

## 11 ECONOMIC ACTIVITY AND LOCATION IMPACTS

### 11.1 INTRODUCTION

This chapter presents the findings from a qualitative review of the identified economic need for a new transport solution and the likely economic impacts from the options proposed. Further background and analysis is presented in Annex L. Four options have been specified for an EALI appraisal following the first phase of the STAG appraisal. These are:

- Option 1: a drill and blast tunnel;
- Option 2: a high level bridge;
- Option 3: a reconfigured ferry service; and
- Option 4: the Do Minimum option, which is to retain the existing ferry service.

The options are each described in detail in Chapter 7.

Guidance prepared by the Scottish Government on undertaking an EALI recommends considering the economic impact that may accrue from a transport project in both employment and GDP terms. However, the expectation prior to appraisal was that the options would generate very localised and distributional impacts only, and that wider benefits would only be attainable if there is a significant constraint on economic activity in Shetland that improved access to Bressay could relieve. Therefore the differences in expected impact, both positive and negative, between the options are presented in a qualitative manner. This approach is recognised as acceptable within the EALI guidance if it is appropriate to the scale of the transport proposals under consideration. The approach that has been adopted for the EALI appraisal was agreed in advance with ZetTrans.

Through discussions at an early date in the process with ZetTrans and the wider STAG team, the main areas of impact anticipated from the introduction of a new transport solution for Bressay are expected to be:

- potential impacts on the costs associated with living and working in Bressay; and
- potential impacts from the location or relocation of economic activity to Bressay.

On the basis of the expectation of impact, the framework for the EALI appraisal was built around the need to discover to what degree there is an economic need for a new transport solution; how each transport option might give rise to changes in economic activity; and the need to understand who might benefit from an option and who might be disadvantaged. On this basis, the research tools were designed to find responses to the following questions:

- is there an economic need for a new solution, and in particular:
- are there constraints on economic activity in Bressay as a result of the existing ferry service;
- are there existing or potential land and property constraints in and around Lerwick on industry growth or housing development;
- are there existing or potential harbour infrastructure constraints in Lerwick on industry growth;
- how might each option respond to any need that has been identified and give rise to changes in economic activity; and

- who might benefit from an option and who might be disadvantaged?

## 11.2 SOURCES OF INFORMATION

The research and analysis was undertaken between mid-March and late April 2008. The appraisal has combined the following research activities to establish the level of need for a new transport solution and potential impacts from the options:

- a survey of 16 businesses in Lerwick and Bressay using a structured questionnaire;
- a consultation programme with representatives of 21 organisations including departments of Shetland Islands Council (SIC) and other private and public bodies; and
- secondary research using published data.

The names and organisations of those that contributed to the study are contained in Appendix A of Annex L.

Of the 16 businesses interviewed, six were located in Bressay. In total 27 businesses were contacted for interview but for varying reasons, some due to indifference towards the project, it was not possible to complete interviews with 11 potential interviewees, two of whom are based in Bressay. Of the two Bressay businesses that an interview could not be completed with, one stated that none of the options would affect their business, whilst a convenient time could not be found for the other Bressay business. No businesses that could be interested in locating in Shetland from elsewhere in the future were identified for interview.

The questionnaire used for the business interviews is included as Appendix B in Annex L. Due to timescale restrictions it was not possible to undertake consultations prior to the design of the questionnaire and as such there are some questions which turned out to be inappropriate for the level of need and potential impact that respondents were able to identify. The relevant findings from the business survey are included throughout the chapter.

The timescale restrictions removed an earlier planned consultation programme that would have included a wider range of public service providers, however a number have been able to provide valuable background information. The core questions covered in every consultation are included as Appendix C. Additional questions were added as appropriate to suit the field of expertise of each consultee.

In addition, the study has been informed by:

- an early project meeting with the Bressay Link Group, 12 March 2008;
- regular meetings with the client and the multi-disciplinary team brought together to conduct the full STAG appraisal; and
- discussions held following the presentation of emerging findings to:
  - Councillors of Shetland Islands Council, 28 April 2008;
  - a public community meeting in Bressay, 28 April 2008; and
  - a public community meeting in Lerwick, 29 April 2008.

### 11.3 STRUCTURE

The chapter provides a summary of the EALI appraisal and contains:

- an overview of the analysis of economic need for a new transport solution between Bressay and the Mainland;
- an analysis of findings on how each option would be expected to respond to any economic need identified or give rise to impacts;
- a review of what positive and negative impacts are expected to or anticipated to arise from each option; and
- conclusions from the appraisal.

The TEE analysis in the previous chapter (Chapter 10) shows that the tunnel, including public transport provision, performs significantly better than the ferry and bridge options. The estimates suggest that over a 60 year period the combined capital and operational costs of a tunnel would be approximately 40% less than the bridge option; almost 60% less than that reconfigured ferry service and 55% less than the current ferry service, the Do Minimum option.

In addition, the tunnel returned a positive NPV demonstrating it provides better value for money than retaining the existing ferry service. The bridge and reconfigured ferry options each returned a negative NPV, therefore these latter two options represent poor value for money in comparison to the Do Minimum.

However, there are additional positive and negative impacts not considered in the TEE analysis of public sector costs and user time and price measures. This is largely because there are problems associated with their measurement. These potential additional positive and negative economic impacts are explored through the remainder of this chapter.

### 11.4 THE NEED FOR A NEW TRANSPORT SOLUTION

This section summarises to what degree economic need can be identified in the local economy for a new transport solution between Bressay and the Mainland. The analysis considers:

- the first section identifies the constraints of the existing ferry service that have either been identified through the previous STAG 1 process undertaken by ZetTrans, or through the research for this appraisal;
- the second section provides an analysis of the current economic conditions in Bressay and the immediate vicinity, which includes Lerwick and central Shetland; and
- the final section provides an analysis that, on the basis of research findings, identifies to what degree economic growth is hindered by a lack of access to land or harbour facilities, that could potentially be resolved through improved accessibility to land and shore-line in Bressay.

#### 11.4.1 Impacts Arising from the Existing Ferry Service (Option 4)

The research for this appraisal has followed-up on the findings presented in the STAG 1 Report and has explored the impact of the existing ferry service.

Ferry services have both positive and negative impacts. This section reviews the different impacts highlighted by the research of the existing ferry service to Bressay.

### **Impact on the Local Economy**

The ferry service serving Bressay provides 18 full-time positions, twelve of which are currently filled by Bressay residents. The average wage for each post is £30,000 per annum<sup>76</sup>, which is 25% higher than the average wage of £24,000 reported for Shetland in 2007<sup>77</sup>.

A further direct impact of the current ferry service is that supplies and services are required for the operation and maintenance of the ferry service and upkeep of the terminals. SIC spends £33,000 per annum within the local economy on the purchase of supplies and services and this will benefit local firms. However, the current bi-annual docking of the ferry does not benefit the Shetland economy as the nearest facilities that can accommodate the ferry are in the north east of Scotland.

### **Impact on Users**

The ferry service restricts the movements of those resident in the island and those that must operate in Bressay. Accessibility is controlled by a timetable and fares. The view of consultees is that the barrier created by the ferry service restricts development in Bressay as both perceived and real barriers associated with inaccessibility mean that Bressay is generally less attractive than the Mainland as an area to either live or do business.

However, despite the challenges there is evidence of a stable population, discussed in the following section, and sustainable private sector enterprise. Three substantial agricultural farms exist on Bressay, a fish processing factory and there are consumer based businesses such as the Maryfield Hotel and the Northern Lights Holistic Spa.

Six private sector businesses in Bressay were interviewed for the study. With regards to the impact of the existing ferry service their responses are summarised below:

- four of the six said that the existing ferry service constrained their business. Comments on the ferry service related to inconvenience, the cost of travel, the time associated with either business or employee travel and the barrier it creates to customers and potential employees; and
- one business respondent said that the biggest constraint on their business was the uncertainty over the link and that development opportunities had been on hold for almost 10 years as a result.

One Bressay based business representative that did not wish to complete an interview stated that the nature of the transport link between Bressay and Lerwick made no difference to their business.

Two non-Bressay business representatives that were interviewed also said that the ferry service constrained their business. This is because they undertake activity in Bressay and experience the same problems of inconvenience and cost.

It is not just private enterprise that is affected by the constraints created by the ferry service. Information provided by the Roads Department of SIC (see Annex B of the STAG 2 report) also demonstrates the impact of the inconvenience and

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<sup>76</sup> Source: Ferry Service Division, Shetland Islands Council

<sup>77</sup> Source: Annual Survey of Hours and Earnings by the Office for National Statistics, 2007

additional costs that arise from the existing ferry service. The following activities when undertaken in Bressay all result in an additional cost to the Department:  
general road maintenance;

- reactive maintenance and minor improvement works;
- surfacing, surface dressing and major improvement works (not an annual occurrence);
- winter service, in particular a gritter lorry must be permanently stationed in Bressay which has capital cost implications for the Council and restricts the value that can be obtained from the equipment for the wider benefit of Shetland; and
- surveys, inspections and supervision of works.

The Roads Department calculated that the additional cost of activity on Bressay is the equivalent of 1.25 hours per person for each day worked in Bressay, and that the cost of this time will generally incorporate overtime payments in order to secure at least a seven hour working day on the island. Over the space of just six working days, this loss of productivity per person would be the equivalent of almost one full working day, suggesting a loss in productivity of approximately 15% when operating in Bressay.

### **Impact of the Uncertainty**

The findings from the research show that the uncertainty which surrounds the transport link also has economic consequences. The 'bridge debate' has existed since the 1970s. In recent years, the Council policy and subsequent dispute over the construction of a bridge has heightened the debate's prominence in the minds of people, particularly residents of Bressay. The ongoing debate has created an air of uncertainty in the island and according to one respondent has led to antagonism and challenges within the island community, as referred to in Chapter 3 of the STAG 2 Report.

The uncertainty has also had economic impacts. Land owners have been reluctant to release land as, should a fixed-link be created, the value of the land is expected to increase dramatically. In addition, the ferry service has found it increasingly difficult to recruit to vacant posts across Shetland. In Bressay these problems are understood to be exacerbated due to the uncertainty over the potential fixed-link and the difficulty in finding accommodation in Bressay. The uncertainty surrounding the future transport link is highly likely to have led to a reluctance to invest in both homes and businesses on the island.

### **Conclusions on the Impact of the Current Ferry Service**

The ferry itself provides high value employment opportunities for residents. However, development on the island is constrained by the barriers created by the ferry service. Barriers include inconvenience, negative perception of accessibility, additional cost of operations and uncertainty over the future of the transport link. In addition, for those that must trade or operate in the island there are cost implications that will, for private enterprise, affect profitability and, for the public sector, reduce the value achieved from resources utilised.

#### **11.4.2 Current Economic Conditions (see paragraphs 4.18-4.40, Annex L)**

Sixty percent of employment opportunities in Shetland exist in Lerwick and the population of Shetland is drifting towards the areas that surround the town. The Bressay community, like many other communities in central Shetland is dependent on Lerwick for many of its day-to-day needs. The population of Bressay has been

steadily growing, and in recent years has bucked the trend of overall population decline in Shetland. This could be due to its central location or possibly as a result of the expectation created by the SIC policy to construct a bridge.

Unemployment is low in Bressay, and Shetland as a whole, and while this is positive it creates challenges for economic growth as many employers find it difficult to recruit and retain skilled staff.

Economic activity in Bressay is more dependent on public sector jobs than communities that, if a fixed link is constructed, would provide similar accessibility to Lerwick. However, if the ferry jobs are taken out of the equation the sectoral breakdown in Bressay would more closely mirror these comparable areas where approximately 80% of available posts are in the private sector.

#### **11.4.3 Constraints on Economic Growth (see paragraphs 4.41-4.78, Annex L)**

The potential provision of a fixed link was perceived to have the potential to enhance Bressay's competitiveness as a location for commercial, industrial, harbour and housing development in central Shetland. However, the conclusions from the research are:

- there is little evidence that development is currently constrained by a lack of access to commercial and industrial land in Lerwick;
- that Lerwick would almost always be the preferred location for industrial development as 'businesses like to be near other businesses'. This is the expectation unless land in Bressay can offer incentives that outweigh potential disadvantages by offering land to purchase at an attractive price;
- there are development needs for new harbour infrastructure, however, there are also either current or planned developments that would address the needs of the potential growth industries for the foreseeable future; and
- there are constraints on housing development in Lerwick and as a result there is an increase in population and housing development in alternative central locations, in particular Scalloway, Tingwall and Gulberwick. In addition, with the exception of the HHA programme of new builds, the rate of house building is expected to slow and there are weaknesses associated with locating significant housing development in Bressay that alternative locations in Shetland are perhaps not constrained by.

#### **11.5 IMPACT OF THE OPTIONS**

The purpose of the EALI appraisal is to identify the likely impacts from each of the options, within the context of current conditions, and identify where possible who the 'gainers' and 'losers' are and the magnitude of the expected economic impact.

This section focuses on the three proposals for change, the impact of the Do Minimum option was considered under the need for change in the previous section. The analysis suggests that there are only a small number of areas where the impacts vary between the two fixed link options, therefore unless otherwise specified the analysis of the impacts associated with the tunnel and bridge options are grouped together under the term fixed link. The remainder of the section is structured as follows:

- definition of direct and indirect impacts;
- direct impact of a fixed link;
- indirect impact of a fixed link;

- direct impact of a reconfigured ferry service; and
- indirect impact of a reconfigured ferry service.

The section ends by identifying the preferred option arising from the research and analysis.

### **11.5.1 Definition of Direct and Indirect Impacts**

This section reports on the impacts expected from each of the potential options for a new transport solution. The expected and potential impacts are discussed under the headings of direct and indirect impacts.

#### **Direct Impacts**

Direct impacts are considered to be:

- employment linked to the construction and/or operation of an option;
- spend associated with the construction and/or operation of an option; and
- impacts experienced through the use of an option.

#### **Indirect Impacts**

Indirect impacts refer to the knock-on effects within the economy from the proposed new link. Indirect impacts are by definition more difficult to predict accurately than direct impacts. The type of impacts considered can include the impact of an option on employment or investment decisions in the wider economy. However, these decisions would also be subject to fluctuations in the economy that may have greater influence than the provision of a new transport link between Bressay and Lerwick.

In order to address the risk associated with predicting future indirect impacts the analysis is split into:

- expected areas of indirect impact in the short-medium term (1-5 years) as a result of an option; and
- potential sources of indirect impact in the medium-long term (beyond 5 years) as a result of an option.

### **11.5.2 Direct Impact of a Fixed-Link**

The analysis of the direct impacts of a fixed link on the Shetland economy considers:

- impacts that arise through the construction process;
- impact on users through unrestricted access; and
- the removal of the ferry service.

#### **Construction Impacts**

The nature of impacts created by construction activities for both fixed link options are similar, what varies is the period of construction and the numbers involved in construction.

The construction of a tunnel is not particularly labour intensive. Information from Donaldson Associates Limited, the experts advising on tunnel construction, suggests that the construction period would be 22 months, during which 15 full-time equivalent posts would be required. A further 10 full-time posts would be required for 18 of the 22 months. The skills that would be required for the majority

of these posts are highly specialised and as a result approximately 90% of the posts would be expected to be filled by individuals from outwith Shetland. Therefore leakage from the local economy of the potential benefits of the income earned during construction is expected to be high.

The construction of the high level bridge is estimated by Halcrow, the experts advising on bridge construction, to require a total of 65 posts in Shetland and 25 posts elsewhere, for the pre-fabrication of bridge sections. The posts in Shetland would be a mix of professionals and foremen (25%), tradesmen (40%) and unskilled workers (35%). Similar to the construction of the tunnel, it is anticipated that the majority of the skilled tradesmen and professionals would be imported to Shetland for the project. However, due to nature of the construction project and its exposure to the elements, approximately 70% of the workers would only be active in Shetland from April through to October over a three year period. With the majority of activity focused during the peak tourism season and the higher number of workers required, the bridge option is expected to lead to greater displacement of tourism activity compared to the tunnel option, unless temporary accommodation is provided. However, any full-time posts that would be required year-round in Shetland may bring additional off-peak benefits to accommodation providers that could not accrue through alternative activity. Although a proportion of these year-round posts may be filled by local residents.

In addition to the construction activities described above, there would be a contract for road building and general road works. If competitively priced the contract could be won by a Shetland based company and in total sub-contracting work on the project could be worth £3 million. However, it is frequently commented that the construction industry in Shetland is constrained through a lack of appropriate skills and labour and there are a number of significant construction projects in the pipeline, including new housing and a new High School. This is similar to the rest of the UK where there is a general shortage of construction trades. Therefore the construction of one project is likely to take place at the expense of another project, largely through delays and rising costs.

During construction, it is expected that both the fixed link options would have a negative impact on businesses in close proximity to the construction activity. For the bridge construction, it is understood from the plans that access to a fish processing facility would be constrained, perhaps permanently, and this may affect the businesses trading activity. For the tunnel construction there may be accessibility constraints during some activity at the Lerwick portal.

One impact specific to the tunnel option is that an LPA property would have to be demolished on the Lerwick side. It is understood there would be compensation that is appropriate to the market value of the property, however, tenants may be adversely affected as the property is old and rental is relatively cheap when compared to other more modern properties. The condition of the property suggests that it has a limited expected lifespan and therefore the tunnel project is perhaps bringing forward an impact that in the medium-term may be inevitable. However, it is still an impact and a potentially negative impact for the business activities located within.

Once operational the fixed links would require only limited maintenance which is not expected to create the need for a new full-time equivalent post within Shetland. It is expected that everyday maintenance could be undertaken by SIC with any specialist work undertaken by manufacturers or the contractor.



**Impact for Users**

The existence of a free to access fixed link option would have direct impacts for the users of the transport link. Current users of the ferry would be able to travel without the constraint of a timetable or fares. While the distance of the journey may be longer for many users, the cost per individual user would be less.

The response of residents and those who trade in Bressay to relatively unconstrained access is expected to result in an increase in the number of trips being made. Evidence from Faroe and other fixed links that have recently been introduced in Scotland show significant increases in traffic flows. The assumption used in the TEE analysis is that the number of journeys would double, which may be a conservative estimate.

The predicted increase in trips would include trips being made by residents, businesses and services operating in the island, and visitors that are either staying overnight in Bressay or making a day-trip to Bressay.

**Impact on the Ferry Service**

If a fixed link is constructed one significant and permanent anticipated direct impact is the removal of the ferry service. Removal would mean that no replacement ferries are required in the future and that the operating costs of the inter-island ferry service would reduce by almost £1million per annum. However, it will also mean the loss of 18 full-time posts. SIC has a policy of re-locating staff wherever possible. In this particular situation, the Ferry Service Manager has confirmed that should a decision be made relatively soon, it is fully expected that the same grade of post would be available to each Bressay crew member on other inter-island ferry services, should they wish to take them. This is because a number of posts become vacant prior to 2012 as a result of the retirement of existing post holders. If re-located to the Yell service, post holders would be able to commute daily from Bressay.

However, the postholders on the Bressay service are skilled and in demand in the wider economy and the Ferry Service Manager expects that if the decision is taken to construct a fixed-link that some of the more mobile staff would seek to leave the Service rather than wait on relocation proposals.

Outwith the ferry service, the recruitment of skilled workers is difficult for almost a quarter of organisations in Shetland<sup>78</sup>: the population of Shetland is ageing; and there is very low unemployment. Therefore, it is expected that if an individual did not wish to relocate within the ferry service that new employment could be readily secured and, with a fixed link, employment outside of Bressay would become more accessible to residents (see Chapter 12 of the STAG 2 report for an analysis of accessibility).

In addition, vacancies in the ferry service are becoming increasingly difficult to fill and the service is frequently going outside of Shetland for either agency staff or applicants for new posts. This raises the challenges and costs associated with every recruitment exercise. It is therefore possible that one impact from the contraction of the ferry service may be to ease recruitment problems for the Council.

Impacts would therefore exist at an individual level for the crew members of the ferry service and for some this may lead to a change in occupation or relocation.

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<sup>78</sup> Source: Employment Survey 2007, Economic Development Unit, Shetland Islands Council

However, the conditions expected to exist in Shetland prior to 2012 would mean that there is expected to be no increase in unemployment at a Bressay or a Shetland level and that the overall savings from the removal of the ferry service would quickly benefit the public purse.

### **11.5.3 Indirect Impact of a Fixed Link**

The preceding section outlined the direct impacts that are associated with the construction and operation of a fixed link. The research conducted concludes that those impacts are highly likely to occur, and that the majority would be inevitable.

However the indirect impacts, those that happen as a knock-on effect of the fixed link, are more difficult to be equally certain about. The nature and degree of indirect impacts are likely to depend on many other factors in the economy. If key economic factors continue as expected, for example growth in particular industries; low unemployment; and population drift to central Shetland then more certainty can be applied to the expectation of indirect impact. However, should an economic shock, either positive or negative, occur in Shetland the certainty associated with their occurrence would be reduced.

The indirect impacts identified through the research which are expected to happen relatively quickly after the introduction of a fixed link have a higher degree of likelihood associated with them as they are based on knowledge of current conditions. However, the level of uncertainty related to indirect impacts rises the further into the future the predicted impact is expected to occur. For this reason the appraisal of indirect impacts is split into:

- impacts expected in the short to medium term, defined as 1-5 years post construction; and
- medium to long term expectations of impact that may occur more than 5 years after construction.
- Where the impacts are expected to vary between the tunnel and bridge options this is highlighted in the text.

### **11.5.4 Expected Indirect Impact in the Short-Medium Term (1-5 years)**

The indirect impacts expected in the short-medium term include:

- increased competitiveness of Bressay as a location for private enterprise;
- increased competitiveness of Bressay as a location for new housing development;
- reduced costs to service providers;
- exposure of some Bressay based businesses to increased competition;
- an increase in the rate of new one-off private housing developments on Bressay;
- an increase in the number of overnight visitors to Bressay;
- a reduction in the fragility of the community in Bressay and as a consequence an increase in confidence to invest in the island; and
- a negative impact from the bridge option on the wider economy, in particular the marine based sector.

Each of these short-medium term indirect impacts is discussed in more detail below.

### **Increase in Competitiveness for Private Enterprise**

The creation of a fixed link between Bressay and the Mainland would reduce costs for organisations operating in Bressay. In addition, for those businesses based in Bressay it would improve access to markets and potential labour. For all of the businesses affected, this should lead to an increase in their competitiveness and ultimately an improvement in profitability.

In the survey of businesses five of the six business respondents from Bressay expect that a fixed link would be a benefit to their business. The main reasons were that it would reduce costs, improve access to markets, increase flexibility and general access and increase the value of land. A further four of the ten respondents from non-Bressay businesses expect that a fixed link would be a benefit to their business. Benefits were largely expected for businesses that have to trade in Bressay and that would therefore benefit from a reduction in costs and enhanced accessibility. Although an additional benefit for one business is expected to be improved access to more economically viable land for housing.

Four of the six Bressay businesses and three of the non-Bressay businesses expect that a fixed link would increase their business turnover. This is largely through increases in the value of the business and easier access to markets. One respondent believes that business turnover would go up by more than 50%. However, one of the six Bressay respondents expected that a fixed link would reduce their business turnover as the distance that customers would then have to travel would reduce the appeal of the business, as for this business the ferry is seen as a benefit to market access.

While there are benefits expected for the majority of Bressay businesses, there is no evidence that potential growth industries in Shetland require Bressay as a location for potential expansion. There appear to be more suitable alternatives either under development or already available. Weaknesses of Bressay as a location for additional private enterprise in the short-medium term include:

- a lack of infrastructure, in particular dual lane roads, although this may not significantly affect development at Heogan, near the tunnel entrance; and
- remoteness from existing activity as one consultee commented 'businesses like to be near other businesses'.

The importance of these weaknesses to decision-makers will depend on the scale of the potential benefit. If development land in Bressay offers significant incentives, for example the potential to purchase land at an attractive price, there may be more willingness to locate in Bressay. However, no evidence has been collected that this incentive would exist.

One potential improvement in private enterprise may arise as a result of the removal of the ferry service. One attendee at a presentation of the emerging findings from the STAG appraisal suggested that a private water taxi enterprise would be a new business opportunity that they would consider pursuing (see Annex N of the STAG 2 report). This is presumed to be because a central Lerwick sea-based link may still be attractive to some travellers.

### **Competitiveness of Bressay as a Location for Housing Development**

The existence of a fixed link is expected to increase the competitiveness of Bressay as a location for housing development. However, there are conditions that suggest overall demand may be in decline as a result of a falling population and a slowdown in the increase of new households. In addition, by 2013 the

Housing Association will have constructed 500 new homes, 400 of which will be in Lerwick and its immediate vicinity, and none of which will be constructed in Bressay (see paragraphs 4.55-4.56). This analysis suggests that large-scale housing development in Bressay appears unlikely. In addition, Bressay is recognised to have some weaknesses in comparison to alternative locations in central Shetland. The lack of infrastructure, including a dual lane road on the approach to the fixed link, is expected by consultees to be a particular hindrance to any significant housing development.

However, all consultees who discussed housing opportunities in central Shetland, recognised that should a fixed link option be progressed there would be an inevitable increase in one-off private sector housing developments in Bressay. This is expected due to the perceived proximity of Bressay to Lerwick in comparison to other central Shetland locations and the quality and price of land that may be available.

### **Reduced Costs to Service Providers**

The Roads Department have quantified the cost of the accessibility constraints, highlighted in Chapter 4, linked to working in Bressay.. It is estimated that by introducing a fixed link that the savings to the service would be in the region of £10,000 per annum, possibly higher when more significant works are being undertaken. While a wide programme of consultation was not undertaken with public service providers, it is anticipated that improvements to productivity would be secured for all public services that must send employees to the island in order to provide services.

### **Exposure to Competition**

Discussions for this study have also revealed there are fears that exposure to competition may result in the decline or closure of one or more businesses in Bressay. This is perceived as a negative impact on the community. However, this fear could be unfounded because there are examples of successful rural enterprise outside of Lerwick; the size of the potential market in Bressay would increase as the local population is likely to rise, at least slightly, through private housing developments; and there would be unrestricted access to the larger 'Mainland' market. Therefore it is likely that the success or otherwise of a business in Bressay would inevitably be determined by its ability to meet the needs of its existing, and potentially new customer base, by offering competitive and value for money products and/or services. While exposure to competition introduces greater threats to the business it could ultimately lead to improved local provision, if local businesses compete successfully.

### **Increase in Overnight Visitors**

The consultation with VisitShetland revealed that despite the frequency of the ferry service and the proximity of Bressay it was difficult to convince visitors that Bressay is an appropriate alternative to Lerwick for overnight stays. The creation of a fixed-link is expected to remove this barrier and therefore improve the utilisation of bed-spaces in Bressay. However, the creation of a fixed-link is not expected to attract new visitors to Shetland. Therefore, unless there is unmet demand that currently chooses not to visit Shetland because they cannot find accommodation in or close to Lerwick the outcome of this would be displacement of activity from elsewhere in Shetland.

### **Reduction in Fragility**

The provision of an inter-island ferry service is dependent on the provision of revenue support from the Scottish Government and finance from SIC. Therefore the level of fares and the frequency of service are dependent on the cost of operating the service and the willingness of public bodies to subsidise provision. The nature of a ferry service means that it is vulnerable to change as a result of a change of political policy towards subsidy and what is considered, at a particular time, to be an appropriate price and level of service. As long as a subsidised ferry service remains, this fragility is inherent in island life.

The creation of a fixed link removes this form of fragility. Bressay becomes permanently linked to 85% of the population of Shetland and is expected to benefit through an increase in confidence of both individuals and businesses to invest in the island.

#### **11.5.5 Negative Impact from the Bridge Option**

The debate over the current Council policy for a bridge has focused upon the restriction that a bridge is expected to have on marine related activity. If a bridge restricted growth or affected current levels of activity this would be a significant concern for Shetland as a whole as the economy is largely dependent on marine related activity for its success. This concern resulted in a change to the design of the original proposed bridge to both increase its air draught and extend its span so as to reduce the potential constraints.

However, a number of respondents remain concerned, or due to the redesign of the bridge have new concerns, about the bridge proposal. These concerns are:

- a perceived risk of collision. A particular concern was raised by a respondent that the decommissioning industry in Shetland would be severely constrained by the bridge. Not because of the expectation of collision but because of the risk of collision. The respondent commented that the presence of a bridge would be perceived as a hazard and would be appraised as such in risk assessments and therefore would affect access to insurance for activity. The business was of the firm belief that the existence of a bridge would have a significant negative impact on the existing turnover of the business and severely limit the opportunities to secure business growth and decommissioning activity in Lerwick; and
- fears that the significant height of the redesigned bridge (60m) would mean that it would be closed more often than the ferry currently has to stop due to high winds. This would have a negative impact on all those that rely on the link for both commercial and personal activity. The knock-on effect of this fear, whether real or perceived, is that this may add to the reluctance of economic activity to locate to Bressay.

#### **11.5.6 Expected Indirect Impact in the Medium-Long Term (5 years and beyond)**

The design life of a fixed link is 120 years and it is not sensible to try and predict economic performance in such a time frame. However, many of the impacts described in previous section would be expected to continue beyond a five year timeframe. In addition to these more predictable impacts, some consultees and business respondents identified impacts that, whilst not expected to happen in the near future, they would expect to see occur in the longer-term if a fixed link is created. These impacts tended to be based more on intuitive expectation rather

than evidence from economic forecasts. Therefore these should be considered as perhaps a vision for the future rather than an expectation of likely impact.

Consultees identified that a fixed link has the potential to enable:

- harbour development on the Bressay side of Bressay Sound;
- if a dual lane road is constructed, there is a potential for larger scale industrial and housing development; and
- a more diversified Bressay economy with less dependence on the public sector.
- These impacts are each discussed below.

### **Harbour Development**

Commenting on the potential for new harbour facilities a small number of consultees would expect LPA to benefit from a fixed link through access to a new shore line for development. The view expressed by LPA is that there is deep water at a site south of the current fish processing factory that, through reclamation, could provide a deep water berthing facility. However, there is little immediate need for such a facility and no obvious industrial activity that would be based there other than lay-by activity. This is because the sectors where economic growth is expected would need to be, or would wish to be, closely located to existing facilities and services on the Lerwick side.

However, a number of consultees thought that a logical progression for the long-term development of the economy of Shetland would be to expand Lerwick Harbour along the shore-line of Bressay. Although as stated above and through the analysis of the need for harbour facilities there is no obvious need at this moment in time for such development.

### **Larger Scale Industrial and Housing Development**

The availability of flat land in Bressay is expected to attract interest in industrial and housing development in the long-term, should Shetland experience economic growth. While no immediate need for development of a significant scale has been identified it is considered inevitable by consultees that development, in particular private housing development would take place for the foreseeable future in Bressay. In addition, industrial activity could be attracted through incentives such as the ability to purchase land at an attractive price.

However, the degree to which any housing and industrial development can take place would be highly dependent on land-use planning and the availability/accessibility of land and services.

### **A More Diversified Bressay Economy**

In the longer-term improved access, profitability and increased confidence is likely to lead to more investment in economic activity in Bressay, either by businesses currently based there or businesses who may view it as a potential location for activity. Either way, inclusion in the inter-connected area of Mainland Shetland and proximity to Lerwick is expected to result in new and more diversified opportunities for private enterprise on the island.

## **11.6 SUMMARY OF THE IMPACTS OF A FIXED LINK**

The direct impacts discussed in an earlier section are expected to occur. In addition, the short to medium term indirect impacts have a reasonably high likelihood of occurring if a fixed link is progressed. The conclusion from the analysis is that if a fixed link is created there would be inevitable change in the nature of economic activity in Bressay which would be wider than the direct impact through the loss of the ferry jobs.

For a small number of businesses this would mean rising to the challenge of increased competition, or face potential business failure, but for the majority of businesses the reduction in operating costs and access to new markets would increase profitability and enable business growth and development.

If these businesses are attracting income from outwith Shetland the overall Shetland effect would be positive. However, even if all of the new activity which benefits Bressay businesses results in displacement from other areas, there is still a positive argument for the sharing of wealth more widely within Shetland.

In addition, there is expected to be an increase in one-off private sector housing developments which would lead to some population increase. Although again, this is anticipated to result in displacement from alternative areas in central Shetland. However, significant housing development is likely to be restricted due to weaknesses in the existing infrastructure on Bressay and the large-scale housing developments that are already planned for other areas in central Shetland.

The medium to longer term impacts described in the previous section are much less certain than the direct and short-term indirect impacts. The longer-term impacts would be dependent on the future direction of the Shetland economy, for example the ageing and declining population is expected to slow demand for new housing and constrain economic growth. In addition, the extent of any impact would depend on the response of the potential 'gainers' to the new opportunity, and the response of potential 'losers' to the challenge.

### **11.6.1 Direct Impact of a Reconfigured Ferry Service**

The remaining option to be considered is the reconfigured ferry service. The direct impact of a reconfigured ferry service would be to increase the employment and finance required to provide the service. ZetTrans estimate that the reconfigured ferry service would require between two and three full-time equivalent posts. ZetTrans does not anticipate that the reconfigured ferry service would increase significantly the amount that is spent by the ferry service on supplies and services in the local economy. In total, the cost of the reconfigured ferry service is estimated to be an additional £300,000 per annum.

The cost of this would be met by the SIC and as the total amount of money available to the Council for the ferry service is not expected to increase as a result, the investment is likely to occur at the cost of employment or activity that supports employment elsewhere in the local economy.

If as one fare proposal suggests, the reconfigured ferry service is provided free of charge this would reduce the price for users and therefore have similar positive impacts on an individual's disposable income and the profitability of businesses that must trade in Bressay as the fixed-link options provide. However, the inconvenience of a timetabled and restricted capacity service would remain, as

would the fragility associated with continuing with the frequency of service and the fare policy.

### **11.6.2 Indirect Impact of a Reconfigured Ferry Service**

The retention of any form of ferry service would mean that barriers to investment remain and economic growth would be restricted. In addition, there is a risk that if the free fares approach is adopted and demand is subsequently raised that it may make it difficult for economic units or individuals to know that they would secure a passage when required. Therefore in addition to the cost to the public purse, there may be further negative impacts to those residents and businesses in Bressay that wish to travel unrestricted. This could necessitate a booking system which at the moment does not exist for the Bressay service.

Benefits from the reconfigured ferry service are perceived to be leisure and access related but are judged to, on the whole, have negligible economic impact and as the TEE analysis proves, this does not provide good overall value from the additional public sector investment required.

There were no longer-term indirect impacts expected from the reconfigured ferry service that were highlighted by either consultees or business survey respondents.

### **11.6.3 Preferred Option**

The research for this study suggests that the economic development need that could be addressed from a new transport solution is largely localised to those working or living in Bressay and for those businesses and services that operate in Bressay. The findings show that the impact of a fixed link is expected to result in the most positive solution for the island of Bressay as the subsequent reduction in fragility would strengthen the long-term confidence and therefore investment in the island's future. In addition, it appears that the loss of the ferry jobs can be mitigated by either employment elsewhere in the ferry service or in the wider Shetland economy.

There is a difference between the performance of the two fixed link options in the appraisal. Both options would affect businesses during their construction, however, some of the impact created by the tunnel would have been inevitable in the medium-term and the tunnel would therefore only bring it forward. However, the bridge option is expected to have an ongoing negative effect on the wider economy of Shetland as a result of the perceived risk of collision rather than the actual likelihood of collision. Therefore the tunnel option outperforms the bridge and becomes, in line with the TEE analysis, the preferred option.

This conclusion also mirrors the responses to the business survey and the views of the consultees. At the end of each interview, the business survey respondents were asked to identify their preferred option out of the four potential options, including the Do Minimum. The findings were:

- 70% of the 16 business respondents stated that their preferred option is the tunnel, as even if they themselves did not expect any benefit, they could see how it would benefit others;
- 6% said the bridge as the respondent perceived it to be safer than the tunnel, but said they wouldn't mind if it was a tunnel;
- 6% said an improved ferry service;
- 6% said maintain the existing ferry service in order to retain ferry jobs; and
- 12% were indifferent.



Of those that stated their preferred option is the tunnel, some did not expect any benefits to their own business, and one even expected a negative impact for their business but still picked this option. The following comments were made by those that did not expect a positive impact themselves:

- 'Ferry [maintenance] business is good for our business but long-term benefits [from a tunnel] for Shetland outweigh this.'
- 'Everyone deserves better opportunities.'
- 'It's the logical thing to do so that you can have opportunities for development in the long-term.'

#### **11.6.4 Summary**

The purpose of the study was to explore:

- is there an economic need for a new transport solution, and in particular:
  - are there constraints on economic activity in Bressay as a result of the existing ferry service;
  - are there existing or potential land and property constraints in and around Lerwick on industry growth or housing development;
  - are there existing or potential harbour infrastructure constraints in Lerwick on industry growth;
  - how might each option respond to any need that has been identified and give rise to changes in economic activity; and
  - who might benefit from an option and who might be disadvantaged?

The four options under consideration in the wider STAG appraisal are:

- a drill and blast tunnel;
- a high level bridge;
- a reconfigured ferry service; and
- the Do Minimum option, which retains the existing ferry service.

### **11.7 EVIDENCE OF NEED FOR A NEW TRANSPORT SOLUTION**

#### **11.7.1 Impact of the Existing Ferry Service (the Do Minimum Option)**

To understand the impact of the proposals for change it was important to understand what impact the existing ferry service has on both Bressay and the wider economy. The main economic impacts of the current ferry service were found to be:

- the provision of 18 full-time posts in Bressay at higher salary than is the average in Shetland;
- a constraint on investment and development in Bressay due to the barrier created by the ferry service and the fragility associated with ferry service provision, in particular related to the frequency of service and fares;
- the loss in productivity for private enterprise and public sector services that travel into Bressay to trade or deliver services; and
- a high degree of subsidy from the public sector towards the operation of the ferry service.

In addition, the uncertainty that surrounds the provision of a fixed link to Bressay itself has an impact on economic activity. The uncertainty means that land is not

being released for development, in particular one-off private housing development, proposed within the island.

### **11.7.2 Current Economic Conditions**

The majority of employment opportunities in Shetland are in Lerwick and this is leading to population drift towards central Shetland. In contrast to other island communities within Shetland that are not connected by a fixed link, the population of Bressay has been steadily growing. This could be due to its central location or perhaps as a result of the expectation that there would be a fixed link.

Unemployment is low in Bressay and while this is positive there is a dependency on Lerwick for both employment and the day-to-day needs of residents in Bressay. Both low unemployment and a stable or rising population does not suggest that the community of Bressay is experiencing an economic crisis that needs to be resolved by an improved transport link. However, as described in the previous section, development of private enterprise is constrained by the costs of transport and difficulties and barriers presented by dependency on a ferry service.

### **11.7.3 Potential Economic Constraints**

In addition to reviewing the current conditions in Bressay, the research sought to establish to what extent there is unmet demand for industrial, commercial, harbour and housing development in Lerwick, or more widely in Shetland, that could be addressed through a new transport link to Bressay. The conclusions are:

- there is no evidence that development is currently constrained by a lack of access to commercial and industrial land in Lerwick;
- that Lerwick would almost always be the preferred location for industrial development as 'businesses like to be near other businesses' This is the expectation unless land in Bressay can offer incentives that outweigh potential disadvantages by offering land to purchase at an attractive price;
- there are development needs for new harbour infrastructure, however, there are also either current or planned developments that would address the needs of the potential growth industries for the foreseeable future; and
- there are constraints on housing development in Lerwick and as a result there is an increase in population and housing development in alternative central locations, in particular Scalloway. However, there is no evidence that housing in central Shetland is constrained by a lack of appropriate land for housing. Although it is recognised that accessing the available land for development purposes can in some cases be challenging.

Therefore the research has identified that current economic development need for a new transport link between Bressay and the Mainland is in general localised to those businesses and organisations based or active on the island.

## **11.8 IMPACT OF THE OPTIONS**

The TEE analysis summarised in Chapter 3 shows that the tunnel, including public transport provision, performs significantly better than the ferry and bridge options. The estimates suggest that over a 60 year period the combined capital and operational costs of a tunnel would be approximately 40% less than the bridge option; almost 60% less than that reconfigured ferry service and 55% less than the current ferry service, the Do Minimum option.

Therefore there is a situation where the need for a new transport solution is highly localised within Bressay and is expected to create little net impacts at a Shetland level and no net impacts at a Scotland level; but also, there is a situation where the TEE analysis clearly demonstrates that a fixed link provides the best economic value from public sector investment.

In general, both the tunnel and the bridge are expected to have similar types of impacts and are therefore grouped together as 'fixed link' options. However, there are some differences in the nature or degree of impact expected and where relevant these are highlighted.

The direct impacts of the fixed link options, which are those impacts inherently linked to the actual construction and operation of an option, are expected to be:

- benefits from construction, that largely result in sub-contracting opportunities and potential opportunities for accommodation providers off-season;
- displacement of tourism activity during the peak-season due to accommodation requirements for imported construction labour unless temporary accommodation is provided. This impact would be greater for the bridge option as there would be a higher number of imported workers;
- negative impacts from the construction activity for the fixed links. For the tunnel option this means a displaced tenant and potential disruption to accessibility during activity at the Lerwick portal. For the bridge option this means constraints on those businesses operating in close proximity to the construction of piers for the bridge through restricted access;
- removal of the ferry service and therefore the reduction of employment opportunities in Bressay, however there is expected to be no increase in unemployment as similar opportunities exist elsewhere in the Shetland economy; and
- unrestricted travel access which is expected to improve the profitability of businesses and the disposable income of individuals. In addition, the unrestricted access is expected to lead to an increase in the number of trips made.

The indirect (short-medium) term impacts of the fixed link options are:

- productivity improvements to both private enterprise and public services that travel into Bressay to trade or deliver services;
- increased competitiveness of economic activity based in Bressay through a reduction in costs and improved access to opportunity;
- exposure of some Bressay based businesses to increased competition;
- an increase in the rate of new one-off private housing developments on Bressay;
- an increase in the number of overnight visitors to Bressay;
- a reduction in the fragility of the community in Bressay and as a consequence an increase in confidence to invest in the island; and
- a negative impact from the bridge option on the wider economy, in particular the marine based sector.

The longer term, and perhaps more visionary, impacts of the fixed link options were predicted to be:

- harbour development on the Bressay side of Bressay Sound;
- if a dual lane road is constructed from the fixed link in Bressay and further infrastructure secured a potential for industrial and larger scale housing development; and
- a more diversified Bressay economy with less dependence on the public sector.
- In summary the tunnel option performs better than the bridge option but both fixed link options would have positive and negative impacts. These impacts would lead to inevitable changes in the economic activity that occurs within Bressay, which may have knock-on social impacts, and during construction negative impacts on those businesses in the close proximity of activity. However, the overall outcome for the community is expected to be enhanced access to opportunity and improved competitiveness to bring the island in line with many other central areas of Shetland.

The remaining option is therefore the reconfigured ferry service. The direct impacts of this option would be:

- an increase in employment on-board the ferry service;
- an increase in cost to the public sector; and
- some improvement in accessibility and if the free fares option is implemented a likely increase in demand.
- However, the reconfigured ferry service would maintain a degree of fragility within Bressay as the frequency of service and fare levels remain changeable and dependent on ongoing and significant public subsidy.
- The indirect impacts of the reconfigured ferry service are expected to be:
- continuing restrictions on investment in economic activity on Bressay due to the fragility associated with the ferry service; and
- if the free fares option is implemented potential challenges for economic actors that wish to access a more popular but capacity constrained service.

## **11.9 SUMMARY CONCLUSION**

- The research and analysis suggests that the economic development need for any improvement to the transport option is highly localised within Bressay and for those businesses and services that operate in Bressay. It is not expected that the construction of a fixed link or a reconfigured ferry service would generate new benefits or opportunities at a Shetland wide level, at least in the foreseeable future.
- The fixed link options best address the local needs identified in this process. However, both fixed links would have positive and negative economic impacts. In the analysis of potentially negative impacts both are expected to have construction related impacts on those in the immediate vicinity, and for the tunnel option the apparently inevitable demolition of one building which is owned by the LPA. However, the bridge option is anticipated to generate the greatest negative impact of all the options as there are concerns that once operational it would present an ongoing barrier to marine related activity and potential economic growth, and there are fears that the new design would lead to a more frequent loss of access than is currently experienced with the ferry service due to high winds. Therefore the fixed link options are appraised to best address need, and the tunnel option performs the best as it is expected to create negative impact only during the construction period.

- If the fixed link options, and the tunnel in particular, had performed significantly worse than the ferry service in the financial analysis summarised in Chapter 3, it is likely that more focused research would have been required. This would have been required in order to explore whether the value of the benefits identified in a qualitative manner in this analysis would outweigh any additional investment required, particularly as many of the expected benefits to Bressay may occur at the expense of other areas in Shetland.
- However, the TEE analysis shows that the tunnel option significantly outperforms not just the other options for change but also the Do Minimum option in terms of both the anticipated cost over the 60 appraisal period and the quantified return in terms of community value expected from the investment. Therefore the tunnel is appraised as the best performing option in both the TEE and EALI appraisal.
- There would be winners and losers through the introduction of a tunnel but it is expected that the strength of the local economy would absorb many of the negatives, and overall a tunnel would reduce fragility for the community of Bressay and improve the competitiveness of Bressay as a place to live and work. This would help to sustain the community for the foreseeable future.
- However, to maximise economic activity and land impacts and to protect Bressay from inappropriate development, the potential approval of a drill and blast tunnel must be accompanied by appropriate land-use planning and infrastructure development.
- In addition, the negative economic impacts created by the uncertainty surrounding the transport link suggest that to enable the community of Bressay to address its challenges and develop appropriately, there is a need for a decision at the earliest appropriate date.

