across the region: for example whilst Shetland enjoys high quality dual track roads throughout the islands, large sections of the key Western Isles 'Spinal Route' remain poor quality single track. The rail network extends to Oban, Mallaig and Kyle of Lochalsh on the west coast, and Thurso and Wick in the north, and plays a vital role in connecting these communities and bringing in tourist revenues.

2.3 The economics of lifeline services

From some of the figures already given, it will be apparent that providing all of these lifeline transport links is costly to the Scottish Executive and Local Authorities, and therefore also the taxpayer. However, when broken down, these costs may not be as great as is sometimes thought. **Figure 1** outlines the subsidised cost per capita to the Scottish Executive with regard to maintaining 'lifeline' air and ferry services to remote, fragile, islands and some of the more inaccessible mainland peninsulas such as by air to Campbeltown in Kintyre and the ferry services operating to Mull out of Ardnamurchan.

The estimated population³ served by CalMac is taken as that for the west of Scotland which includes the Western Isles, the Argyll islands, the Cowal peninsula and the Ardnamurchan and Morvern area in Lochaber. The Northlink ferry subsidised per capita cost is based on the population of Orkney and Shetland. Lastly, the number of people served by HIAL includes all the inhabited Scottish islands, the Kintyre peninsula and Caithness.

Figure 1: Subsidised cost per capita of maintaining 'lifeline' services



The cost to the Scottish Executive in 2003 for CalMac and Northlink was around £395 to £450 per head of population in the areas served. The cost of the Northlink contract increased significantly in 2004 due to problems with the tendering process and impact of commercial competition on some of the routes, but it should also be noted that this includes the vessel lease costs, whereas the Calmac figures are purely operational costs (The capital costs of new vessels are paid separately by the Executive).

The cost of maintaining air services in the region is currently just under £200 per head of population in the areas served (excluding Inverness), although this will increase in 2006 as the reduced air fares schemes comes into operation. Whilst figures of up to £1,000 per capita per year may appear significant for provision of both air and ferry services, they should be compared with the value added to the Scottish economy from people living in islands and remote mainland areas. In 2003, the Gross Value Added (GVA) per capita for all island areas ranged between £10,520 for Argyll, Lochaber and Skye to £12,828 for Shetland. Whilst, of course there are other costs to the state in maintaining services for the islands, from a transport perspective, the economic benefits are at least ten times the costs.

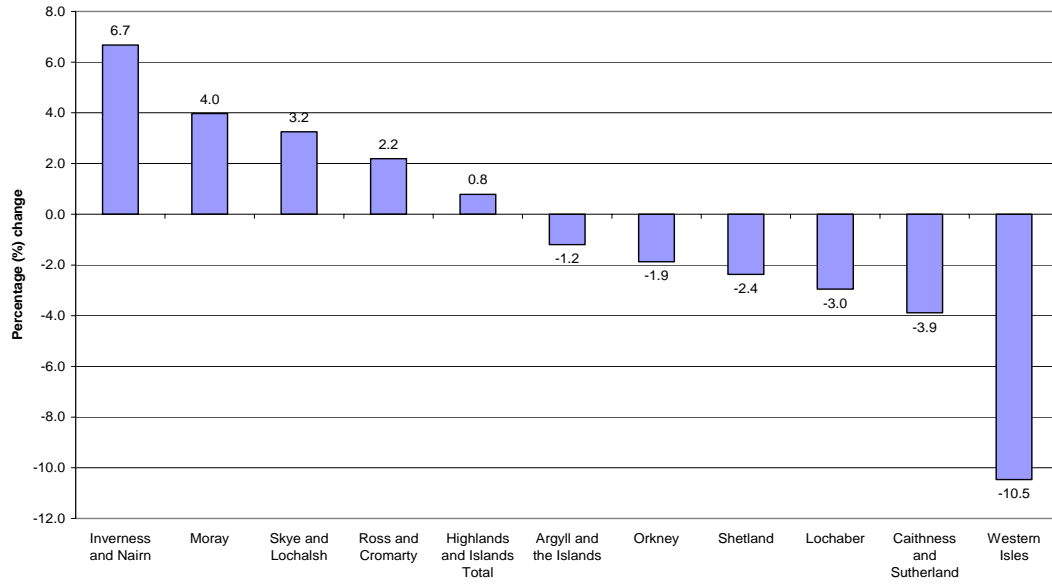
3. LINKING TRANSPORT IMPROVEMENTS TO ECONOMIC DEVELOPMENT

3.1 Accessible areas versus remote areas

Proving that there are direct links between transport improvements and population change or economic growth is notoriously difficult, given that there will be a range of factors active in any one area that will influence population and economy either positively or negatively. There are two approaches that can be considered for this: either to look at broad geographical patterns and whether these relate to accessibility and remoteness; or to undertake detailed analysis of economic changes in relation to transport improvements as they occur.

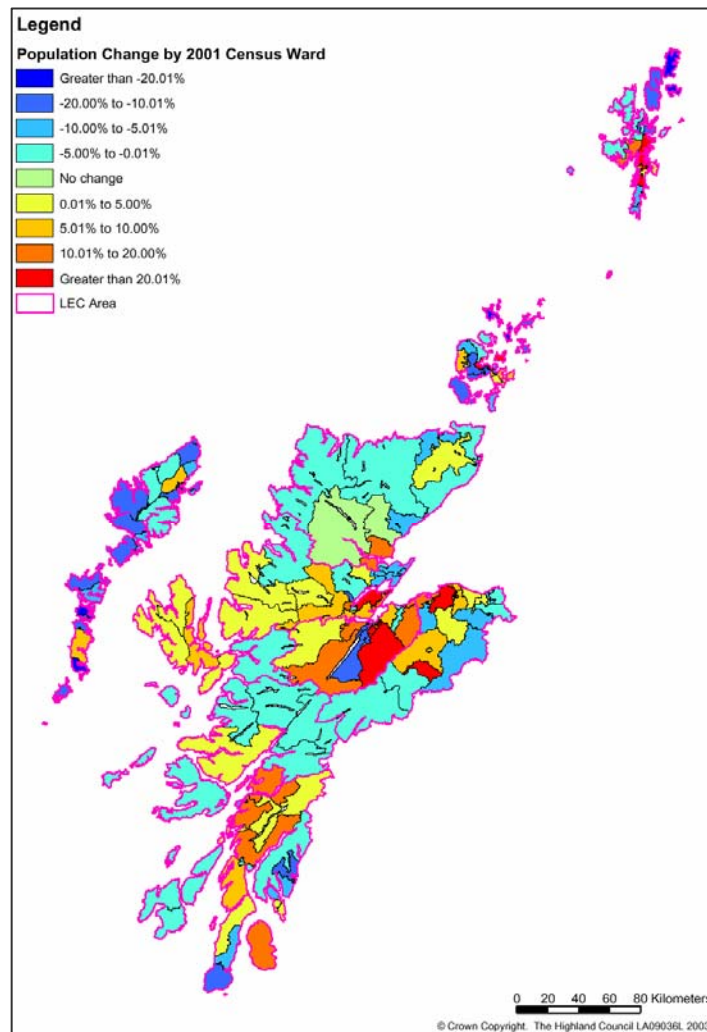
In terms of geographical patterns, probably the clearest picture is evident from the changes in population recorded between the 1991 and 2001 Census, presented in **Figures 2** and **3**. **Figure 2** depicts the percentage change in population by Highlands and Islands Enterprise (HIE) Local Enterprise Company (LEC) area. Although the population of the entire HIE area has increased slightly by 0.8% over the period, the population in the remote, fragile, island areas, such as the Western Isles, fell by a dramatic 10.5% and in the northern isles of Orkney and Shetland, but to a lesser extent of 1.9% and 2.4% respectively. A much clearer pattern can be seen from the ward level data in **Figure 3**: the areas of growth are clustered around Inverness and Argyll, with Wester Ross and Skye also fairing relatively well, whilst the areas of decline are situated in the Western Isles, the outer isles of Orkney and Shetland, plus the more remote mainland areas.

Figure 2: Percentage (%) change in population by LEC area, 1991 to 2001



Source: Census data, 1991 and 2001

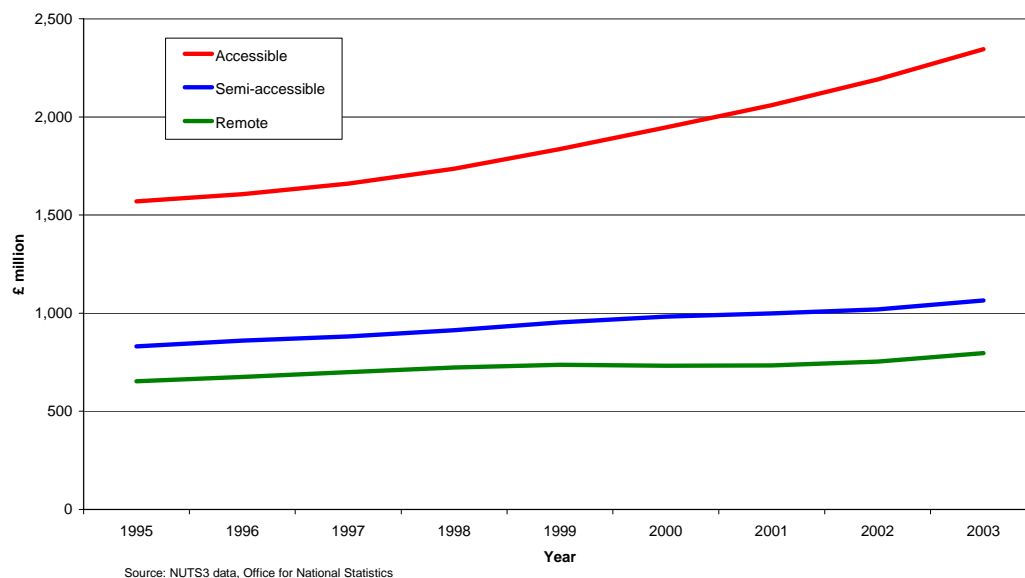
Figure 3: Percentage (%) change in population by Ward, 1991 to 2001



Although less accurate than recorded Census population in measuring change, GVA is an indicator of wealth creation and measures the contribution to the economy of each individual producer, industry or sector within the Highlands and Islands⁴. In effect GVA is generally regarded as the best measure of the sum of economic activity within an area. **Figure 4** compares the GVA for three distinct areas (pre-defined by European NUTS level 3 data) in the Highlands and Islands, between 1994 and 2003, these are:

- accessible: Caithness & Sutherland, Ross & Cromarty, Inverness & Nairn, and Moray, Badenoch & Strathspey;
- semi-accessible: Lochaber, Skye & Lochalsh and Argyll & the Islands; and
- remote: Western Isles, Orkney and Shetland.

Figure 4: Gross Value Added (£ million)



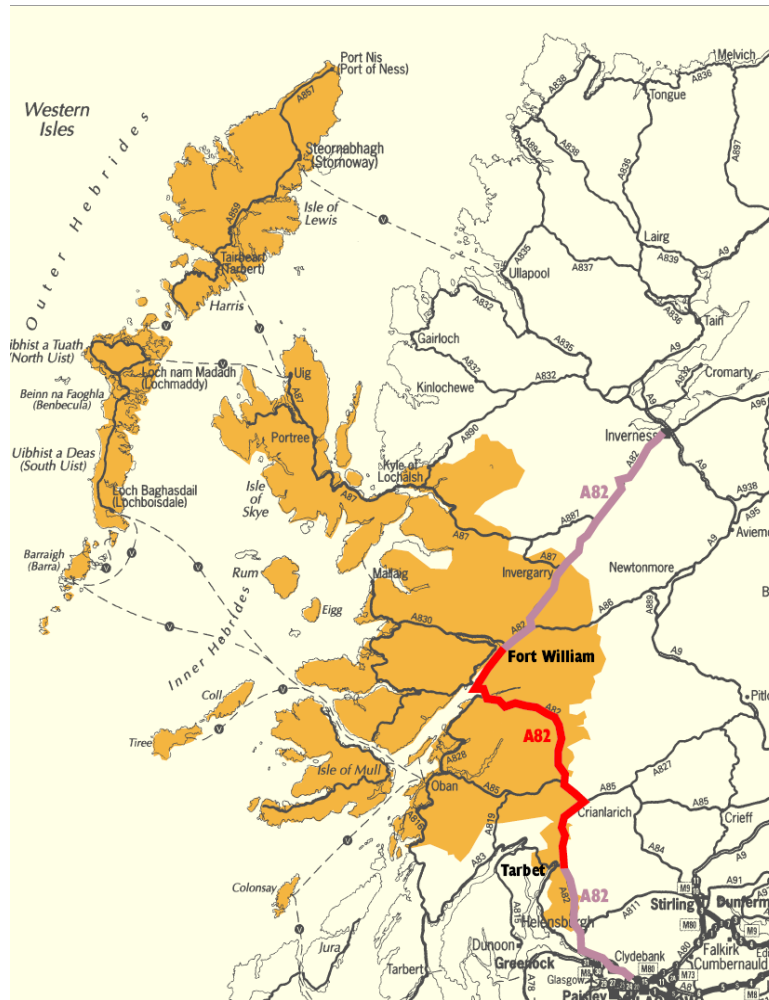
Not only is GVA for the 'accessible' areas significantly higher than in the 'semi-accessible' and 'remote' areas, but it is also on a marked upward trend compared to the other two. Both population and GVA trends in the Highlands and Islands therefore appear to indicate some kind of relationship between accessibility and growth, albeit at a very basic level. Anecdotally, the construction of the new A9 to Inverness and the Cromarty Firth is widely reputed to have been a key factor enabling the growth of the economy in the Inner Moray Firth area, and the development of air services at Inverness Airport is now stimulating further growth. Conversely, the lack of investment on the A82 is often highlighted as a factor which has constrained growth along the west coast and in the islands.

Three studies have recently been completed which evaluate in more detail the relationship between transport investment and economic growth. The A82 Economic Appraisal completed for HITRANS looks at how the current road constrains business operations and economic development, and by implication, what the benefit would be if those constraints were removed. The studies into the impact of reduced air fares in Barra and Tiree, and the impact of increased ferry sailings to Islay, both produced for HIE examine the evidence for positive economic impacts resulting directly from changes in transport costs and service levels.

3.2 Lifeline Road Links – the A82

The A82 is the main commercial corridor for goods and services for transportation into and out of the West Highlands, Skye and the Western Isles. **Figure 5** depicts the catchment area served by this trunk route.

Figure 5: The A82 Catchment Area



The population of the catchment area is some 78,900 (2001), but this has declined by over 3,000 (4%) since 1991, largely due the fall in the population of the Western Isles. Although employment in the area has fallen by 4% between 1998 and 2002, self employment accounts for almost 13% of the economically active population compared with less than 7% across Scotland as a whole.

HITRANS commissioned research in September 2005, 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. A combination of desk-based and primary research was undertaken, including: three workshops with 15 key stakeholders; a further 15 individual consultations with key organisations; and a telephone business survey with 92 businesses throughout the study area.

The research highlighted that six key industries in the study area were most likely to benefit from an upgraded to the A82. These are as follows:

- fish-related activities;
- manufacturing;
- retail;
- timber;
- haulage; and
- tourism.

The survey covered the main sectors of the study area’s economy and sought to understand:

- the problems encountered by businesses currently using the A82; and
- what they thought 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.

3.2.1 Constraints

Sections of the road were rated by business respondents from 1 to 4, where 1 was very good and 4 was very poor. As can be seen from **Table 1**, the Tarbet to Inverarnan section (which runs along Loch Lomond) was rated the worst, whilst Crianlarich and Ballachulish to Fort William were also highlighted as presenting transport constraints.

Table 1: Assumed sections to be upgraded prior to Route Action Plan	
<u>Section of A82</u>	<u>Average scores across all businesses</u> (1 – very good and 4 very poor)
Tarbet to Inverarnan*	3.0
Crianlarich	2.3
Glencoe	1.8
Ballachulish to Corran Ferry	2.1
Corran Ferry to Fort William	2.5

*section of road causing most concern

The following constraints were noted for companies, dependent on the use of the A82 for business, within the key industries located in the study area:

- varying journey times to key destinations such as Inverness and Glasgow to link up with connecting distribution networks and supply chains;
- less than optimal ability to get fresh, perishable, goods to more distant markets;
- limited potential development and growth of export markets, particularly to European destinations;
- varying certainty to meet just in time (JIT) delivery practices;
- limited accessibility to a wider range of potential customers; and
- greater transport costs hampered the ability to expand tourism growth, particularly in the short-break market.

Given the importance of the haulage sector to the success of the Scottish economy, with the majority of Scottish businesses relying upon road transport to get their goods to market, the research found that haulage companies were under increasing pressure in the face of new regulations (Road Transport Working Time Directive), high fuel prices and increasing labour costs. Additional constraints reported by respondent haulier were:

- increased labour and fuel costs from forced diversions on the A82;
- increased maintenance costs by 3% per annum due to the poor state of the A82 (narrow carriageways with crumbling edges, pit-holes, and adverse camber) caused larger vehicles to incur abnormally high maintenance costs and caused suspension problems;
- frequent breakdowns and accidents on the A82 increased insurance costs of running vehicles on the A82 by 2% per annum;
- longer journey times increased the opportunity cost of tying LGVs and their drivers up for longer than would be required with an improved A82.

3.2.2 Benefits

The survey indicated that upgrading the A82 would impact on *existing businesses* through more reliable journeys, thus enabling businesses to obtain goods and deliver goods more cost effectively through the reduction in the costs associated with delays, minor accidents and additional driver time. Businesses would also have an increased ability to expand their markets through quicker, more reliable access to new customers.

It was estimated that the overall direct, indirect and induced additional income of *£421 million* (discounted values, over a 30 year period) will be generated with an increase in employment of *800 jobs*.

The research found that road improvements would also be expected to attract *new businesses* to the area through improved access and improved perceptions of access, thus enhancing 'place competitiveness' to the west Highlands and Islands. Of the businesses surveyed, 72% felt that road improvements to the A82 would attract new business to the area. This demonstrated how transport links are considered as a key factor to business

and the general prosperity of the region. 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. The impact of such business investment is estimated to generate additional income (discounted to 2019) of around £42 million which will support 240 jobs.

Therefore the total impact for the study area (including both existing and new businesses) in terms of additional income over the period 2010 to 2019 was estimated to be *£463 million* with an increase in employment of *1,040 jobs*.

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 the remote rural areas of Scotland and across Scotland as a whole. Over 1991 to 2001, the population of the study area fell by 3,000 and this population loss is forecast to increase to 6,000 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 remote, rural, fragile areas within the A82's catchment.

3.3 Lifeline Air Services – Barra and Tiree

The routes from Glasgow to Barra and Tiree are operated by Loganair, with financial support provided by Scottish Executive through a PSO mechanism. The services offer one return flight per day, Monday through to Saturday, with Barra having two return flights on Saturdays in the summer months.

Research undertaken for HIE and HITRANS in January 2006 assessed the impacts of reduced fare levels on the air services that were introduced in July 2004 as part of the new PSO contract issued by the Executive. This research utilised a range of methods, including a:

- desk-based data review;
- consultations with the air operator;
- a survey of passengers using the air services, undertaken at Glasgow airport during October 2005. The number of interviews, by route, was 46 for Barra and 42 for Tiree; and
- telephone consultations – with AIE Tiree Marketing Group, Tiree Partnership, Voluntary Action Barra & Vatersay, and three companies.

The proportion of fare reductions and the subsequent tariffs on these flights is outlined in **Table 2** below.

Table 2: Fares on Service to Barra and Tiree		
	<u>Fare reductions in July 2004</u>	<u>Fares on the service, 2005 to 2006</u>
<u>Route</u>	<u>Proportion of fare reduction</u>	<u>Fares (inc of tax and charges)</u>
Barra	30%	£73.60 and £141.60
Tiree	22%	£64.90 and £123.90

The impact of these reductions resulted in an 18% and 15% increase in traffic volumes to Barra and Tiree respectively, as detailed **Table 3**.

Route	Total annual carryings	Additional trips	Increase
Barra	7,185	1,087	18%
Tiree	6,584	852	15%

For Barra and Tiree:

- the majority of additional air trips were wholly new ones which would not have been made if the air fares had not been reduced; and
- the volumes of traffic diverted from the two islands' mainland ferry services were low; both in absolute terms and as a proportion of ferry traffic.

The quantified economic impacts of the fare reductions are outlined in **Table 4** below.

Route	Air fare savings	Inbound visitor expenditure
Barra	152,786	27,703
Tiree	72,887	32,437
Total	248,338	62,886

The level of impacts needs to be viewed in the context of very small scale economies, with income levels very likely to be well below the national average. In addition, low per capita trip making on these two services means that benefits were distributed across a relatively high number of beneficiaries.

However, the research found that the wider impacts of the fare reductions were both economic and social. In economic terms, for the Barra service in particular, the lower fares facilitate the employment patterns of those who were based locally but work away for periods of time in, for example, the offshore oil industry. The main social impact has been through an increase in VFR (Visiting Friends and Relatives) traffic for both the Barra and Tiree services.

The most significant finding of this research was that demand was responsive to significant price reductions on the region's air services, even for relatively 'thin' routes serving small island communities. However at this very early stage, only a limited picture of the wider long-term economic benefits was derived from the study, but the research has given indications that there will be net positive benefits, both from these reductions, and also from those due to be introduced for other islands routes through the Scottish Executive's reduced air fares scheme.

3.4 Lifeline Ferry Services - Islay

Since 2003, the provision of ferry sailings to Islay has been significantly enhanced for most (around 19 weeks) of the summer timetable, through the operation of two vessels on the route. This was a significant innovation from Calmac, as previous practice had been simply to provide one larger ferry when increased capacity was required on a particular route. Specifically, the improved schedule has offered:

- an increase in return sailings per week from 17 to 26 compared with the previous timetable;
- a more consistent timetable throughout the week, in terms of the timings of first and last sailings;
- generally, earlier first sailings and later last sailings;
- day trips possible, in both directions of travel, on every day of the week; and
- over eight hours available ashore on most days of the week.

Research⁵ was undertaken for HIE between September and December 2005 to review timetables and traffic statistics provided by CalMac for the Islay ferry service. The following methods were used to undertake the research:

- a review of timetables and tariff statistics provided by CalMac;
- analysis of passenger carryings on the air service to Islay;
- consultations with, CalMac, Loganair, Argyll and the Islands Enterprise (AIE) and VisitScotland, Bowmore; and
- a telephone survey of 25 businesses on Islay and Jura.

The impacts in terms of passenger volumes and traffic were as follows

- between 2002 and 2004 passenger volumes in the May to September period (which broadly matches the timeframe over which the additional sailings operate) grew from 72,642 to 87,175, up by 20%; and
- during the same period car traffic grew by 17.5%, from 22,723 to 26,701 vehicles, and commercial vehicle and coach traffic also increased.

The key industrial sectors in Islay are whisky and tourism, and this was reflected in the survey responses, which largely focused benefits through increased tourism and easier shipment of freight to or from the mainland. Some 65% of respondent businesses stated that there had been a positive impact on their business turnover from the additional sailings. In addition, some other key findings of the business survey were as follows:

- 57% of companies stated that the extra sailings had a “very positive” impact on their business, with a further 30% citing a “positive” impact;
- just over half (54%) of those considering capital investment/business expansion in the next year have had their plans influenced by the operation of the extra sailings; and
- the vast majority (89%) of respondents stated that the scale of impacts was due to increased frequency of sailing/timings of additional sailings, rather than the provision of additional capacity per se.

For the road haulage sector, the peak summer timetable, with a greater range of times and later sailings was viewed as offering hauliers more time to pick-up or consolidate outbound loads and generally more operational flexibility. In particular, later evening arrivals on Islay provided the opportunity to begin deliveries to customers at the start of the following working day. For manufacturers (including the whisky industry) the extended and more flexible timetable has offered an improved accessibility to the mainland and then onwards to national and international markets.

Based on secondary data (Argyll level visitor spend data), the impact (a conservative estimate) of the additional sailings on visitor activity was estimated at:

- 5,363 additional annual visitors to Islay/Jura; and
- £1,345,000 additional annual expenditure on the two islands.

Overall, the positive impact of the second vessel on the Islay route offered the opportunity to more fully meet the needs of various customers (island residents, visitors and freight) than could be achieved by deploying one larger vessel on an unchanged timetable. The research provides evidence that increasing frequency of a service can have a significant economic benefit, coupled with an increase in capacity may unlock the potential of island areas.

Islay is now a growth economy, and is experiencing capacity problems on the ferries outside of the summer season when the two vessel system is in operation. Whilst some economic growth may have occurred without the improved ferry services, it is clear that this would have been severely limited without it.

4. CONCLUSION

This paper has examined briefly the definition and purpose of lifeline transport links. It has then considered the evidence for links between transport investment and economic growth from recent population and economic trends in the Highlands and Islands, plus the results of three key studies regarding lifeline road, air and ferry services. Whilst not pointing towards a universal rule that better transport always leads to a more productive economy, the following can be noted:

1. Those parts of the Highlands and Islands which have prospered since 1991 have been those with the best transport links. Meanwhile, the least accessible areas have suffered heavily from de-population whilst their economies have struggled to keep up with national trends. Although it is unlikely that transport is the sole cause of this pattern, it does appear to be a major factor.
2. The economy of part of the region is still being constrained by poor quality of transport provision. The A82 is the key transport artery for most of the west coast and islands, yet the state of the road does not reflect this crucial role. Extra costs are incurred by businesses using this road, whilst investment and tourist expenditure may be deterred by the lack of an attractive transport gateway to the West Highlands and Islands.
3. Where recent investments have been made to either reduce transport costs or improve the quality of service, this has resulted in significant increases in patronage, even for relatively small island communities. The early indications are that these improvements are increasing tourist flow, are making it easier for businesses to move freight in and out, and are encouraging new business investment as a result. Other examples could have been given of similar impacts, for example in Orkney and Shetland, but there is insufficient space in this paper to cover these.

To conclude, the research presented in this paper indicates that those parts of the Highlands and Islands characterised for many decades by decline may yet have a positive future. Investing in transport is not the sole pre-requisite for this, but certainly a key one. In order for this to happen, we must move beyond the conception that 'lifeline' transport links are there merely as an obligation to such communities to prevent or slow down the rate of decline, to the recognition that investment in lifeline links can unlock the significant economic potential that these areas contain.

Notes

1. HITRANS (2004) Investment in lifeline rural roads – Final Report by Halcrow Group Ltd.
2. HITRANS (2005) Strategic sea crossings in the Highlands and Islands development opportunities (2005-2025). Final report by Fisher Associates.
3. Source: GRO mid-year population estimates.
4. It should be noted that this figure excludes North East Moray, so does not map directly onto the HIE area.
5. Comprised an analysis of passenger carryings on the Islay air service; consultations with those providing public transport services to Islay/Jura and public sector organisations; and a telephone survey of 25 businesses on Islay and Jura.

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