Agenda Item

1

Shetland Islands Council

Environment and Transport Committee **15 June 2015**
Policy and Resources Committee **22 June 2015**

Inter Island Ferry Fares Review	
TP-10-15-F	
Report Presented: Executive Manager Transport Planning	**Development Services Department**

1.0 Summary

1.1 On 6 October 2014 the Committee considered a report on the Inter Island Ferry Fares Review that set out the objectives to be addressed in the review [Min Ref 32/14].

1.2 The Committee agreed to set the following objectives for the Review: -

- The overarching principle established is that the outcome of the Review must be revenue neutral for the Council (i.e. income must be maintained at the level included in the 2014/15 budget estimate), however the level of income to be achieved will now relate to the 2015/16 approved budget.

- Develop and evaluate fare options targeted at reducing or at least maintaining costs to commuters.

- Develop and evaluate fare options targeted at reducing or at least maintaining costs to island residents (i.e. all islands except mainland Shetland).

- Develop and evaluate a range of fare options that are targeted at maximising income from various user groups (e.g. business tourists, Shetland tourists, non-Shetland tourists, any other user groups that are identified from survey data) as a means of offsetting costs of the various options for discounted travel for commuters and/ or island residents.

- For the islands of Skerries, Fair Isle, Foula and Papa Stour, account must be taken of their particular characteristics, so that specific options can be developed.

1.3 This report presents the consultant's report (attached as Appendix 1), summarises the main conclusions reached and describes measures that are being undertaken to enable the Council to consider alternative fare structures in the future.

2.0 Decision Required

2.1 That the Environment and Transport Committee and Policy and Resources Committee **RESOLVE TO**: -

2.2 Note that it is not possible to introduce widespread fare reductions for commuters or island residents, without negatively impacting income generation;

2.3 Note that as a means of ensuring that ferry fares can be maintained at current levels an immediate priority is to address revenue security and revenue management to ensure that all income due to the Council is collected;

2.4 Note that steps have already been taken to modify ticket collection methods on ferries to improve revenue recovery;

2.5 Note that a pilot project is being developed to establish processes and systems to enable smart and integrated ticketing capabilities on buses and ferries. This will significantly improve revenue security and management as well as providing opportunities for different fare structures to be developed and introduced in the future;

2.6 Recommend to Council that the fare for a standard vehicle journey to Fair Isle or Foula is reduced from £25.30 each way to £6.80 each way, in line with prices in Skerries and Papa Stour;

2.7 Recommend to Council that the fare for a commercial vehicle journey to Fair Isle or Foula is reduced from £100 each way to £13.80 each way, in line with prices in Skerries and Papa Stour; and

2.8 Recommend to Council that a multi-journey motorcycle ticket is introduced at £67.80 for 10 return journeys.

3.0 Overview

3.1 The original drive for the Ferry Fares Review came from work on the Ferries Review carried out in 2012.

3.2 Feedback from the review showed that Communities felt strongly that the Council should undertake work to explore, understand and find means of addressing difficulties for individuals and communities that are felt to be arising out of increasing ferry fares.

3.3 Communities felt that it may be possible to develop a fare structure where fares for frequent/ regular users could be reduced through raising fares to infrequent users, e.g. travellers from mainland Shetland and tourists.

3.4 However, as detailed in the consultant's report attached as Appendix 1, this was not achievable, and would result in additional detrimental social and economic impacts if fares were increased to tourists and wider Shetland travellers.

3.5 The review has made it clear that in order to provide a reliable basis for development and assessment of alternative fare structures there are two areas that must be addressed.

3.6 The first is to ensure all necessary measures are in place to improve revenue recovery and revenue security so that all income due to the Council is collected.

3.7 The second is to develop a system of ticketing hardware and systems that can accommodate different fare options and has the capability to manage the complex processes of administering a range of different fare products and entitlements. A pilot project is in planning stage.

3.8 What this means is that a reduction in commuter or islander fares is not achievable.

3.9 However, once the measures described have been developed and implemented a report will be brought to the Committee at the earliest opportunity detailing what could be done in relation to commuter and islander fares.

4.0 Detail

4.1 Appendix 1 to this report contains the consultant's report on the Ferry Fares Review.

4.2 The report details a range of factors and fare scenarios and what is likely to happen if they were implemented.

Fare Reductions

4.3 Section 4 of the Review report in Appendix 1 explores a range of different fare models.

4.4 In all of the scenarios where fare reductions were examined it was found that there was no opportunity to introduce meaningful fare reductions for commuters and/ or islanders without very substantial fare increases for non-islander travellers (i.e. rest-of-Shetland travellers and tourists).

4.5 This is because: -

- Commuters and island residents account for a large proportion of the traffic on the ferries and therefore account for a large proportion of the fare income.

- This means that for even relatively small reductions in fares for commuters and/ or islanders there has to be a relatively high increase in fares for the remaining, much smaller, proportion of travellers required to maintain fare income levels.

- For example, if the fare for island residents was reduced by 50% then there would need to be a compensating increase of at least 80% or more to Shetland residents and visitors to maintain fare income overall.

4.6 The consequences of very high fare increases to these users are unpredictable but there is a high risk of significant reductions in travel leading to reductions in fare income overall.

4.7 Furthermore, if Shetland residents and tourists are discouraged from travelling then there is a high likelihood of negative social and economic impacts for the islands, particularly Unst and Fetlar in terms of tourism.

4.8 In addition to the above, there are limitations with regard to the ticketing systems currently in use. In order to introduce differential fares for commuters and/ or island residents the ticketing system must have the capability to securely identify and manage different entitlements.

Maintaining Fare Levels

4.9 The Council has already approved its budgets for 2015/16, and must achieve ferry fares income of £2.16m (2014/15 Budget plus inflation).

4.10 In 2014/15 the level of ferry fares income generated was £1.82m, which was a shortfall of £179k against budget.

4.11 Recognising this, steps have already been taken to further improve practice around ticket issuing and fare collection and plans are in place to introduce inspections on public transport, as well as other office based measures, to improve revenue security and collection.

4.12 These measures will improve revenue recovery and should address the shortfall

Further Measures

4.13 Officers are working with Transport Scotland to develop a pilot project looking at a smartcard based system for public transport in Shetland.

4.14 The principal aim of the project is to test ticketing systems that will provide the capability that will allow the Council to significantly improve ferry and bus fares revenue security, which will allow it to then begin to consider offering different fare types, and entitlements, whilst providing a range of payment options to travellers, as well as improving levels of demand at various times of day.

4.15 Revenue security is an essential precursor to the development of any specific new fare structures.

Looking Ahead

4.16 It is recognised that ferry users will be disappointed that it is not possible to reduce fares for commuters and/or island residents and in particular those facing real difficulty already due to transport costs. Many will feel that the Review has not addressed the concerns raised (for ease of reference Appendix 2 to this report contains a summary of the issues raised throughout the review).

4.17 However, the process of undertaking this review has provided a very good body of evidence and opinion that will be used as a significant part of the work with Scottish Government and Transport Scotland looking at the future shape and funding of inter-island ferry services in Shetland.

4.18 Once this work is complete and a fairer funding model has been developed and implemented, the Council will be able to revisit the issue of ferry fares.

Specific Issues that Need to be Addressed

4.19 There are two specific issues that the Committee could consider immediately that would have little or no impact on fare income if implemented.

4.20 The first was raised by the Fair Isle Community and relates to the standard vehicle and commercial vehicle fares on the ferry.

4.21 The single standard vehicle fare to Fair Isle and Foula is £25.30 each way.

4.22 This compares to a single standard vehicle fare to Papa Stour and Skerries of £6.80

4.23 The Fair Isle Community feel that in order to be treated equitably the fare for vehicles to Fair Isle and Foula should be the same as Papa Stour and Skerries.

4.24 Furthermore, the commercial vehicle fare for Fair Isle is £100 in each direction. For an equivalent sized vehicle to Papa Stour or Skerries the fare is £13.80 in each direction.

4.25 The Fair Isle Community ask that the Council alter the standard vehicle and commercial vehicle fares to the same as those to Papa Stour and Skerries, i.e. a standard vehicle fare of £6.80 single and a commercial vehicle fare of £13.80 single for a vehicle of 5.51m to 8.00m.

4.26 The second issue is motorcycle fares.

4.27 Representations have been made for some time that the motorcycle fare is disproportionately high. The cost of a return journey on the ro-ro services is £10.40 but there is no multi-journey ticket available.

4.28 This means that frequent users end up paying around 22% more per journey than those able to purchase multi-journey car tickets, i.e. £10.40 against a multi-journey fare equivalent of £8.48.

4.29 For this reason regular motorcyclists have asked that the Council consider introducing multi-journey ticket for motorcycles on the same basis as that for cars.

4.30 This would make the cost of a multi-journey motorcycle ticket £67.84 or £67.80 if rounded to the nearest 10 pence.

4.31 The level of demand in each of these fare categories is very low and if the demand remained unchanged the level of revenue risk to the Council is low.

4.32 In 2014/15 the total income on motorcycle fares was £3,420 of which a significant proportion can be attributed to tourist traffic (e.g. the Simmer Dim Rally).

4.33 Even if a worst case scenario was adopted and all the travel shifted to multi-journey tickets the revenue drop would be £1,190.

4.34 In reality however the revenue risk to the Council is likely to be limited to less than £1,000.

4.35 For Fair Isle, traffic data is limited. However analysis of the available data suggests that vehicle travel is very limited and the financial risk to the Council is also limited to less than £1,000.

5.0 Implications

Strategic

5.1 Delivery on Corporate Priorities - The Council's Corporate Plan Update April 2014 states that we will undertake a ferry fares review to develop a fares structure that takes into account affordability, equality and wider socio-economic impacts.

5.2 Community/Stakeholder Issues - summarised in Appendix 2 to the report.

5.3 Policy and/or Delegated Authority - The Environment and Transport Committee has delegated authority to implement decisions within its remit, in accordance with Section 2.3.1 of the Council's Scheme of Administration and Delegations.

Section 2.2.2 and 2.2.6(b) sets out the responsibilities of Policy and Resources Committee in advising to the Council on its strategic objectives, policies and priorities and in recommending to Council as to charges for Council services.

5.4 Risk Management – If ferry fares are difficult to afford for users then there may be pressures on individuals and families to leave islands to reduce travel costs. This is most likely to have the most significant impact on the younger people in communities.

Affordability for those on low incomes may lead to difficulty in accessing employment and services, which can lead to health impacts and social exclusion.

If the required income budget cannot be met then there will be a need to find compensating savings elsewhere in the ferry service which could lead to service reductions as a means of reducing costs.

5.5 Equalities, Health and Human Rights - This report does not directly address any issues under these headings. However, the work with Scottish Government and Transport Scotland will include exploration of how fare options affect particular groups in society such as those on low income, those accessing training, those accessing educational opportunities, etc.

As the work with Scottish Government progresses and clearly defined options for service levels and fare structures are developed the Council's Integrated Impact Assessment process will be used to ensure this area is properly addressed.

5.6 Environmental - None.

Resources

5.7 Financial – The immediate priority is to address revenue security, which is estimated to cost this Council £179k per annum. Measures have already been adopted to ensure greater scrutiny of entitlement when collecting fares, and work is underway in partnership with the Council's Internal Audit Service to carry out inspections, and develop and implement processes to improve revenue security.

Should the Committee choose to recommend to the Council that the fare changes in points 2.1.5, 2.1.6 and 2.1.7, are implemented then there could be a revenue risk of the order of £2,000 if travel usage characteristics were to remain unaltered.

These initiatives will ensure that there is no shortfall in ferry fares income for 2015/16.

5.8 Legal - None.

5.9 Human Resources - None.

5.10 Assets and Property - None.

6.0 Conclusions

6.1 The Inter Island Ferries Fares Review has concluded that it is not possible to introduce any meaningful fare reductions for commuters or island residents.

6.2 Improvements in ticket infrastructure and processes are necessary to significantly improve revenue security, which will provide a sufficiently secure and capable platform on which to develop, implement and manage alternative fare structures.

6.3 With improvements to ticketing procedures and the development of improved ticketing infrastructure (which will be supported by Transport Scotland) it will be possible to at least maintain fare levels through improved revenue collection.

6.4 Fare levels will be considered as part of the ongoing work with Scottish Government and Transport Scotland and Members will have the opportunity to further consider this matter towards the end of the current financial year.

For further information please contact:
Michael Craigie – Development Services
Phone: 01595 744160
E-mail: michael.craigie@shetland.gov.uk
9 June 2015

List of Appendices
Appendix 1 – Review of Fares on Inter Island Ferry Services – Consultant's Report
Appendix 2 – Issues Raised During Fares Review Consultation

Review of Fares on Shetland's Internal Ferry Services

Final Report

to

Shetland Islands Council

by

reference economic consultants

April 2015

CONTENTS

1 INTRODUCTION

This is the final report of a review of fares on Shetland's internal ferry services. The research was undertaken on behalf of Shetland Islands Council (SIC) between August 2014 and April 2015.

1.1 OBJECTIVE AND SCOPE OF THE REVIEW

1.1.1 Objective

The research has examined potential changes to current fare levels and structures, and their possible impact on farebox income.

1.1.2 Parameters and Assumptions

As the study progressed a number of parameters and assumptions were introduced by SIC. These have determined the scope of the work.

In particular, that **fare changes should be revenue neutral**-that is, real terms ticket income should remain at the same level in the light of any changes. In addition:

- **No residents of the isles served should pay any more than they presently do**, beyond inflationary fare increases.
- **In general fares should continue to be the same for each of the four main ro-ro routes**, and on each of the routes to the more distant isles.

It was also assumed that-beyond inflationary fare increases-there would be **no revisions to fares for larger commercial vehicles and buses.** The issue of ferry freight fares is currently being considered by Transport Scotland, with input from Regional Transport Partnerships. The aim is to develop a standard national approach to fare setting. Accordingly, SIC have decided to await the findings of the Transport Scotland work before making any decisions on freight fares on Shetland's own ferry services.

Further, SIC were of the view that any real terms increase to freight (and bus) charges would simply be passed on to businesses and residents of the isles served. This would conflict with the aim that *no residents of the isles served should pay any more than they presently do*.

Finally, there would be **no changes-beyond inflationary increases-to internal charges within the Council for its own staff/vehicles' use of the ferry services.** This is to avoid simply circulating larger amounts of money within SIC rather than changing the financial position of the Council as a whole. Fare increases for SIC travel would not give the Council *as a whole* the scope to reduce the fares of other ferry users.

In general, the analysis in this report reflects these parameters and assumptions.

1.1.3 Scope

SIC's overall fares review is for the eight Shetland ferry services. However, this report very largely covers only the four main ro-ro routes, that is:

- Bluemull (Yell-Unst-Fetlar).
- Bressay.
- Whalsay.
- Yell Sound.

This reflects, first, that these services account for the vast majority of total traffic and revenues. Second, SIC's consultations with communities in Fair Isle, Foula, Papa Stour and Skerries indicated that they are generally content with existing fare *structures*.

The fare changes that are assessed in this report were selected and defined by SIC.

1.2 METHOD

1.2.1 Review of Evidence Base

First, we reviewed and developed the evidence base for existing activity. That includes SIC data on fares, carryings, ticket types and ticket income. This largely covered the most recently completed financial year (2013-14). Some analysis of 2012-13 data was also undertaken to allow comparison between the two years.

A key part of the evidence base is the results of on-board self-completion passenger surveys. Undertaken in 2014, they collected information on the profile of ferry users. The surveys were conducted by SIC staff and managed by McGregor Transport and Strategy Solutions (MTSS). They were undertaken within specific weeks on each route, as described at **Table 1.1**.

TABLE 1.1: ON-BOARD SELF-COMPLETION SURVEYS

Route	Survey Dates (2014)
Bluemull	28th April-4th May
Bressay	5 th-11th May
Whalsay	28th April-4th May
Yell Sound	5 th-11th May and 11th-17th August

MTSS provided a high level analysis of the survey results for SIC. For our work, they undertook more detailed analysis, grossing up the survey results on each route to the full week's carryings. They also provided us with the raw survey data. This allowed us to analyse a number of aspects in greater depth.

The evidence base also included two *Reference* reports that were produced in 2008:

- *Evaluation of the Social and Economic Impacts of Removal of Fares on Bluemull Sound Ferry Services.*
- *Shetland Ferry Services: Estimation of Price Elasticities.*

The latter has informed our estimates of the impacts of fare changes. However, it was simply based on desk research rather than direct research with ferry users. The report noted that "estimation of the elasticities has relied on a considerable degree of judgement". Therefore, the impact estimates shown in this report should be treated with some caution.

1.2.2 Consultation

In November and December 2014 SIC undertook consultations with the communities/Community Councils of the isles served by the eight ferry services. *Reference* attended four of these meetings (Fetlar, Unst, Whalsay and Yell).

We also presented emerging findings from our work to elected members. This was at an SIC Policy Forum meeting in December 2014. This provided feedback on findings to date and the scope of issues to be covered in this report.

1.3 STRUCTURE OF THE REPORT

Chapter 2 Describes the existing position for fares, carryings, user profiles and ticket income.

Chapter 3 Considers an issue that will need to be addressed regardless of the overall ferry fares review.

Chapter 4 Assesses the potential impacts of a number of potential fare changes.

Chapter 5 Gives our overall conclusions.

2 THE EXISTING POSITION

2.1 INTRODUCTION

This Chapter reviews the existing position on the four routes. It looks in turn at:

- Fare levels, including exceptions to the general policy of uniform charging across the routes.
- Carryings.
- Characteristics of ferry users.
- Ticket income.

Some issues are covered in depth. This is to provide the context for the assessment of fares in later Chapters. It is also because the information presented forms the building blocks of the subsequent analysis.

2.2 FARES

2.2.1 Passengers, Motorcycles and Vehicles Up to 5.5m

Table 2.1 sets out the main return fares for traffic other than larger commercial vehicles or buses.

TABLE 2.1: CURRENT (2014-15) RETURN FARES: PASSENGERS, MOTORCYCLES AND VEHICLES UP TO 5.5M	
Passenger	
Adult-Return	£5.20
Adult-10 Journey Ticket	£21.20
OAPs (with SIC pass) & Children up to 19-Return	£1.00
OAPs (with SIC pass) & Children-10 Journey Ticket	£5.20
Disabled Concessionary SIC Pass Holders	No Charge
Vehicle-Fares include driver	
Motorcycles-Return	£10.20
Vehicles up to and including 5.5m-Return	£12.80
Vehicles up to and including 5.50m-10 Journey Ticket	£83.20

For passengers and vehicles (apart from motorcycles) both return and multi journey tickets are available. The latter can be bought by anyone, not just residents of the isles served by the ferry.

The vehicle fares are offered based on length. Thus, commercial vehicles up to 5.5m are eligible to use what might otherwise be considered "car" fares.

For *passengers* the discounts provided by a multi journey ticket compared to a return are quite high in proportionate terms:

- Adults: 59% (i.e. £3.08 per return journey made).
- OAPs/those up to 19 years: 48% (£0.48 per return journey).

For *vehicles* the percentage discount is lower-35% (c£4.50 per return journey). There is, of course, a requirement to purchase the book of 10 journey tickets up front, at a cost of over £80 for vehicles.

Ferry users will travel in groups as well as on individual basis. Thus, the total charge for a car, driver and two accompanying adult passengers is £23.20 if a return fare is used and the equivalent of around £12.50 using multi journey tickets.

2.2.2 Fare Changes 2008-2014

Table 2.2 shows the increases in fares in the last six years.

TABLE 2.2: FARES INCREASES SINCE 2008		
Passenger		
	2008-14	**2010-14**
Adult-Return	58%	44%
Adult-10 Journey Ticket	34%	25%
OAPs (with SIC pass) & Children up to 19-Return	150%	150%
OAPs (with SIC pass) & Children-10 Journey Ticket	86%	68%
Vehicle-Fares include driver		
Motorcycles-Return	70%	57%
Vehicles up to and including 5.5m-Return	64%	52%
Vehicles up to and including 5.50m-10 Journey Ticket	34%	25%

Source: SIC analysis and published fares

Most have risen by more than 50% since 2008. The lowest increases are for multi journey tickets for adults and vehicles. These grew by 25%.

The rate of increase has not been consistent. In most cases there has been a higher rate since 2010. This has included a:

- 15% increase on almost all fares in April 2011.
- 25% increase in the return fare for vehicles up to 5.5m and 16% for the passenger return fare in December 2012.

The rises have been well above the increase in the general cost of living. The Consumer Price Index shows general price inflation of approximately:

- 18% between 2008 and 2014.
- 12% between 2010 and 2014.

Some fares have seen large *percentage* increases which are actually low in *absolute* terms. For example, between 2008 and 2014 adult return fares increased by £1.90 (from £3.30 to £5.20)-but this represented an increase of over 50%.

Vehicle return fares increased by £5 over the same period, while the multi journey book of vehicle tickets went up by c£21.

2.2.3 Commercial Fares

Table 2.3 shows current fares for commercial vehicles over 5.5m in length.

TABLE 2.3: CURRENT (2014-15) RETURN FARES: COMMERCIALS OVER 5.5 M		
Type	**Smallest Vehicles (£)**	**Largest Vehicles (£)**
Commercial Vehicle	22.67	60.83
Tanker	40.83	96.83
Plant	57.83	141.50

Note: For ease of comparison with other fares the commercial rates are shown net of VAT. Fares include the driver

The rates for each vehicle types are set in three bands based on length. For example, the minimum rate for a Commercial Vehicle is for one between 5.51m and 8m in length. The maximum rate is for one that is between 12.01m and 18m. Unlike vehicles of up to 5.5m no multi journey tickets are available for commercials.

Commercial fares are considerably higher than those for vehicles up to 5.5m (shown at **Table 2.1**). The smallest difference is around £10 (c£23 for the smallest commercial compared to £12.80 for a vehicle up to 5.5m). However, in most other cases the commercial fares are more than four times higher than those shown at **Table 2.1**.

2.3 EXCEPTIONS TO UNIFORM CHARGING

2.3.1 Through Traffic Between Unst/Fetlar and Shetland Mainland

Before September 2005

Up to September 2005 **residents of Unst/Fetlar** making a through trip to/from mainland Shetland could purchase a ticket that, in effect, gave them a discount of 75% of the Yell Sound fare in conjunction with paying the full fare on Bluemull Sound. This was intended to avoid unduly penalising residents who have to make two ferry crossings to travel to Shetland mainland.

However, **non-residents** travelling between mainland Shetland and Unst/Fetlar paid the full fare on both routes. In 2005 that meant a *total* cost of £20 for a return trip for a car, driver and two passengers.

Commercial fares on Bluemull were 25% of those on the other three routes. This, in effect, gave commercial traffic travelling between mainland Shetland and Unst/Fetlar the level of discount that residents enjoyed. It also meant lower fares for commercials moving *within the North Isles* than on the other three routes.

September 2005-March 2013

September 2005 saw the closure of Unst's major employer (RAF Saxa Vord). As part of the public sector response fares were completely removed on the Bluemull service. Thus, those with a trip origin *and* destination within the North Isles (e.g. someone commuting from Unst to Yell) travelled for free. In addition, those travelling between Unst/Fetlar and Shetland mainland paid only on the Yell Sound crossing. Unlike before, the fare regime applied to all users, not simply Unst/Fetlar residents and commercials.

Since April 2013

In 2013 fares were reintroduced on the Bluemull service. Those with a trip origin and destination within the North Isles now pay the full fare.

All those travelling between Unst/Fetlar and mainland Shetland (defined as those having to use two ferries on the same day or after 1800 on the day before) are not charged for using the Bluemull service-but only for crossing Yell Sound. One result is that an Unst resident travelling to the dentist in Yell pays the same amount as a visitor to Shetland travelling from Lerwick to Unst.

This new fares regime was intended to be temporary pending the outcome of SIC's fares review.

2.3.2 Bressay Season Tickets

Bressay season tickets were introduced in 2009. This was in response to arguments that the isle's residents face relatively high total ferry costs because of their high frequency of trips to access vital services in Lerwick. There are no season tickets on the other three routes. **Table 2.4** shows the three different types of season ticket that are available.

TABLE 2.4: BRESSAY SEASON TICKETS

Product	Cost Per Month (£)	Cost Per Month If Bought for 12 Consecutive Months (£)
Unlimited Foot Passenger Journeys	46.00	41.92
15 Foot Passenger Journeys and 10 Car Journeys	98.50	89.58
Unlimited Foot Passenger Journeys and 20 Car Journeys	130.80	119.58

Source: SIC fare schedule

They are paid for in advance monthly. If bought for 11 consecutive months then the 12th month is free. The tickets are available to all-not just Bressay residents. A single season ticket can be used by a number of people to make trips at different times. It is not restricted to a single named individual.

The financial advantage of each ticket is as follows:

Unlimited Foot Passenger Journeys. There is an increasing saving to the user compared to the multi journey fare once they have made 22 journeys in the month (20 if the season ticket is used all year round).

15 Foot Passenger Journeys and 10 Car Journeys. The saving over the equivalent multi-journey tickets is £16.50 per month (or c£25 if the season ticket is used all year round).

Unlimited Foot Passenger Journeys and 20 Car Journeys. The saving is between £36 and £47 per month for the car journeys compared to the equivalent multi-journey fare, plus the benefit of unlimited foot passenger journeys. However, the ticket does require paying over £130 up front each month.

At September 2014 a total of 47 season tickets were in operation. The number of each was:

- *Unlimited Foot Passenger Journeys/20 Car Journeys*: 24 season tickets.
- *Unlimited Foot Passenger Journeys*: 22.
- *15 Foot Passenger Journeys/10 Car Journeys*: 1.

2.4 PASSENGER AND VEHICLE CARRYINGS

2.4.1 2013-14 Volumes

Table 2.5, over, summarises annual carryings (single trips) in 2013-14. The four routes conveyed approaching 800,000 passengers and 342,000 cars, etc., plus slightly over 15,000 commercials.

Yell Sound carried the highest number of each traffic type. Despite having the lowest resident population of the four routes, Bressay had the second highest passenger numbers.

2.4.2 Comparison To 2012-13

Table 2.6, also over, compares 2013-14 carryings to those in the previous year. The main points to note are that:

- Passenger numbers were virtually unchanged.
- The number of vehicles of up to 5.5m fell by 5%.
- Commercial carryings fell by 17%.
- Bus/coach volumes grew by over 60%.

This was in a context of:

- A general fares increase of 3% between the two years.
- A reduction in the frequency of sailings on each route from July 2013 onwards.
- The reintroduction of fares for intra-North Isles trips made on the Bluemull service.

There was some variation by route. For **passengers,** there were decreases of around 5% on Bressay and Whalsay, with those on Bluemull essentially flat and an increase of 7% in Yell Sound numbers. The decline in demand on both Bressay and Whalsay followed the reduced sailing frequencies from July 2013 onwards.

TABLE 2.5: ANNUAL CARRYINGS: 2013-14						
Route	**Passengers**	**Cars, Vans, Pick-ups and Tractors up to 5.5m**	**Non Commercial Trailers**	**Motorbike**	**Commercials (Vehicles, Tankers, Plant)**	**Bus/Coach**
Bluemull	170,535	76,114	1,928	304	3,161	907
Bressay	176,373	65,215	1,383	94	2,260	404
Whalsay	163,462	73,908	1,374	91	2,258	99
Yell Sound	284,492	126,428	2,262	361	7,391	1,834
Total	**794,862**	**341,665**	**6,947**	**850**	**15,070**	**3,244**

TABLE 2.6: TOTAL ANNUAL CARRYINGS: 2013-14 COMPARED TO 2012-13						
Route	**Passengers**	**Cars, Vans, Pick-ups and Tractors up to 5.5m**	**Non Commercial Trailers**	**Motorbike**	**Commercials (Vehicles, Tankers, Plant)**	**Bus/Coach**
2012-13	*793,386*	*358,722*	*7,212*	*1,110*	*18,231*	*2,021*
2013-14	794,862	341,665	6,947	850	15,070	3,244
Change	1,476	-17,057	-265	-260	-3,161	1,223
Change (%)	0%	-5%	-4%	-23%	-17%	61%

For **cars, etc.** there was a slight fall (i.e. between 1% and 4%) on each of Bressay, Whalsay and Yell Sound. The decline in demand on both Bressay and Whalsay followed, to an extent, the reduced sailing frequencies from July 2013 onwards.

There was a much larger decrease (12%) on Bluemull. Based solely on analysis of the carryings data it appears that the decrease is mostly attributable to a fall in intra-North Isles traffic rather than through trips to/from mainland Shetland.

For **commercials,** the overall decrease of 17% was very largely driven by the decline in numbers on Bluemull and Yell Sound. The falls on these two routes were 32% and 15%, respectively. The fall in Bluemull volumes appears to be mainly due to a decline in commercials moving between Unst and mainland Shetland than from those making intra-North Isles trips.

Similarly, the significant overall percentage increase (61%) in **bus/coach** carryings was very largely from additional traffic on the two North Isles routes. The numbers on Bluemull were up by 133%, those on Yell Sound by 64%. Much of the increase on the latter appears to be in vehicles travelling to/from Unst.

2.4.3 Temporary Traffic in 2013-14

2013-14 carryings on both Bluemull and Yell Sound include the movement of temporary construction workers by coach between Unst and mainland Shetland. Available information indicates that this will have generated around 20,000 passenger trips which are included in the annual carryings data shown at **Table 2.5**.

Excluding this temporary traffic helps to isolate other factors that could explain change in demand between 2012-13 and 2013-14. Subtracting the project-related traffic from the figures shown at **Table 2.5** gives the following revised numbers for 2013-14:

- Bluemull: 150,069 passengers. That is c19,000 (11%) lower than in the previous year.
- Yell Sound: 264,026 passengers-virtually the same as in 2012-13.

It also produces a revised total of c754,000 passengers across all four routes in 2013-14. That is around 39,000 fewer passengers than in 2012-13-a fall of around 5%,

On both routes-and thus across all four routes-the 2013-14 increase in the number of **buses/coaches** appears to be very largely due to the construction worker movements.

2.4.4 Bluemull Traffic: Origins and Destinations

Those travelling on the Bluemull service have two possible trip ends. One is trips made wholly within the North Isles (e.g. someone commuting from Yell to work in Unst). The second is a trip to/from a destination outside the North Isles. For example, a Fetlar resident going to shop in Lerwick, or someone who lives in Unst.

Given the requirements of this study there was a need to distinguish between these two types of trip. Based on the available information-principally the 2014 surveys-we estimate that some 48,200 (28%) passenger trips are made within the North Isles, with the balance of around 122,300 (72%) being through trips between Unst/Fetlar and mainland Shetland. These trips are by all users-i.e. North Isles residents and those living elsewhere.

This number of trips within the North Isles is considerably higher than implied by the Bluemull ferry service's income as reported by SIC. However, our estimate reflects:

- The results of the 2014 passenger surveys on both from the Bluemull and Yell Sound.
- In broad terms the apparent level of intra-North Isles trips made immediately before fares were withdrawn in 2005.

Yet it could also be that some survey respondents stating both an origin *and* destination within the North Isles have broken their journey in Yell during a through trip between Unst/Fetlar and mainland Shetland. For example, an Unst resident going to a shop in Yell on the way back from Lerwick. These individuals would not be required to pay a fare on the Bluemull service.

2.4.5 Seasonality of Demand

Traffic levels vary throughout the year. The seasonality of the combined traffic on all the four routes is described at **Table 2.7**.

TABLE 2.7: CARRYINGS BY MONTH: 2013-14

Month	Passengers		Cars, Vans, Pick-ups and Tractors up to 5.5m	
	Number	Share	Number	Share
April	62,330	8%	27,642	8%
May	72,544	9%	31,214	9%
June	82,897	10%	33,649	10%
July	82,876	10%	33,836	10%
August	80,388	10%	34,618	10%
September	69,855	9%	29,661	9%
October	70,991	9%	28,553	8%
November	63,788	8%	26,040	8%
December	50,533	6%	22,603	7%
January	50,076	6%	21,888	6%
February	51,207	6%	24,537	7%
March	57,377	7%	27,424	8%
Total	**794,862**	**100%**	**341,665**	**100%**

Note: Some columns do not sum to the total shown due to rounding

It shows a degree of seasonality in demand. June and July are the peak months for passenger travel. They each see around 83,000 passengers. This compares to c50,000 in the trough month of January. Three months (June, July and August) collectively account for over 30% of annual carryings.

Vehicle carryings exhibit a similar pattern. However, they are slightly less seasonal than passengers, with a smaller decrease in vehicle demand during the winter months.

There are, of course, variations between the routes. Bluemull is the most seasonal, where June, July and August account for over one third of all annual passengers, with 12% in June alone.

2.5 PASSENGER CHARACTERISTICS: BASED ON SURVEY WEEK

2.5.1 Place of Residence

The on-board surveys collected information on passengers' place of residence. The results were grossed up to the total passenger carryings for the week in which the survey took place. The data are shown at **Table 2.8**.

TABLE 2.8 PASSENGER SHARES BY PLACE OF RESIDENCE: DURING WEEK OF SURVEY

Route/Place of Residence	Isle Resident	Rest of Shetland	Visitor	Total
Bluemull	53%	28%	19%	**100%**
Bressay	74%	21%	5%	**100%**
Whalsay	64%	32%	4%	**100%**
Yell Sound-spring survey	63%	28%	9%	**100%**
Yell Sound-summer survey	55%	29%	16%	**100%**

Source: On-board surveys

The three places of residence are defined as:

- *Isle resident*-a person living on the island(s) served by the route in question-Bressay, Whalsay; and for the Yell and Bluemull services, residents of any one of the three North Isles.
- *Rest of Shetla*nd. For each route these are residents of Shetland who are not an "Isle resident". For example a resident of Lerwick; a resident of Whalsay travelling on the Yell Sound service.
- *Visitor*. People who live outside Shetland. For example, a holidaymaker from England, or a businessman who lives in Aberdeen.

Table 2.8 shows that in each case more than half of passengers using the service in the survey week were isle residents. Their shares vary between 53% (Bluemull) and 74% (Bressay).

The share of passengers who live in the Rest of Shetland is quite similar on three of the routes (i.e. between 28% and 32%). The exception is Bressay where Rest of Shetland residents account for only 21% of passengers.

Visitors form a relatively small share of passengers. This is particularly so on Bressay and Whalsay (no more than 5%). The highest share (around one in five passengers) is on Bluemull.

Table 2.8 also shows the variation between the spring and summer profile on Yell Sound. In spring visitors accounted for 9% of passengers, rising to 16% during the August survey.

In addition *total* passenger numbers are higher in August which further increases the *absolute* number of visitors travelling then.

The share of Yell Sound passengers who live in Rest of Shetland is virtually unchanged between spring and summer. However, as *total* passenger numbers are higher in August then the actual *number* of Rest of Shetland residents is higher than in the spring.

2.5.2 Trip Purpose

Figures 2.1, 2.2 and **2.3** show passengers' trip purposes. This is based on the combined results of the April/May surveys on the four routes.

Figure 2.1: Trip Purpose-Isle Residents

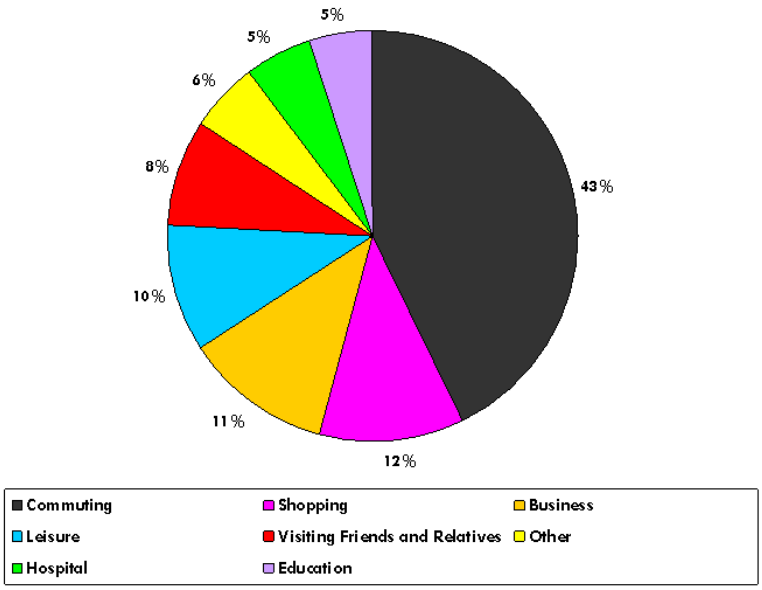


Figure 2.1 shows commuting is clearly a large part of **isle residents**' use of the services. It accounts for over 40% of trips made by those surveyed. The results also illustrate the wide range of other purposes for which the ferries are used-covering business, personal business and leisure activities.

Figure 2.2, over, shows the importance of work and business-related trips for rest of Shetland residents. Combined, commuting and business account for c60% of their trips. However, Visiting Friends and Relatives is also quite significant (22% of those surveyed).

Figure 2.3, also over, shows the trip purposes of those who live outside Shetland. Holiday is the most common, reported by just over half those surveyed. Business is also significant- the purpose of around one in five respondents. Relatively few visitors were making a visiting friends and relatives trip.

Figure 2.2: Trip Purpose-Residents of Rest of Shetland

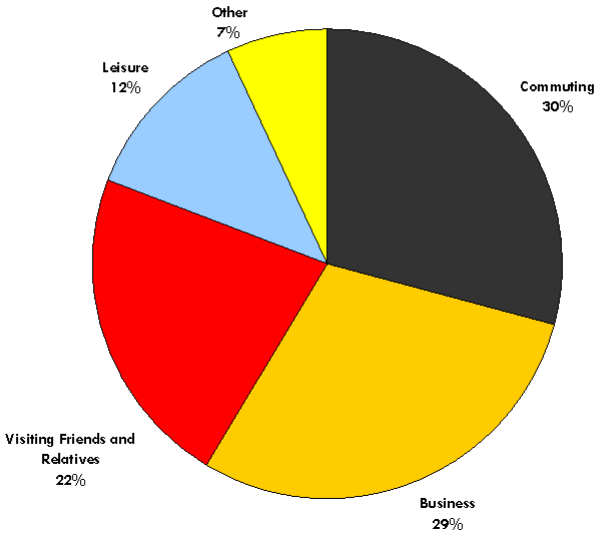
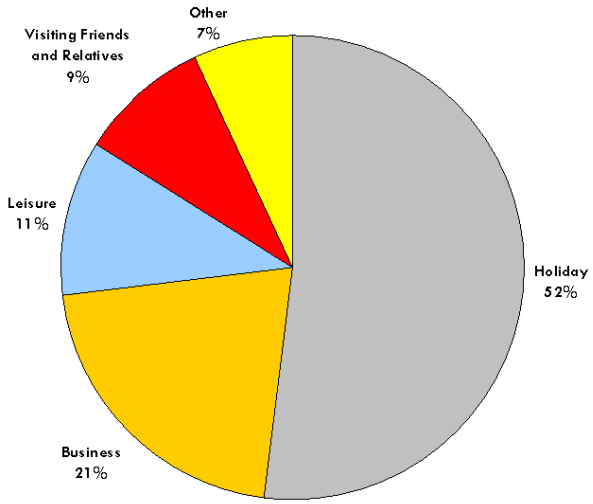


Figure 2.3: Trip Purpose-Visitors To Shetland



2.5.3 Type of Ticket Used

When surveyed, most **isles residents** (55%) were travelling on a discounted ticket (either multi journey or Bressay season ticket). A further 36% were using a return ticket. The remaining 9% used another ticket type-e.g. disabled concession.

There were some variations between the routes. Use of discounted tickets was particularly pronounced among Bressay residents. In contrast more Whalsay residents used return tickets than used the discounted alternatives.

The position for residents of the **rest of Shetland** is clearly different. Less than one third (29%) were travelling on a discounted ticket with most (59%) using a return ticket. The remaining 12% were travelling on another type of ticket.

Again there was variation across the four routes. Residents of rest of Shetland travelling on Yell Sound and Bressay were more much likely to use a discounted ticket than those on the Bluemull and Whalsay routes.

2.6 TICKET INCOME

SIC data show that in 2013-14 the four routes generated a total income of £1,836,000. The vast majority-£1,766,000-comes from ticket sales. The remaining £70,000 is classified as "other income".

We have broken down the ticket income into three categories:

- Passenger and non-commercial vehicle fares.
- Commercial fares-freight vehicles over 5.5m and buses.
- Internal charging within SIC for staff use of the ferry services.

The first of these categories was then broken down further. This estimated the share of income attributable to each of: isle residents; rest of Shetland residents; and visitors.

This was done by grossing up the survey data on passenger place of residence (shown at **Table 2.7**) to the full year, using detailed carryings data for each month to adjust the survey results (which were snapshots for a specific week). This was undertaken for each route, and then totalled to give the overall picture. The results are shown at **Table 2.9** and graphically at **Figure 2.4**, both over.

The vast majority (78%) of income comes from passenger and non-commercial vehicle fares. Most of the rest (15% of the total) comes from larger freight vehicles and buses. Finally, SIC internal charging accounts for a small proportion (7%) of total income.

Isle residents are a key component of ticket income. They contribute an estimated 45% of the total. That represents around:

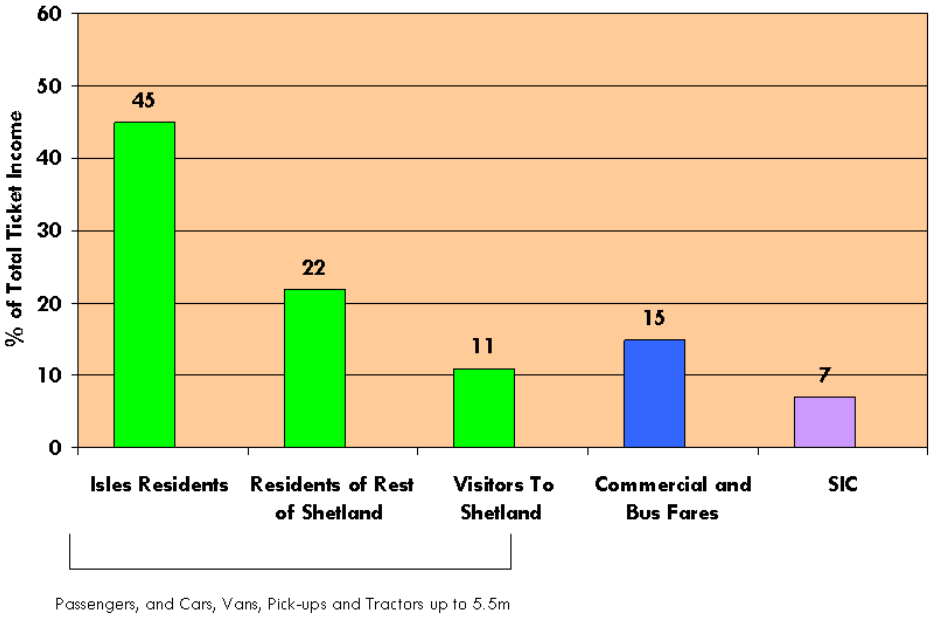
- Twice the contribution of residents of the rest of Shetland.
- Three times that of commercial fares.
- Four times that of visitors.

The breakdown of passenger and non-commercial vehicle fares by users' place of residence is:

- Isle residents: 58%.
- Rest of Shetland: 28%.
- Visitors: 14%.

TABLE 2.9 ESTIMATED BREAKDOWN OF TICKET INCOME: 2013-14		
Category	**Income (£)**	**Share**
Passenger and Non-Commercial Vehicle Fares		
Isle Residents	*793,770*	*45%*
Rest of Shetland	*388,558*	*22%*
Visitors	*195,860*	*11%*
Total Passenger and Non-Commercial Vehicle Fares	1,378,189	78%
Commercial and Bus Fares	267,467	15%
SIC	120,512	7%
Total	**1,766,167**	**100%**

Figure 2.4: Estimated Breakdown of 2013-2014 Ticket Income



Thus, isle residents account for more than half of these fares' contribution to total ticket income. A significant reduction in the income contributed by isle residents would imply a relatively large increase in the fares paid by the others in order to produce a revenue neutral outcome. This assumes that the infrastructure is in place to allow different fares to be charged depending on the user's place of residence.

As stated at **Chapter 1**, the study parameters mean that additional income cannot be generated by increasing either commercial/bus fares or charges for SIC's own travel.

In addition it should be noted that large proportions of the overall ticket income come from:

- Vehicles up to 5.5m; and
- In general, the Yell Sound route-reflecting its relatively high traffic levels.

2.7 CONCLUSIONS

Multi journey tickets offer quite significant discounts for the most frequent users of the ferry services. This is especially the case for vehicles up to 5.5m in length.

Charging is based on vehicle length. Thus, the current bands allow what are commercial vehicles to access "non-commercial" rates including multi journey discounts. Multi journey tickets are also available to all users rather than only isle residents.

There have been some significant percentage fare increases in recent years, well above the rise in the general cost of living. Some relatively large one-off increases since 2010 will have heightened isle residents' perception of increasingly high fares. The consultations indicate that this is a reality for some isle residents and has restricted their travel opportunities.

Some of the fare increases have been quite low in *absolute* terms: notably those for passenger rather than vehicle tickets. Yet there will still be a cumulative impact for the most frequent ferry users.

The nature of demand differs across the four routes. For example, the high frequency of resident travel on the Bressay service; relatively large proportion of Bluemull passengers who are visitors; and the high number of commercials travelling across Yell Sound.

Despite this there is a general objective of uniform pricing across the four routes. Yet there have still been variations from this. Specifically, Bressay season tickets and the changing mechanisms for addressing the cost of having to use two ferries for travel between Unst/Fetlar and mainland Shetland.

It appears, however, that there is limited satisfaction with these approaches. Some In the North Isles see the current arrangements as iniquitous. This is because they are not specifically targeted at isle residents, with the benefit of paying for only one ferry crossing to reach Unst/Fetlar extended to those who are seen as being willing and able to pay more than they currently do (notably visitors).

Any fare changes will be in a context of other factors that also influence demand. These can be one off factors-e.g. construction workers staying overnight in the North Isles. However, some factors can be more permanent. It does not appear that the overall ferry market is growing and, in contrast to earlier years, may actually be declining. Thus, changes to fares may be made in what is not a buoyant, growing market.

There is some seasonality of passenger and car demand, although this is less pronounced than on many other Highlands & Islands ferry services. It also appears that some of the uplift in the summer is due to increased travel by isles residents and those living in the rest of Shetland, rather than being solely attributable to visitors.

Holiday is clearly visitors' most common trip purpose, although visiting friends and relatives trips are quite limited. However, there is some use for Business trips.

Greater use of the ferries is made by those living in the rest of Shetland. Their most common purposes are Commuting and Business, although visiting friends and relatives is also important. These trips will benefit isles' employers, other businesses, and households through tradespeople undertaking work and social contact with friends and families.

The on-board surveys showed around 30% of rest of Shetland passengers were using a multi journey ticket. This indicates some quite high frequency use of the ferries, notably for commuting.

Overall, however, isle residents account for a majority of users. They account for a significant proportion of total ferry income, well above the contributions of rest of Shetland residents and, in particular, visitors.

Given the parameters for this study, lower fares for isles residents would require an increased contribution from one or both of the other two user groups. A significant reduction in the income contributed by isle residents implies a relatively large increase in the fares paid by others. This is required in order to produce a revenue neutral outcome. This assumes that the infrastructure is in place to allow different fares to be charged depending on the user's place of residence.

The impact of fare changes on demand from vehicles up to 5.5m, and by Yell Sound traffic in general, will be crucial in determining the overall impact on ticket income.

3 THE 2015-2016 BASELINE

3.1 INTRODUCTION

This Chapter considers an issue facing future ferry service revenues. This is the expected annual shortfall in ticket income in 2014-15 compared to the budget forecast. Its implications will need to be addressed regardless of the overall fares review.

3.2 POTENTIAL INCOME SHORTFALL

3.2.1 Analysis

We understand that total ticket income for 2014-15 is less than forecast. The shortfall is approximately £180,000.

One means of attempting to ensure that this shortfall is not repeated in 2015-16 could be through the fare box. Assuming a generally inelastic demand for the ferry services this would be through fare *increases*. **The higher fares would form a new baseline for the introduction of any other fare changes.**

The £180,000 figure represents 10.2% of the total 2013-14 ticket income for the four main ro-ro routes (as shown at **Chapter 2**). If fare rises were applied to *all* traffic types (including commercials and SIC travel) then there would have to be at least a 10.2% fare increase in 2015-16.

However, higher fares could lead to some reduction in demand. Thus, a fare increase of 13-14% could be needed to generate the additional £180,000 required.

Even that may not be sufficient. Some previous fare increases on the services have failed to generate the expected amount of revenue. In particular, the 25% increase in the return car fare in 2012.

Further, the consultations we attended suggest that at least some isle residents see current fares as being at the limit of affordability. This reduces the potential to generate additional income from fare increases for isle residents.

3.2.2 Conclusion

There is some uncertainty over the level of fare increase required to meet any potential 2015-16 revenue shortfall. Attempting to address the shortfall by raising fares at a time when other fare changes could also be introduced would further increase the difficulty in accurately predicting future ticket income. Therefore, it would be worth exploring other means of avoiding a potential budget shortfall.

4 POTENTIAL FARE CHANGES

4.1 ISLE RESIDENTS PAY HALF THE EXISTING MULTI JOURNEY FARE

4.1.1 Scenario

This scenario involves reducing passenger and car fares for all isle residents to 50% of the current multi journey equivalent fare-e.g. £4.15 car return fare. It has been assumed that:

- Isle residents would access these cheaper fares through presenting their National Entitlement Card on board the ferry.
- Bressay season tickets would be discontinued.

4.1.2 Approach

The impact on ticket income across the four routes was calculated. This was by estimating the increase in trips that would be stimulated by the fare reduction for the isle residents. Some of them will currently travel on return tickets, while others will use multi journeys.

The revised demand was then multiplied by the new (lower) fare that these individuals would pay. This allowed the impact on total ticket income to be estimated.

The decrease in fares can be expected to generate additional demand for travel. The question is how *much* additional demand? **Here this requires a considerable degree of judgement**. This is for three main reasons.

First, policy to date has been to increase rather than decrease fares. Thus, there is not an evidence base on the impacts of lowering fares.

Second, the fare reductions are quite big in percentage terms. The larger the increase the more difficult it is to forecast the impact. Put simply, this is because the new position is quite different from the existing one.

Third, it is quite difficult to predict some changes in passengers' behaviour. In particular the extent to which lower vehicle fares would lead existing foot passengers to "trade up" to travel with their car.

Based on the figures in the 2008 elasticity report and the research for this study we estimate a price elasticity of demand of -0.35. That is, for every 10% reduction in fares a 3.5% increase in carryings would be generated. This is on a compound basis, such that a 40% fare decrease would generate a 15% increase in demand.

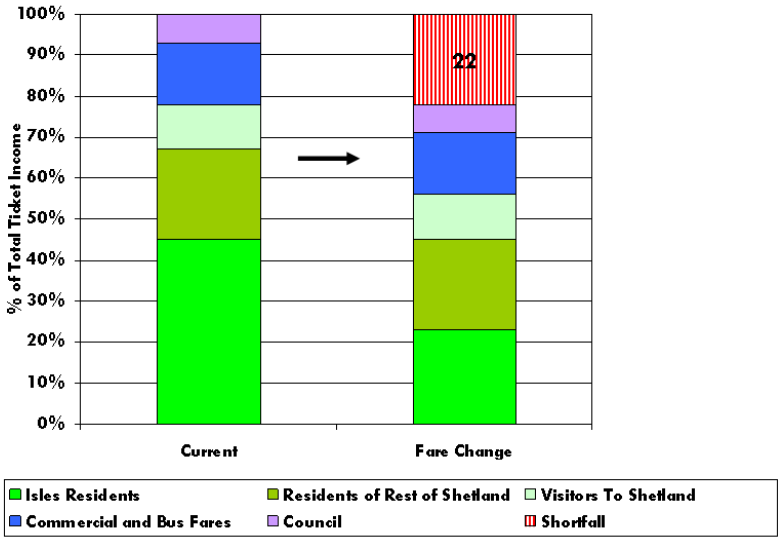
The level of elasticity adopted (i.e.-0.35) means that the fare decreases lead to a reduction in ticket income. This is because the level of increase in traffic is not sufficient to offset the reduction in the fare paid.

This means that revenue neutrality can only be achieved by changing the fares of other users: in this case rest of Shetland residents and/or visitors.

4.1.3 Potential Ticket Income Shortfall

Figure 4.1 describes the potential impact.

Figure 4.1: Isles Residents Pay Half The Existing Equivalent Multi-Journey Fare



It is estimated that this fare change would lead to a very large shortfall (22%) in total ticket income. Based on the data at **Chapter 2** that would be a reduction of £389,000.

4.1.4 Addressing the Shortfall

To maintain revenue neutrality the shortfall would have to be recouped through increasing the amount of ticket income from:

- Visitors; and/or
- Rest of Shetland residents.

Recovering the £389,000 would require the following increase in ticket income contributions:

- Visitors only: c200% increase; or
- Rest of Shetland residents only: 100%; or
- Visitors and Residents of rest of Shetland residents: 66%.

This would mean extremely fare large increases-at least 80%-to attempt to recoup the shortfall. We do not believe that this would be possible. The reduction in demand would be such that the target figure of £389,000 could not be achieved even with the much higher fares.

4.2 OTHER SCENARIOS

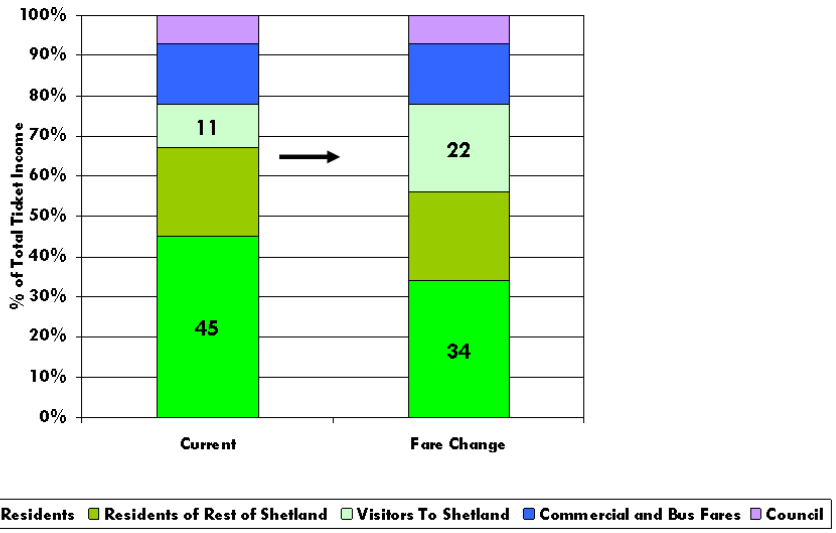
4.2.1 Introduction

The preceding analysis indicates that large fare decreases for isle residents are not achievable if a revenue neutral outcome is required. We therefore developed two other scenarios to see what level of fare reduction for isle residents could be more achievable.

4.2.2 Increasing Visitor Fares in Order to Reduce Isle Residents' Fares

First, we examined the potential reduction in isle residents' fares if it was possible to double visitors' current ticket income contribution. The results are shown at **Figure 4.2.**

Figure 4.2: Double Revenues From Visitors in Order to Reduce Isles Residents' Fares



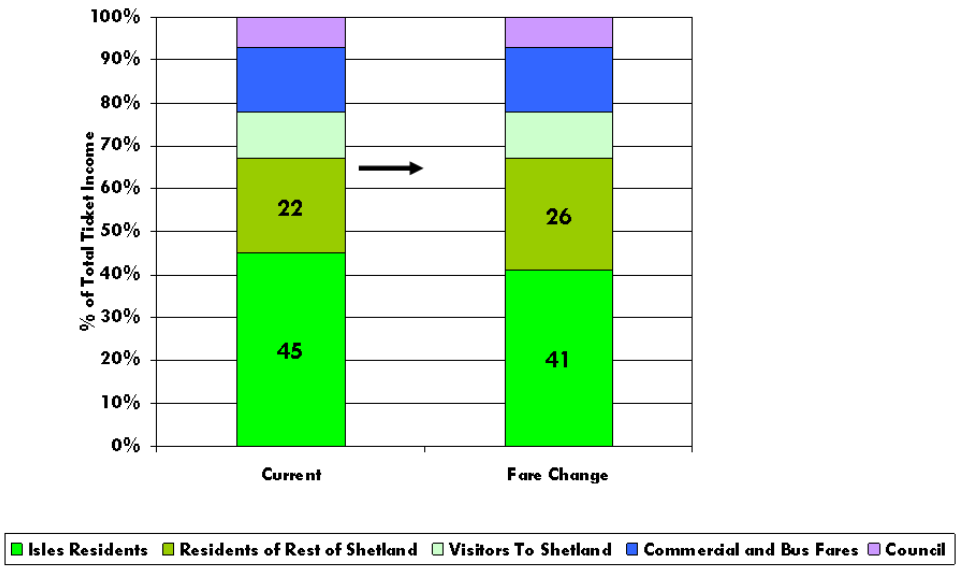
It would require more than doubling visitor fares to double visitors' ticket income. This is because would be some reduction in demand as a result of the higher fares. Based on current (2014-15) charges that would increase a car return fare from £12.80 to around £28 or more. If that is feasible then it could in turn reduce isle residents fares by c30%.

4.2.3 Increasing Fares for Rest of Shetland Residents in Order to Reduce Isle Residents' Fares

We them examined the potential reduction in isle residents' fares if there was a 20% increase Rest of Shetland residents' ticket income contribution. The results are shown at **Figure 4.3,** over.

It would require more than a 20% fare increase to achieve a 20% increase in ticket income. This is because there would be some reduction in demand as a result of the higher fares. Based on current (2014-15) charges that would increase a return car from £12.80 to upwards of £16. If that is feasible then it could in turn reduce isle residents' fares by c12%.

Figure 4.3: 20% Increase In Revenues From Rest of Shetland Residents in Order to Reduce Isles Residents' Fares



4.3 CHARGING THROUGH TRAFFIC BETWEEN UNST/FETLAR AND MAINLAND SHETLAND FOR USING THE BLUEMULL SERVICE

4.3.1 Introduction

As discussed at **Chapter 1** through traffic by Unst/Fetlar and mainland Shetland only pays to cross Yell Sound. No fare is charged for these passengers and vehicles when they cross Bluemull. The consultations identified some interest in reintroducing charging on Bluemull for some users. The revenue generated could then be used to isle residents' fares.

Reflecting the parameters for the study it is assumed that reintroducing fares for Bluemull would be restricted to visitors and/or residents of rest of Shetland. Further, in line with the general policy of uniform pricing, reductions in isle residents' fares would be on all four of the ferry routes.

4.3.2 Approach

An estimate of the total market size for through traffic was given at **Chapter 1.**

1

We then deducted the temporary construction worker traffic from this total. This is because it will not be an ongoing source of ticket income.

2

Passenger survey data were used to split the through traffic by place of residence.

3

We then estimated the potential ticket income based on the survey results and ticket type data.

The final figure was also informed by the estimated total fare income from visitors on each of the other three routes.

The total potential income was based on through traffic paying the same fare on the Bluemull service as they currently pay on Yell Sound. Thus, the total cost of travelling between Shetland mainland and Unst/Fetlar would be twice the fare that each user currently pays on Yell Sound-e.g. a car return fare of £25.60 (i.e. 2 x £12.80). As explained at **Chapter 1**, this was the basis of charging before Bluemull fares were suspended in 2005.

Again, it should be appreciated that the figures are best estimates. As noted at **Chapter 1**, there is some uncertainty over the size of the through traffic market. Second, if faced with a doubling of fares some users may continue to travel but by different means. For example, those currently travelling with their own car may decide to now travel as a foot passenger. Thus, passenger numbers would remain the same but revenue per passenger carried would fall.

4.3.3 Potential Impacts

Introduction

Our estimates of the total *potential* income from also charging through traffic for use of the Bluemull service are:

- Visitors: £106,500.
- Rest of Shetland residents: £118,500.

These figures assume:

- No decrease in demand as a result of a higher total fare for travelling between Shetland mainland and Unst/Fetlar.
- Passengers would use the same ticket type on Bluemull as they currently do on Yell Sound.
- Full revenue collection is achieved on Bluemull.

Charging For Visitors On Both Ferry Services

A key issue is the extent of the reduction in demand due to charging for both ferries. It could be argued that this is simply restoring pre-September 2005 practices. As noted at **Chapter 1**, that meant a *total* cost of £20 for a return trip for a car, driver and two passengers for travel between mainland Shetland and Unst/Fetlar. That is the equivalent of £25.50 in current (i.e. 2014) prices based on Consumer Price Index data.

However, as shown at **Chapter 2** there have been above inflation fare increases on the services since then.

The cost of a car, driver and two passengers paying return fares on each of the two crossings would now be £46.40 (some £20 more than the inflation adjusted 2005 price of £25.50).

It is also possible that the removal of Bluemull fares for through traffic will have stimulated additional visitor trips to Unst and Fetlar. *Shetland in Statistics 2012* shows Bluemull passenger numbers growing from around 111,000 in 2001 to over 172,000 in 2011.

Not all of this growth will have been from visitors. Other user groups will have made more trips as a result of the fares removal, while sailing frequency was also increased. However, it seems to reasonable to conclude that at least some of the additional trips will have been by visitors.

As shown above the potential income from also charging visitors to use the Bluemull service is £106,500. That represents 13% of the current total ticket income from isle residents (as shown at **Chapter 2**). Allowing for some uplift in those residents' travel due to the lower fares, this could provide isle residents with a c17% fare reduction. However, the doubling of total ferry costs for through trips could reduce the number of visitors to Unst/Fetlar. If a 20% fall in demand was assumed this would have a number of impacts, as follows.

1

Importantly, the two islands would lose a fifth of their current visitor numbers.

2

The additional ticket income achieved would fall from £106,000 to £85,200.

3

What would the lost 20% of visitors would do instead of visiting Unst/Fetlar? It is possible that some would simply spend extra time on mainland Shetland (e.g. going to the west side or Sumburgh Head). Others may opt to visit another isle instead (e.g. go across to Bressay in place of a trip to Unst).

If all chose *not* to visit another isle instead there is a second effect on the ticket income. Not only would the additional Bluemull revenue not be achieved. The 20% of visitors would also no longer travel on Yell Sound. So that route's revenues would fall. This would mean that the total increase in ticket income would only be 60% of the maximum-i.e. £63,900. This would allow a reduction of around 10% in isle resident fares.

To the extent that demand would actually be lower than suggested above then the:

- Number of visitors to Unst/Fetlar would fall further; and
- Size of the fare reduction that could be provided to isle residents would also decrease.

Charging for Visitors and Rest of Shetland Residents On Both Ferry Services

As shown earlier the potential income from charging visitors and rest of Shetland residents to use the Bluemull service is £225,000. If this could be achieved (i.e. no decrease in demand) that would represent 28% of the current total ticket income from isle residents. Allowing for an uplift in isle resident travel due to the lower fares, this could provide isle residents with a c35% reduction in fares.

However, again the issue is the extent of the reduction in demand for trips to Unst/Fetlar as a result of charging for both ferry crossings. The on-board survey data show a range of purposes for rest of Shetland residents' trips to Unst/Fetlar.

The main one is Business (42% of passengers surveyed). However, the remainder are largely non-business/work-related. Visiting Friends and Relatives was reported by 19% of passengers, followed by Leisure (17%). Accordingly, there are a significant number of trips being made which are discretionary and thus relatively price sensitive.

An optimistic scenario would be that 80% of visitors and 60% of rest of Shetland residents would continue to travel to Unst/Fetlar under the new charging scheme. This would generate additional ticket income of £87,600 (taking into account losses to Yell Sound revenues), which could permit a fare reduction of c14% for isle residents.

There is clearly potential to generate additional revenue through charging visitors and rest of Shetland residents on the Bluemull service. However, it would appear best-given the various uncertainties involved-to commence with a relatively limited charge. This could be of the order of 25% of the fare charged on the other three routes. This would "test the water" and allow the impacts on ticket income and the isles communities to be monitored.

4.3.4 Implementation

Successfully implementing the proposed changes would need to things. First, a mechanism to distinguish between:

- Isle residents and those who live elsewhere; and
- Possibly between visitors and rest of Shetland residents if only one these groups was to be charged on the Bluemull crossing.

Second, being able to collect all fares on what is a short (i.e. 10 minute) crossing between Unst and Yell.

4.4 SUGGESTIONS FROM THE COMMUNITY CONSULTATIONS

4.4.1 Introduction

This section assesses the revenue implications of a number of fare changes that were raised in the community consultations. The specific ones examined here were selected and defined by SIC.

SIC were not able to provide us with revenues by traffic type for 2013-14. However, they provided us with these data for 2014-15 and these are used in the analysis in this section.

4.4.2 Removal of Passenger Fares

This scenario involves removing fares for passengers, apart from for vehicle drivers where the passenger fare element is included in the charge they pay. Thus, vehicle fares would be unchanged.

Given the current lack of infrastructure to offer fares that vary according to a passenger's place of residence it was assumed that fares would be removed for *all* passengers.

Table 4.1 shows the impact in terms of the loss of current passenger ticket revenues based on financial data for 2014-15.

TABLE 4.1: REMOVAL OF PASSENGER FARES: REVENUE LOSS

Route	Loss of Passenger Ticket Revenue (£)
Yell	132,826
Whalsay	80,661
Bressay	80,198
Fair Isle	7,281
Bluemull	5,803
Skerries	5,434
Papa Stour	3,882
Total	**316,085**

If passenger fares were removed on all routes then the total revenue loss would be around £316,000. The amount varies by route. The highest amounts are on Yell, Whalsay and Bressay. Together they account for 93% (c£294,000) of the total impact. In contrast, each of the other routes would see a revenue loss of under £10,000.

Removing passenger fares could also lead some current drivers of vehicles up to 5.5m to switch to travelling without their vehicle-either as a foot passenger or by accompanying someone else's vehicle.

Table 4.2, over, shows the potential impact should this occur. It assumes that in addition to the loss of passenger ticket revenue (as shown at **Table 4.1**) there would be a reduction of 5% in the number of vehicles under 5.5m carried-and hence a 5% reduction in the ticket income from them.

The overall impact is a revenue loss of around £373,000. Thus, assuming a knock-on reduction in vehicle demand the total revenue loss would be £57,000 greater than the loss of passenger ticket revenues alone (as shown at **Table 4.1**).

TABLE 4.2: REMOVAL OF PASSENGER FARES: REVENUE LOSS INCLUDING FROM REDUCED VEHICLE DEMAND	
Route	**Loss of Passenger and Vehicle Revenue (£)**
Yell	161,490
Whalsay	96,628
Bressay	90,173
Bluemull	7,803
Fair Isle	7,281
Skerries	5,837
Papa Stour	4,135
Total	**373,347**

4.4.3 Removal or Reduction In Fares for Intra-North Isles Trips on Bluemull Sound

Removal of All Fares

This scenario involves removing the fares currently charged on Bluemull Sound for those making intra-North Isles trips. That would be for all users and all traffic types, irrespective of place of residence. Thus, no fares would be charged for any person or vehicle travelling on Bluemull Sound-whether travelling within the North Isles or to/from Shetland mainland.

The impact of this would be a revenue loss of around £51,000 (i.e. the current total annual ticket revenue that is collected on the route).

Reduction of All Fares

The second scenario is a 50% reduction in the fare currently charged on Bluemull Sound for those making intra-North Isles trips. Again, that would be for all users and all traffic types, irrespective of place of residence.

It is assumed that there would be some uplift in demand from passengers and for vehicles up to 5.5m, but none for either buses or larger commercial vehicles. The result would be that revenues on the route would fall from the present £51,000 to around £30,000. Thus, the net impact would be a revenue loss of £21,000.

4.4.4 Roll Out of Bressay Season Ticket Product

There are two issues around the possible roll out of the current Bressay season ticket product to some other routes. First, SIC have advised that the resource/infrastructure is not currently available to administer such a scheme across a greater number of users.

Second, further research would be required to ensure the design of fare products that would be of most benefit to users of the other routes. This would also require research with Bressay travellers to understand the strengths and weaknesses of the current season ticket product and the reasons for its level of uptake.

Therefore, the roll out should be considered once the above issues have been addressed.

4.4.5 Islander Fares

Similarly, there is not presently the infrastructure/technology in place that would allow access to specific fares for island residents as opposed to other ferry users. Again, as this issue is addressed then the potential for Islander fares can be explored in more detail.

4.5 POTENTIAL WITHDRAWAL OF BRESSAY SEASON TICKETS

Based on available information in 2013-2014 the Bressay seasons generated around £36,000 of ticket income. That equates to 2% of the annual total across the four routes.

We have inferred from the on-board surveys that withdrawal of the season tickets with existing holders travelling at multi journey rates would see an increase of c£14,000 in ticket income. This assumes an estimated 40% reduction in the holders' number of trips compared to those that made using the season ticket. These findings are based on only a small number of on-board surveys of season ticket holders. As such, they should be interpreted with considerable caution.

4.6 LOWER MOTORCYCLE FARES

As shown at **Chapter 2**, a total of 850 single (i.e. 425 return) motorcycle crossings were made in 2013-14. With the motorcycle return fare at £10 this would have generated around £4,200 in ticket income. That is less than 0.5% of total ticket income.

It could be argued that because motorcycles take up considerably less deckspace than other vehicles up to 5.5m then their fare should be much lower. The current (£10.20) charge is 80% of the car return fare and more than 20% above the equivalent fare for a car travelling on a multi journey.

Halving the current motorcycle fare (to £5.10) and applying the price elasticity used elsewhere in this report would lead to a net reduction in ticket income of £1,760. If the 50% price cut generated no additional trips then there would be a reduction of £2,168 in ticket income.

4.7 CONCLUSIONS

1

There is no likelihood of achieving a significant (i.e. c50%) fare reduction for isle residents if a revenue neutral outcome is required.

2

There is potential for smaller fare reductions for isle residents through increasing the fares of both visitors and residents of rest of Shetland. However, consideration would have to be given to the socio-economic impacts of a reduction in trips to the isles by these two groups. It would also require the infrastructure to be introduced to allow specific fares to be available depending on the user's place of residence.

3

There is potential to generate additional revenue through charging visitors and rest of Shetland residents on the Bluemull service. However, it would appear best-given the various uncertainties involved-to commence with a relatively limited charge. That could be around 25% of the fare charged on the other three routes. Again, this would require the infrastructure to allow specific fares to be available depending on place of residence.

4

There is potential for some more immediate fare changes to be made, reflecting the feedback from the community consultations. This could include removing all passenger fares on some or all routes, and reducing or removing all fares for intra-North Isles trips made on the Bluemull service. However, these changes would lead to revenue losses and consideration would need to be given to how, if at all, these would be filled.

Rolling out season tickets to routes other than Bressay would require detailed research to design the most appropriate products in each case. This would also require the infrastructure/resource to be available to administer the new products.

5

Bressay season tickets generate around £36,000 (2%) of total income across the four routes. Based on the on-board surveys we estimate that their withdrawal could lead to a c£14,000 increase in ticket income but with a likely reduction in the number of trips made by current season ticket holders.

6

Motorcycle fares account for less than 0.5% of total ticket income. Reducing these fares by up to 50% would have a minimal impact on overall revenue.

5 CONCLUSIONS

5.1 IMMEDIATE ISSUES

There is some uncertainty over the level of fare increase required to meet any 2015-16 budget shortfall. Attempting to address this through raising underlying fares at the same time as possibly introducing other fare changes further increases the difficulty in forecasting the outcome.

The consultations we attended suggest that at least some isle residents see current fares as being at the limit of affordability. This reduces the potential to generate additional income from fare increases for isle residents.

Therefore, it would be worth exploring other means of meeting any shortfall that arises. One such area is measures to improve revenue security.

Based on the feedback from the community consultations there are some immediate fare changes that could be made-e.g. removing passenger fares on some or all routes. However, these would not be revenue neutral while there is currently no means of offering specific fares based on the ferry user's place of residence.

5.2 ISSUES FOR FURTHER CONSIDERATION

Our analysis indicates that, with the revenue neutral parameter, there is no likelihood of achieving a significant (i.e. c50%) fare reduction for isle residents.

However, the following should be considered. Within this we would recommend that *in general* fare increases in any one year are kept to a modest level (no more than 10%). This reflects the difficulties of accurately predicting the outcomes of larger fare rises.

Each one would also require a means of offering specific fares based on the ferry user's place of residence.

1

There is potential for smaller reductions (or no increases to) fares paid by isle residents. This would be through increasing the fares of visitors and residents of rest of Shetland.

2

Further, there is potential to charge visitors and rest of Shetland residents to travel on Bluemull when they are making a through trip between mainland Shetland and Unst/Fetlar.

However, it would appear best-given the various uncertainties involved-to commence with a relatively limited charge. This could be of the order of 25% of the fare charged on the other three routes. This would "test the water" and allow the impacts on ticket income and the isles communities to be monitored.

There also needs to be an assessment of the best means of achieving full fare collection on the short Unst-Yell crossing.

3

SIC need to make a policy decision on whether there should be uniform pricing across the four routes. This would allow a decision to be made on whether Bressay season tickets should be retained or discontinued.

This decision-and any roll out to other routes-would benefit from direct research with ferry users. That is, both existing Bressay season ticket holders and the more frequent travellers on other routes.

4

All decisions should be informed by an assessment of the potential social and economic impacts of changes to fare structures and levels.

Appendix 2 – Issues Raised During Fares Review Consultation

Bressay

- Feeling difficulties due to high cost of travel is already causing significant difficulties for many and that immediate attention is necessary
- There is a high need to travel frequently because all services and opportunities are on Mainland Shetland.
- When several members of a household have to travel at different times then the overall cost of travel can be very high.
- Costs to a household can exceed £5000 per annum (this is the case on other islands also)
- This is borne out through data that shows five times the number of journeys made per head of population than any other island
- Solution sought – free passenger travel

Fetlar

- Lack of opportunities on the island leads to high need to travel
- Travel to low paid jobs where cost of travel takes a significant proportion of income
- Travel to dental and health appointments can be difficult
- Travel for fuel and shopping in Yell or Unst means that the cost of living is higher
- Looking for Bressay fare products to be made available to Fetlar
- Revenue security must be addressed
- Solution sought – lower vehicle fares on Bluemull Sound for intra island travel

Unst

- Negative effect of reintroduction of fares on Bluemull Sound
- Local fare for isles residents
- Now looking for discounted travel on Bluemull Sound and full fare on Yell Sound
- This reflects the increased need to travel between islands for work reasons. Prior to 2005 there was more work on the island and therefore less need to travel between the isles
- Revenue security must be addressed
- A return to 2005 practice?

Yell

- Hardship for some at the moment
- Hardship for many or most if fares go higher
- Fares at limit of affordability
- High frequency travellers feel cost increases most
- Revenue security and management must be addressed

Whalsay

- Lack of capacity
- Reduced runs has suppressed demand
- Suggest discounted season ticket

Fair Isle

- Vehicle fares and commercial vehicle fares are too high

Papa Stour, Foula and Skerries

- No fare issues

General Points

- Communities recognise that the cost of individual journeys is low but when there is a need to travel with high frequency and the costs become very high for individuals and families
- Costs can exceed £5000 per year for households
- Motorcycle fares are considered disproportionately high and are considered discriminatory
- The cost of travel is at the stage where it prevents access to opportunities such as events on mainland Shetland for an increasing number of people
- Cost of travel for some preventing access to employment
- Some are describing increasing experience of social exclusion

Agenda Item

2

Shetland Islands Council

Environment and Transport Committee **15 June 2015**

Carriageway Condition of Shetland's Roads	
Report Number: RD-07-15-F	
Executive Manager - Roads	**Roads / Infrastructure Services Department**

1.0 Summary

1.1 The purpose of this report is to update the Committee on the current condition of Shetland's roads.

2.0 Decisions Required

That the Environment and Transport Committee NOTES:

2.1 the contents of this report;

2.2 the slight deterioration in the overall RCI figure shown in the 2013-15 results and the consideration of possible reasons for this deterioration detailed in section 3.4.

3.0 Detail

3.1 Road Condition Indicator (RCI)
Audit Scotland's statutory performance indicator (SPI) for road carriageways is 'the percentage of the road network that should be considered for maintenance treatment'. The figure reported for the SPI is a Road Condition Indicator (RCI) produced from machine-based measurements taken during a Scotland wide survey of the road network. The parameters measured are:

- surface texture, helps to provide skidding resistance and indicates surface wear;
- cracking, indicates deterioration of the surface course or more deep seated structural defects;
- rutting, can affect vehicle handling or cause water to pond;
- longitudinal profile, the main factor controlling ride quality and hence user perception and is also a good indication of defects in the road structure.

The former two parameters are usually treated with surface dressing and the latter require a minimum of overlay resurfacing or more expensive reconstruction if the damage has reached the base layers.

3.2 Survey Frequency

The required survey coverage of the road network is detailed in the SPI. The "A Class" roads are surveyed in both directions every two years, that is one direction one year and the opposite direction the following year. The "B and C Class" roads are surveyed in both directions over a four year period, that is 50% per year in one direction. The unclassified roads have a 10% sample surveyed on an annual basis selected at random by the survey contractor.

While surveys are carried out on an annual basis, the RCI is calculated over two years to minimise the effect of sampling errors on the results.

3.3 Results

The results are categorised into Green, Amber and Red condition bands where:

Green indicates the carriageway is generally in a good state of repair;

Amber indicates the carriageway has some deterioration that should be investigated to determine the optimum time for planned maintenance treatment; and

Red indicates the carriageway has lengths in poor overall condition that are likely to require planned maintenance soon.

The RCI figure includes both the Amber and Red categories so an increase in the figure indicates deterioration in the condition of the road. Table 1 and Graph 1 show how the RCI for both Shetland's and Scotland's roads have varied since 2004. The graphs show that although there have been crests and troughs over the years the general trend is a deterioration in the condition of each of our road classifications. The latest trough or improvement is to the condition of our classified roads in recent years.

3.4 "A class" Roads

Shetland's "A class" roads have been and still are in a better condition than the average for "A class" roads in Scotland. The gap between them had reduced from a high of 12.2% in 2007-09 to 4.1% in 2010-12. However, this closing of the figures has slowed then reversed with the latest survey showing that the difference is now 7.8%. This may be because we have been making more use of the survey results to target treatment of the worst lengths of carriageway. Previously more weight was given to the Area Engineer's opinion and treatment was prioritised accordingly with some consideration given to surveyed skid resistance. The survey results are now used to prioritise the surface dressing and resurfacing programme although the Area Engineers still have an input and, based on their opinion, roads can be moved up the list.

It is also the case that in recent years the treatment of the "A class" roads has been given even more priority than previously. This achieves a greater improvement of the RCI as the surface dressing of significant lengths of "A class" road is more cost effective than the dressing of shorter lengths of single track road. For example, the extensive overlay resurfacing and subsequent surface dressing of the A968 through Yell will have made a significant contribution to these recent improvements.

3.5 "Classified" Roads

While a number of these roads were improved in the 1970's and 80's the majority are still single track. In the region of 20% of these are founded on peat that generally has a low load bearing capacity. This can result in uneven, road surfaces, differential settlement, edge deterioration, cracking and eventually disintegration of the bitmac surface. This has always been a problem but the rate of deterioration increased as the number of heavy goods vehicles accessing aquaculture sites and other developments has increased. This is why Shetland's "B and C class" roads have over the years tended to be in a poorer condition than the Scottish average. The exception was in a period between 2006 and 2009 when their condition significantly improved. In the two years following this period there was a deterioration of approximately 7.5% in the condition of the "B and C class" roads. However, this has also improved recently and these two classes now have a condition figure approximately 2.5% better than the national average. This improvement is again due to these roads having been given, in recent years, an even greater priority over our unclassified roads.

3.6 "Unclassified" Roads

The "unclassified" roads have historically been in a worse than average condition. They did show some improvement recently but have now deteriorated to the point where their RCI is 15.3% worse than the average percentage for Scotland. An even greater proportion of these roads are single-track. They also tend to be narrower than their "classified" equivalent. Therefore, while suffering the same deterioration they are more susceptible to edge damage due to HGV's or the larger agricultural vehicles now being used. It is likely that their continued decline may be partly due to the classified roads being treated with more priority than was previously the case.

3.7 Entire Network

The "all" roads figure for the entire network is now 4.9% worse than the average. The graph shows that the Shetland figure began to diverge from the Scottish average figure in 2009-11 but is now closing again as our figure has slightly improved and the Scottish average has slightly increased. Prior to this the percentage of Shetland's carriageways that should be considered for treatment was approximately 3% greater than the national average largely due to the relatively poor condition of our single track unclassified roads. The reduction in funding may have been a contributory factor in the increase from this 3% gap but the

main reason for the decline since 2004 is likely to be that the majority of Shetland's "classified" roads were improved in a short period during the early years of the oil "boom." Many are now together after 30 years starting to show signs of deterioration.

Table 1: Road Condition Indicators (RCI) for Shetland and Scotland

	A Class Shetland	A Class Scotland	**Classified Shetland**	Classified Scotland	**Unclassified Shetland**	Unclassified Scotland	**All Shetland**	All Scotland
2004-06	**18.3**	27.4	**27.9**	30.4	**48.3**	41.3	**36.9**	35.9
2005-07	**21.0**	28.6	**29.7**	31.5	**48.1**	42.8	**37.8**	37.2
2006-08	**19.9**	29.2	**28.0**	32.4	**54.6**	42.5	**40.2**	37.4
2007-09	**16.3**	28.5	**26.0**	31.8	**54.1**	36.6	**38.3**	34.2
2008-10	**21.8**	29.6	**29.9**	32.7	**51.2**	39.4	**39.3**	36.1
2009-11	**24.7**	30.5	**33.2**	33.8	**50.3**	41.9	**40.7**	37.9
2010-12	**26.4**	30.5	**35.6**	34.5	**53.8**	38.3	**43.7**	36.4
2011-13	**25.2**	29.4	**34.2**	33.3	**53.1**	39.0	**42.5**	36.2
2012-14	**21.1**	28.7	**31.6**	33.8	**54.0**	39.4	**41.4**	36.7
2013-15	**21.2**	29.0	**32.0**	34.5	**54.6**	39.3	**41.9**	37.0

3.8 Analysis

The survey results show a slight deterioration of 0.5% in the condition of Shetland's roads. This is mainly due to deteriorations of 1.3% and 0.6% in the "B class" and "unclassified" condition figures respectively. The condition of our "A and C class" carriageways has remained steady over the past two years. This again reflects our practice of assigning even greater priority to our strategic "A class" roads when programming maintenance work. The SCANNER survey was also done in March last year in connection with the TOTAL agreement. The survey is usually done later in the year meaning that it would include a number of road lengths that have been treated during the course of that year's resurfacing or surface dressing programme. Therefore, the earlier survey, completed before we had undertaken any treatment works, is likely to have had a detrimental impact on the RCI figures

3.9 Relevancy of Long Profile

The majority of Shetland's unclassified roads are single track with a high proportion made up of a relatively thin layer of mortar and several layers of surface dressing over a peat sub-grade. These were originally shaped by hand and a number have never seen a paving machine. It should be noted that as a result the longitudinal profile parameter, that forms part of the RCI calculation, is of little practical value when considering roads of this type. While the roads are perfectly serviceable and adequate for the traffic that traditionally used them they will always have a sub-standard profile because they have not been machine laid. We or any other local authority have never been in a position where we could overlay all roads of this type that access only two or three houses. The standard treatment option for roads of this type is patching and perhaps surface dressing if the carriageway is cracked. This is usually adequate but an overlay would be considered if the road was severely rutted or on the point of complete failure.

Unfortunately, this level of deterioration is now more common due to the larger and heavier vehicles using these roads.

3.10 Impact on RCI

Last year we realised and reported that there was a need to reconsider our priorities and give more weighting to the improvement of our unclassified roads. The conclusion reached was that this is likely to result in a deterioration of the overall RCI. The reason being that unclassified roads are only surveyed once every 10 years in comparison to once per year for "A class" roads. Therefore, it is likely to take a number of years for any improvement to unclassified roads to register in the RCI figures. However, if we do not increase the proportion of unclassified roads to be treated they will continue to decline. This would in time lead to the failure of road surfaces and the need for even more costly repairs. Unfortunately, there are insufficient funds to address this issue and maintain the RCI figures at current levels.

3.11 Conclusion

Having considered the implications the conclusion reached was to increase the rate at which we treat our unclassified roads. This is reflected in the surface dressing programme for this financial year with 30% of the road length to be treated being unclassified roads. This figure is usually between 20 to 25%. The unclassified road length to be treated with resurfacing is 25% which is an increase from the 12% treated last year and similar to previous years. We will of course continue to monitor the condition of our classified roads and if their deterioration is excessive we will reconsider this change in the distribution of these budgets.

3.12 Maintenance Backlog

The Society of Chief Officers of Transportation in Scotland (SCOTS) has analysed these surveys and the carriageway maintenance budgets of local authorities to calculate a maintenance backlog figure. The inputs to the backlog calculation are:

- the SCANNER survey data parameters;
- the treatment method for each defect type;
- the treatment costs supplied by each Council; and
- the carriageway lengths and widths supplied by each Council.

The resulting figure is the expenditure required to bring the entire road network of an authority to the acceptable or "Green" condition. The 2015 headline backlog figure to improve Shetland's carriageways to this acceptable condition is £53.8million.

The backlog figure is generally calculated by SCOTS every two years. The figures since 2009 are shown in the following table.

Table 2: Backlog Figures (Recalculated) for Shetland 2010-13

	BACKLOG (£M)	VARIANCE (£M)	VARIANCE (%)	RCI OVERALL	RCI "A class"	RCI CLASSIFIED	RCI UNCLASSIFIED
2009	27.3			36.6	16.3	26.0	54.1
2010	35.5	8.2	30.0	39.3	21.8	29.9	51.2
2011	45.7	10.2	28.7	40.7	24.7	33.2	50.3
2013	50.5	4.8	10.5	42.5	25.2	34.2	53.1
2015	53.8	3.3	6.5	41.9	21.2	32.0	54.6

The difference of £10.2 million in the one year period between 2010 and 2011 is more than double the increase that occurs in both the following two year periods. The overall RCI only increases by 1.4% in this period but there was a significant increase in the lengths of "A class" and unclassified roads that required maintenance. The unit cost of repairing these roads is higher than the same length of single track unclassified road resulting in the large increase in the backlog. In the 2011 to 2013 period the increase in the backlog slows to £4.8 million even though the overall RCI deteriorates at a slightly greater rate. This is explained by a significantly reduced rate of deterioration of the more expensive "A class" and classified roads. The backlog figure continued to increase in the 2013-15 period but only by £3.3 million. This is despite a reduction in the overall RCI 0f 0.6%. This can in part be explained by inflation but also by an increase in the length of the network that is in a red condition and needs more expensive treatment and a relative decrease in the amber condition that needs a less expensive treatment.

3.13 "Steady State" Figure

SCOTS developed the backlog concept further and arrived at a figure giving the annual budget required to maintain carriageways in a "steady state" so that they are neither improving nor deteriorating. The model "applies" treatments to ensure that the overall red and amber proportions after 10 years are similar to those at the start. The red RCI percentage is held at its current level by treating any amber RCI values that were about to deteriorate into red. The model also treats the worst of the network in red to represent maintenance that would be immediately necessary. Therefore, the steady state figure increases as the road condition deteriorates. In 2009 this figure for Shetland was £2.4 million per year. The actual spend on carriageway treatments in 2009/10 was £2.08 million or 87% of the steady state figure. The budget for 2015-16 is £1.78 million which equates to only 74% of the "steady state" figure from 2009. However, as the condition of Shetland's carriageways has deteriorated the gap between the "steady state" and actual budgets has increased significantly. The "steady state" figure has been calculated again this year at the request of a number of local authorities. It now stands at £5.6 million. Therefore, carriageway maintenance budgets total only 32% of the funding required to maintain our roads in their current condition. This substantial increase in the "steady state" figure is due to inflation and

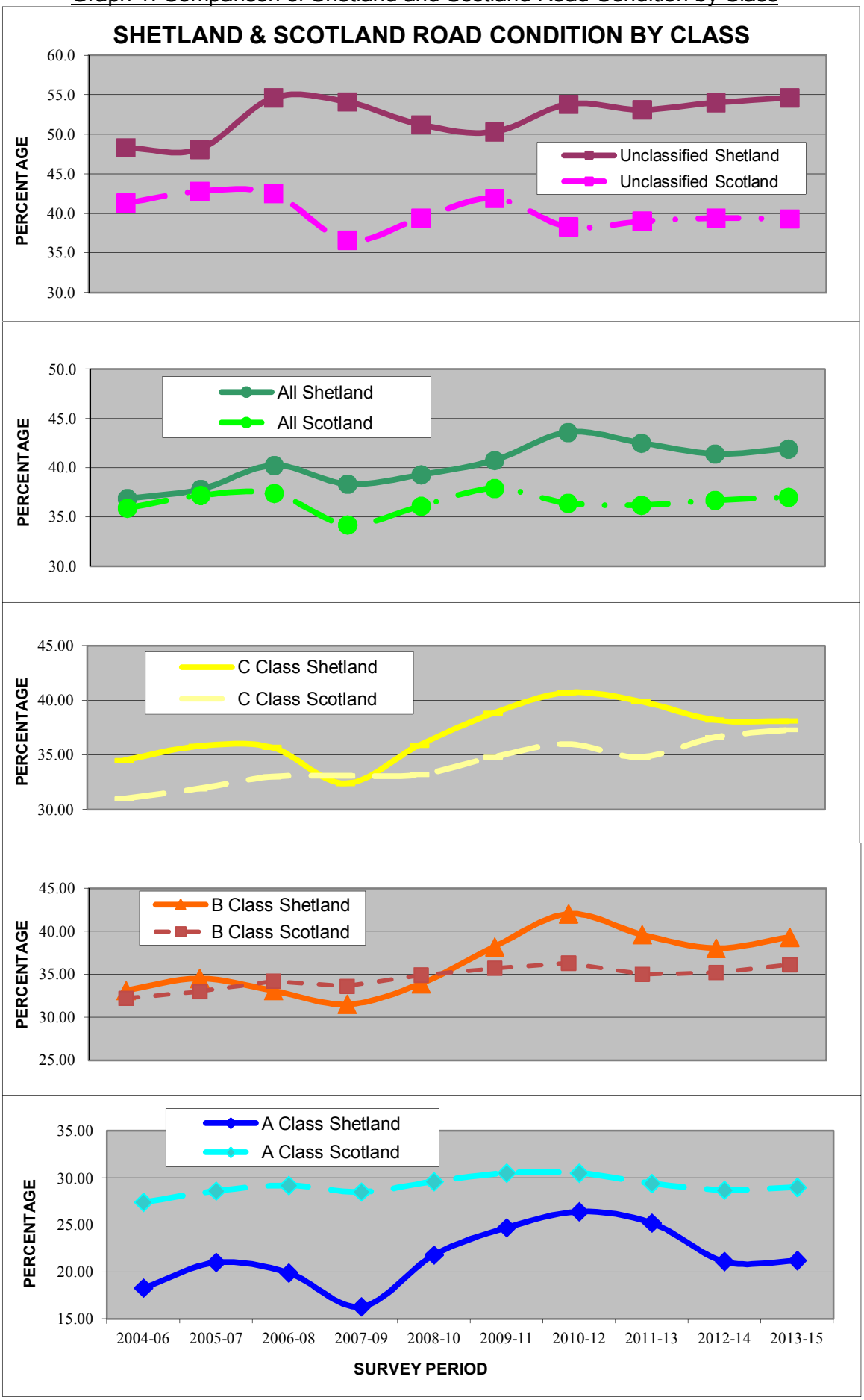
an increase in the unit cost of repairs as well as the deterioration of the network.

The SCOTS financial model can also be used to predict the likely change in Network RCI over the next 10 years for any Scottish Authority by calculating the difference between the "steady state" budget and the settlement expected in future years. Were the 32% figure to be retained for the long term the RCI would be expected to increase by a further 22% in the next 10 years. This is a very significant difference especially when the road network is the Council's most valuable asset, with an estimated gross replacement cost in the region of £1,000M.

3.14 Future Road Condition

In the current economic climate, there was a need to realign budgets with available resources. Recent reductions to carriageway maintenance budgets will have some detrimental impact on the future condition of the road network. They were initially a relatively small proportion of the £316,000 gap that already existed between spending and the modelled cost of maintaining the network in its current condition. However, these small reductions accumulated and last financial year were £665,000 less than the 2009/10 "steady state" figure. The carriageway maintenance budgets have been increased by £41,000 for this financial year by reallocating funds from the winter maintenance budget. Milder winters have meant that this budget has been under spent in recent years and the reallocation partly addresses the reduction in working capacity brought about by construction inflation. However, the new "steady state" figure of £5.6 million for 2015 shows that the gap between the budget and the funding required to maintain carriageways in their current state has significantly increased. This will have an appreciable effect on Shetland's roads, and on the statutory performance indicator, if it continues in the long term. It is vital that planned and preventative maintenance measures, such as surface dressing, are adequately funded in order to avoid much costlier reactive maintenance such as the repair of potholes or deeper failures of the road foundation.

Graph 1: Comparison of Shetland and Scotland Road Condition by Class



4.0 Implications

Strategic

4.1 Delivery On Corporate Priorities – The local outcomes from Shetland's Single outcome agreement include "Shetland stays a safe place to live, and we have strong, resilient and supportive communities." The condition of the carriageway has direct implications for road safety.

A further local outcome that is particularly relevant to carriageway condition is "Our internal and external transport systems are efficient, sustainable, flexible and affordable, meet our individual and business needs and enable us to access amenities and services."

4.2 Community /Stakeholder Issues
The condition of the road network will affect its reliability which in turn will impact on stakeholders and the community if there are delays and temporary road closures due to maintenance works.

4.3 Policy and/or Delegated Authority – The Council's Scheme of Administration and Delegation provides authority for each functional Committee to discharge the powers and duties of the Council within their own functional areas in accordance with the policies of the Council, and the relevant provisions in its approved revenue and capital budgets.

4.4 Risk Management – To allow the Committee to fulfil its monitoring and scrutiny role for responsibilities under their authority, this report is presented for Members information, consideration and comment. Failure to manage and maintain the road network the net ongoing running costs of the Council carries a significant risk of the Council's financial policies not being adhered to and will require a further draw on Reserves.

4.5 Equalities, Health And Human Rights – None.

4.6 Environmental – None.

Resources

4.7 Financial – Under the Local Government in Scotland Act 2003, the Council has a duty to make arrangements that secure Best Value. Best Value is continuous improvement in the performance of the authority's functions taking into account efficiency, effectiveness, economy and equal opportunities.

There are no direct implications arising from this report but for Councillors information the combined total carriageway

maintenance cost (made up of resurfacing, surface dressing, reconstruction and patching) for each of the past 7 financial years and the budget for 2015/16 is as shown in the following table.

Financial Year	Resurfacing	Surface Dressing	Patching	Reconstruct	TOTAL
2008/09	1,169,810	407,138	161,738	232,852	1,971,538
2009/10	1,131,472	356,923	227,261	367,884	2,083,540
2010/11	720,618	656,758	579,778	434,467	2,391,621
2011/12	631,938	530,585	417,145	133,360	1,713,028
2012/13	610,105	550,500	366,833	269,669	1,797,107
2013/14	616,295	501,754	398,599	265,456	1,782,104
2014/15	680,953	426,732	338,007	288,816	1,734,508
2015/16	687,000	489,500	330,700	269,000	1,776,200

4.8 Legal – None.

4.9 Human Resources – None.

4.10 Assets And Property – The road network is the largest community asset for which Shetland Islands Council is responsible. It is vital and fundamental to the economic, social and environmental well being of the community. It helps to shape the character of an area, the quality of life of the local community and makes an important contribution to wider Council priorities including growth, regeneration, education, health and community safety. Roads also make a wider contribution to society, providing access to ferry terminals, ports and airports.

5.0 Conclusion

5.1 This report is for the Committee, in its monitoring and scrutiny role, to note and comment on the performance indicator for the carriageway condition of Shetland's roads.For further information please contact:

Dave Coupe, Executive Manager, Roads
01595 744104, dave.coupe@shetland.gov.uk
2 June 2015

List of Appendices
None

Background Documents
SCOTS Financial Model, March 2010
http://scots.sharepoint.apptix.net/Lists/Announcements/Attachments/141/170510%20SCOTS%20SRMCS%20Backlog%20(Public%20Report)%20V2-2.pdf

END

Agenda Item

3

Shetland Islands Council

Environment and Transport Committee **15 June 2015**

Roads Collaboration Report	
Report Number: RD-06-15-F	
Executive Manager - Roads	**Roads / Infrastructure Services Department**

1.0 Summary

1.1 The purpose of this report is to inform the Committee of the Council involvement to date with the Road Collaboration Programme. It also seeks approval for the Council to withdraw from the programme on the basis that benefits warranting the cost of participation have not been identified.

2.0 Decisions Required

That the Environment and Transport Committee RESOLVE:

2.1 to approve that the Council should no longer participate in the Road Collaboration Programme and should instead seek to enter into "memoranda of agreement" with other Councils or public bodies for specific collaborations.

3.0 Detail/Background

3.1 The Roads Collaboration Programme was established in December 2014 to support the recommendation of the National Roads Maintenance Review and to explore opportunities to share services among the 32 roads authorities and Transport Scotland. Its aim is to ensure resilient and sustainable roads services with the approach that, due to the current economic pressures on roads authorities, sharing should be seen as the default position.

3.2 National Roads Maintenance Review
The National Roads Maintenance Review was published in July 2012, following a recommendation from Audit Scotland to "consider a national review on how the road network is managed and maintained, with a view to stimulating service re-design and increasing the pace of examining the potential for shared services." The review in its "*Option*

30: Consideration of Optimal Delivery Structures for Roads Management and Maintenance" report established the Road Collaboration Programme and tasked it with identifying the potential benefits to roads authorities arising from innovation, collaborative working and shared services. Collaboration and integration of services are key elements of Scottish Government's Public Service Reform and efficiency agendas.

3.3 Alternative to Road Collaboration Programme

The report identified a further option for ensuring resilient and sustainable roads authorities. This was described as "structural change through reform of current delivery structures to form new roads authorities." This was not the preferred option as "the creation of regional or a national roads authority would require a full legislative process and a subsequent implementation schedule. The Improvement Service advised that this could create a substantial risk that existing developments in service improvement could become frozen in the medium-term whilst awaiting structural and legislative reform to be progressed and implemented." The report goes on to state "structural change should only be considered if the anticipated benefits of shared services are not sufficiently realised" by Councils. Therefore there is a possibility that this secondary option will be promoted by the Scottish Government if the Road Collaboration Programme does not produce the desired outcome.

3.4 The Programme is given political oversight by COSLA's Strategic Action Group (SAG), who appointed a Programme Board to lead the Roads Collaboration Programme at a strategic level. The board is chaired by the Improvement Service with membership from Transport Scotland, the Society of Chief Officers of Transport Scotland (SCOTS) and the Society of Local Authority Chief Executives (SOLACE). It has the following aims:

- to support the design and delivery of existing roads authority initiatives to share services and capacity within Roads Services;
- to develop existing shared initiatives further including consideration of the potential to widen the scope of what can be shared;
- to identify and develop new opportunities for collaboration between the 33 roads authorities;
- to encourage and support communication across-authority boundaries to promote the sharing of best practice, innovation and expertise and regular re-visiting of further opportunities for collaboration and shared services;
- to encourage the consistent use of roads-related data, maximizing the potential to use the data to drive improvement; and
- to support local authorities and their partners to establish sound governance arrangements for shared initiatives that meet all EU procurement guidelines.

The overall output of the programme will be delivered and planned collaboration initiatives that see Local Authorities and Transport Scotland working together across organisational boundaries, implementing improved ways of working and service delivery.

3.5 The aim is that collaboration would allow for the sharing of expertise and equipment, allowing Councils to benefit from the efficiency savings and resilience that streamlining processes and aligning strategy offers. Collaborating and integrating road asset management plans and strategies will promote smarter working in roads services, allowing for a more streamlined approach to procurement, resource management and overall service delivery.

3.6 Benefits of Sharing

Although improving performance and efficiency through collaboration may lead to direct financial savings through reduced overhead costs and greater buying power, the primary benefits associated with collaboration are more focused on sustainability and resilience, including:

- sharing capacity and intelligent deployment of staff;
- standardisation of processes & specifications, increasing quality of service;
- increased capacity through the elimination of duplication and access to joint resources;
- improved business intelligence through shared best practice;
- opportunity to develop future workforce planning strategies;
- effective use of specialist assets and joint investment planning;
- more effective procurement and better value for money;
- ability to scan the horizon for sharing opportunities in the wider service.

3.7 Formal Governing Body

Following a period of consultation with all Local Authority Roads Services and Transport Scotland it was agreed to take the programme forward. The first step is the establishment of formal governance arrangements for roads authorities that wish to share services. The main benefit of delivering improvements though a formal body is that it increases the likelihood of achieving the aims of the programme by ensuring participants are working to a common vision. It would also ensure transparency and simplify the processes associated with sharing.

3.8 Governance First

The project to establish governing bodies from which to deliver collaborative roads services is titled “Governance First.” The Improvement Service recommends that the creation of a governing body be undertaken as the fundamental first step to developing shared services and that this should be done prior to addressing the specifics of operational delivery. This is in contrast to the current thinking on collaboration where projects are identified and fully

developed prior to the governance being agreed. The time and resource associated with developing business cases, requests for additional data and quite often the inability to make a case to satisfy all parties is evidence of why the current thinking does not work. Should agreement eventually be reached at officer level the governance arrangements are usually only addressed at the end of the process. It is often at this final stage, when officials' proposals are reported to more senior colleagues, legal advisors and Councillors, that unexpected problems are encountered. "Governance First," by reversing the usual approach, intends to avoid these common issues and barriers. Roads authorities should benefit from working under a formal governance arrangement where a common vision for the service could be agreed and options for working collaboratively could be explored. A further consideration was that creating a governing body of elected members at the initial stage has the benefit of ensuring politicians are involved in setting the direction of the service from the outset. Common member concerns regarding how to take account of local needs and priorities can be addressed and accounted for from the outset. It also creates the opportunity for an authority to agree to devolve some decision-making to that body, offering significant potential to increase the pace of the design and implementation of change.

3.9 North Project Group

Shetland Islands Council is a member of the North Project Group and is working in partnership with eight other Local Authorities (Aberdeen City Council, Aberdeenshire Council, Angus Council, Argyll & Bute Council, Comhairle nan Eilean Siar, The Highland Council, Moray Council and Orkney Islands Council) on the "Governance First" project and other collaboration considerations.

4.0 Progress to Date

4.1 The North Project Group has carried out an options appraisal to compare governance options. A Joint Committee was concluded as offering the most benefit and of being the most appropriate solution for the needs of the partner authorities after assessment of options including Joint Committee, Joint Board, Company Limited by Guarantee, Company Limited by Shares and Limited Liability Partnership.

4.2 Initial work has been undertaken to address the requirements for the minute of agreement, considering such things as Local Authority representation, including how to involve elected Members; voting rights; staff support to the Joint Committee etc.

4.3 Initial work has also been done to identify a number of potential collaborative initiatives and their perceived benefits and challenges.

4.4 Data on Council budgets, roads assets and staffing structures has also been gathered to provide an indication of what form integration or

collaborative delivery in certain areas of the service might take. This was to provide an idea of the opportunity sharing represents to help guide decision-making. It may also be possible to identify areas where a particular Council or Councils could lead a shared service. For example a Council with the best performance indicators could take the lead on a project. Alternatively it may be that a Council with "spare capacity" in terms of staffing should take the lead.

5.0 Remaining Tasks and Timeframe

5.1 Following engagement with corporate management teams and elected Members in Autumn 2015, it is estimated that discussions to finalise the minute of agreement to establish a legal governing body in the form of a Joint Committee would take place in early 2016, with the body established shortly thereafter.

5.2 The Roads Collaboration Programme would continue to offer support to the North Project Group following establishment of the Joint Committee if requested to do so. Key to the Joint Committee's initial discussions will be a need to:

- agree a common vision and strategic objectives for the service;
- agree a strategy to design and take forward collaborative projects overseen by the Committee;
- identify benefits and assigning measurable targets to track benefit realisation;
- gather further baseline data to support the initiation of key projects; and
- assess potential operational delivery models, addressing issues such as organisational structure, management, staff levels and distribution, utilisation of assets etc.

6.0 Consideration of Possible Benefits for Shetland

6.1 <u>Costs</u>

The fee for Shetland Islands Council to participate in the Roads Collaboration Project is £894 per annum paid to the Improvement Service. The other costs to date, such as staff time and travel costs, have been minimal. An estimate has yet to be made of the cost to each Council of participating in the establishment of the Joint Committee. There will be cost implications in the drafting and finalising of the minute of agreement. Shetland Islands Council's cost to participate in the completed project and attend the Joint Committee will be greater than for the other members of the group. For example the cost of sharing a Design Section with other Council's would be prohibitive due to the travel and accommodation required when visiting relatively small schemes in Shetland.

6.2 Benefits

The table in Appendix 1 lists the potential collaborative initiatives that have been identified to date by the North Project Group. The group's thoughts on the key benefits and challenges are listed against each initiative. Considerations from a Shetland perspective are also listed, in brackets, after each comment where appropriate. In summary there would appear to be little benefit to Shetland Islands Council of participating in any of these initiatives. A number such as the sharing of frontline services and a combined design team are ruled out by our geographic location making them impractical and/or uneconomic. The benefits of shared procurement within the North Project Group are also difficult to identify. We already have expertise within the Council and participate in the nationwide Scotland Excel procurement framework. The contracts at a more local level where we would benefit from collaboration are limited especially as the vast majority of our work is maintenance which is done in-house. A number of the initiatives such as Flood Risk Management and Traffic Signal Maintenance are not a major issue for the Roads Service. For example the specific "flooding" issues we do have such as landslips are likely to require more specialised "one off" advice to arrive at solutions than could be provided by a shared flood section based on the mainland. There are also initiatives such as a combined development control section that we would consider to be a backward step due to the loss of local input into the guidance, something which the latest national guidelines encourage. The conclusion reached is that the opportunities for collaboration are limited and as a result the best way forward for Shetland Islands Council would be to enter into "memoranda of agreement" with other Councils for specific collaborations. This would be preferred to participation in the proposed Joint Committee that would result in the Roads Service following a common vision and strategic objectives suited to the north of Scotland as a whole.

7.0 Implications

Strategic

7.1 Delivery On Corporate Priorities – The local outcomes from Shetland's Single outcome agreement include "We have financial sustainability and balance across all sectors with efficient and responsive public services."
The aim of the Roads Collaboration Project is to "ensure resilient and sustainable roads services."

A further local outcome that is relevant to the collaboration project is "Our internal and external transport systems are efficient, sustainable, flexible and affordable, meet our individual and business needs and enable us to access amenities and services."

7.2 Community /Stakeholder Issues - There is a possibility that sitting on a Joint Committee, with a common vision and objectives tailored to the north of Scotland as a whole, will negatively impact on how issues affecting local stakeholders and the community are addressed.

7.3 Policy and/or Delegated Authority – The public road network is the Council's single largest asset. Failure to manage and maintain the road network efficiently and sustainably will impact on the net ongoing running costs of the Council. There is a risk that any overspending as a result of inefficient practices would require an unsustainable draw on reserves.

7.4 Risk Management – Failure to manage and maintain the road network efficiently and sustainably will impact on the net ongoing running costs of the Council. The public road network is the Council's single largest asset so there is a significant risk of the Council's financial policies not being adhered to which would require a further draw on Reserves.

7.5 Equalities, Health And Human Rights – None.

7.6 Environmental – None.

Resources

7.7 Financial – Under the Local Government in Scotland Act 2003, the Council has a duty to make arrangements that secure Best Value. Best Value is continuous improvement in the performance of the authority's functions taking into account efficiency, effectiveness, economy and equal opportunities.

An aim of the Roads Collaboration Programme is to make efficiencies and financial savings within participating Roads Services. Currently the fee for taking part in the programme is £894 per annum. Potential savings identified from the initial initiatives would not appear to warrant participation in the Joint Committee proposed by the programme. However, collaboration on individual projects may realise efficiencies and cost reductions.

Any costs associated with continued participation in the Road Collaboration Programme or collaboration on individual projects would be met from within existing budgets.

7.8 Legal – A legal governing body in the form of a Joint Committee would be required if the Council is to fully participate in the proposal. "Memoranda of agreement" would be required between parties if the Council is to proceed with individual collaboration projects.

7.9 Human Resources – None.

7.10 Assets And Property – The road network is the largest community asset for which Shetland Islands Council is responsible. It is vital and

fundamental to the economic, social and environmental well being of the community. It helps to shape the character of an area, the quality of life of the local community and makes an important contribution to wider Council priorities including growth, regeneration, education, health and community safety. Roads also make a wider contribution to society, providing access to ferry terminals, ports and airports.

8.0 Conclusion

8.1 The Committee is asked to note the contents of this report and to approve the recommendations that the Council no longer participates in the project but pursues opportunities to develop Memoranda of Agreement for specific projects, as and when a benefit to Shetland can be realised.

For further information please contact:

Dave Coupe, Executive Manager, Roads
01595 744104, dave.coupe@shetland.gov.uk
1 June 2015

List of Appendices

Appendix 1 – Table of Potential Collaborative Initiatives

Background Documents

1 "National Roads Maintenance Review June 2012"
http://www.transportscotland.gov.uk/report/j234327-00.htm

2 Road Collaboration Programme Mandate
http://www.improvementservice.org.uk/roads-collaboration-programme.html

END

Table 1: Potential Collaborative Initiatives **Appendix 1**

	The Opportunity	Key Benefits	Key Challenges
Joint Procurement	Combined approach to procurement, utilising a more local approach where appropriate Increased use of SMEs not currently in Scotland Excel frameworks Opportunity to drive down prices as a collaborative body Existing in/house procurement expertise in Aberdeen/Aberdeenshire that could be utilised by the collective (***Shetland View: This suggests that we use Aberdeen's procurement which is reasonable to assume would be at a cost over and above the fee that the Council already contributes to Scotland Excel The Roads Service currently makes use of the Council's in-house procurement team who, I would argue, have greater expertise of the issues affecting procurement in Shetland)***	Consistency of approach within markets Increased use of smaller, local suppliers ***(Shetland View: We already use local suppliers where they are competitive with Scotland Excel)*** Specification standardisation across Councils. ***(Shetland View: This would be of benefit)*** Access to local procurement expertise to manage tender development, contract maintenance and benchmarking. ***(Shetland View: We don't procure as much work from private contractors as most of our work is undertaken in-house)*** Economics of scale ***(Shetland View: Can this improve on Scotland Excel which is nationwide)*** Potential savings via spot pricing and regular market testing ***(Shetland View: This service is already provided by Scotland Excel)***	Must ensure sufficient in house resource and expertise to manage. ***(Shetland View: Who meets these costs, possible duplication within Council)*** Must weigh up the associated costs/benefits of managing some elements of procurement in house instead of SXL ***(Shetland View: We already pay a fee to Scotland Excel and make use of the Council's own procurement team. This would be a third tier of procurement so net savings achieved would need to be substantial)*** Must consider if local procurement viable in cost terms for Island Councils ***(Shetland View: We currently use Scotland Excel or local supplier when competitive. Given our geographic location the established logistics of local suppliers is better)***

SERVICE AREA	The Opportunity	Key Benefits	Key Challenges
Street Lighting ***(Shetland View: The Roads Service has delegated authority for the majority of routine tasks, including lighting maintenance, that are required to manage the road network. It is felt that much of what is proposed would slow down our speed of response and flexibility to direct our staff and resource where they are needed. There would appear to be no doubt that we work in a different way than the larger mainland Council's as much as we do not really have specialist teams for the civils work but move people to where most needed)***	Combined approach for provision of a specialist service, building on work of the Scottish Lighting Group. ***(Shetland View: We do not have a significant requirement for design of new street lighting as we are only replacing or removing existing circuits)*** Common standard specification for new works ***(Shetland View: Would be interested in a common specification if it provided reduced procurement costs)*** Address issue of shortage of lighting designers by pooling current resource or jointly procuring ***(Shetland View: A small function for Roads but we have two Engineers trained in lighting design. The scale of our streetlighting is relatively small compared to some mainland Council's)*** Collective management of substantial upcoming work on LED lighting. Joint management of process and use of shared capacity ***(Shetland View: Given our location it is likely that any contract would have a separate section for Shetland, thereby negating any cost benefit)*** Design common approach to policy ***(Shetland View: This would possibly have an effect on our street lighting reduction policy)***	Provides critical mass to assist delivery ***(Shetland View: We are heavily budget constrained)*** Better utilisation of Council in-house expertise Potential significant efficiency savings and cost reduction Addresses lack of available expertise in design ***(Shetland View: Not an issue)*** Larger collective market which justifies work ***(Shetland View: Schemes in Shetland are small and unlikely to affect the market position of the group)*** Improved performance through resilience and delivery of long term efficiencies and improvements Could free up other qualified staff to focus on other areas where resource is short ***(Shetland View: Very little impact for Shetland given the size of our operation)***	Must ensure political buy in Agreement needed on whether a dedicated team would needed ***(Shetland View: Would there be a cost benefit?)***

SERVICE AREA	The Opportunity	Key Benefits	Key Challenges
Flood Risk Management ***(Shetland View: This tend to be a planning function in Shetland as the road network is mostly unaffected by flooding other than in some coastal locations where works to protect a road may be required)***	Combined approach for provision of a specialist service Sharing capacity of specialist skills, pooling resources to improve the sustainability of the workforce and increase resilience Joint procurement of specialist skills as necessary Working together to design plans	Provides critical mass to assist delivery Better utilisation of Council in-house expertise Potential savings One focal point for flood risk management Access to a pool of expertise Addresses skills shortage and could avoid a Council having to procure expertise	Must ensure political buy-in Need to understand prioritisation of flood projects The number of flood area groupings Boundaries likely to go beyond this grouping of partner Councils to get the greatest efficiencies – 14 districts? Timing must be right – all Councils already increasing flood teams on individual basis Need comparative analysis of what all partner Councils doing at present, what consultants used and perceived risk of single point of failure to determine benefits of collaboration in this area

SERVICE AREA	The Opportunity	Key Benefits	Key Challenges
Sharing of Frontline Resources ***(Shetland View: We are too geographically remote to take part in this initiative)***	Pooling of resources to share capacity in partner Councils with proximity to do so - Aberdeen, Aberdeenshire, Moray, others? Collaborative procurement of additional frontline staff as needed	Improved resilience and prioritisation of works needed Link workforce needs to specific programmes of work	Gap analysis of current workforce and future workforce needed Branding of staff/vehicles
Development Control Guidelines	Development of a specialist section – a dedicated team with single management structure to address workload relating to planning reform and likely future collaboration ***(Shetland View: New national development control guidelines have recently been published. These give Council's an opportunity to include local requirements and guidance. Therefore, it is recognised that some aspects of planning should be dealt with at a local level to suit local conditions etc)***	Improvement in management and administration Improved levels of knowledge and expertise ***(Shetland View: Perhaps but not at a local level which is an important consideration)*** Best use of specialist resources Consistent approach to providing responses on planning matters ***(Shetland View: Limited benefit to larger/nationwide developers only)***	

SERVICE AREA	The Opportunity	Key Benefits	Key Challenges
Training and Health & Safety	Combined approach for provision of a specialist service ***(Shetland View: There may be a limited saving on some specialised training where we do not have the in-house ability to assess trainees. In general with DLO training is tailored to suit each foreman/roadworker so knowledge of each person's requirements is needed at a local level)***	Critical mass to assist in delivery of training needs More robust course development and delivery at Universities /Colleges Greater training opportunities and variety for staff ***(Shetland View: Currently only undertaking required training due to medium term financial plan)*** Co-ordination of current ad-hoc sharing in this area Cost savings	Making funding available for training in current climate

SERVICE AREA	The Opportunity	Key Benefits	Key Challenges
Road Maintenance Design	Creation of a combined design team to harness design work to best utilise available resources ***(Shetland View: This would reduce our flexibility and increase costs as any remote design team would have to travel to Shetland during the design phase. This would also probably have to be resident here during construction as, due to our downsizing, our in-house design team now have to take on some of the construction supervision as well as the actual design.*** ***The response time would also be increased as work would have to be scheduled into the combined team's workload.*** ***The design cost to construction cost ratio would also probably be higher which would have particular effect on the many small schemes that we currently undertake)*** Focused more on maintenance rather than design of new roads, bridges and structures ***(Shetland View: Given the medium term financial plan e have little opportunity to do anything but maintenance design)***	Address current limited availability of appropriate skillset by creating an effective and resilient staff structure Allows for greater up-skilling of staff Reduces reliance on private sector consultants Cost savings through more limited use of consultants/agency Allows for the development of a sustainable resource pool capable of developing young people to ensure continuity of service looking forward and robust career paths ***(Shetland View: This would be of benefit)***	

SERVICE AREA	The Opportunity	Key Benefits	Key Challenges
Traffic Signal Maintenance	Combined approach for provision of a specialist service to address limited design expertise currently available ***(Shetland View: We have no signal controlled junction only 10 Pelican crossings)***	Very specialised area of business Joint procurement- critical mass Potential savings Easy to identify a lead authority in this area **(Shetland View: What would the cost be to the other authorities?)** Single fault reporting ***(Shetland View: Not possible for our location with a combined service)*** Common specifications and standards Single contractor response	If looked at in isolation, would a joint signal resource service be too small to justify a change from the status quo? Would it need to be considered alongside another joint initiative where larger teams are brought together to achieve the desired benefits?

SERVICE AREA	The Opportunity	Key Benefits	Key Challenges
Back office administration of Decriminalised Parking Enforcement & other more general areas of administration support	To provide administration from a single location to all partner Councils ***(Shetland View: We do not currently have decriminalised parking although this would be of benefit if we were to go down this route)***	More efficient use of workforce Freeing up staff for other duties Common standards and processes Efficiency savings	Clear communication required to stress this will not include job cuts, but rather a reallocation of resources in some Councils.
Sharing of Equipment	Pooling of existing assets and joint procurement of future equipment ***(Shetland View: Geographic location makes this impractical and uneconomic)***	More efficient use of equipment Limits need for procurement Saving associated with limiting supplication of future purchases	May be limited to Councils with close proximity

Agenda Item

4

Shetland Islands Council

Environment and Transport Committee **15 June 2015**

A970 Sumburgh to Lerwick Road at Levenwick: Possible Safety Improvements	
Report Number: RD-09-14-F	
Executive Manager - Roads	**Roads** **Infrastructure Services Department**

1.0 Summary

1.1 The purpose of this report is to inform the Committee of the findings of an investigation of the A970 at Levenwick that was undertaken following the traffic accident, on 20 January 2015, when an articulated low loader hauling an excavator left the carriageway and toppled down the roadside embankment.

2.0 Decisions Required

That the Environment and Transport Committee:

2.1 APPROVE the safety improvement recommendations listed in section 7.1 of this report;

2.2 NOTE the contents of this report;

2.3 is asked to CONSIDER and COMMENT on the contents of this report.

3.0 Detail

3.1 A970 Sumburgh to Lerwick Road

A general description of the road in question is that it is a section of the A970 Sumburgh to Lerwick Principal Road, which runs almost the full length of Shetland's South mainland. It is of course part of an important route because it links Sumburgh Airport with the rest of Shetland. The section in question measures approximately 2.26 km in length and varies between 5.9 and 5.5 metres in width. The majority of this section is cut into the steep side slope at the north end of Scousburgh Hill at an elevation ranging from 110 to 60 metres above Ordnance Datum. It is bordered on both sides by grazing land with sporadic junctions accessing houses that are

mostly setback a reasonable distance from the road. The daily average traffic flow is in the region of 1,350 vehicles. The daily average 85th percentile speed (the speed at which 85% of traffic travel at or below) was measured as high as 66 mph in 2009. The design speed, calculated from the "bendiness" of the road, is 100 km/h (62 mph). The south and north ends of this section, at the Levenwick Junctions, have been re-aligned and widened to comply with the "Design Manual for Roads and Bridges (DMRB)."

3.2 Road Safety Check

In December 2009 a "Road Safety Check" was undertaken on the A970 Sumburgh to Lerwick Road, between its north and south junctions with the Levenwick Loop Road. The check was made at the request of the Roads Services' Network Engineer following a traffic accident at the first blind summit to the south of the "Fradigill" dwelling house that resulted in expressions of concerns from local Councillors and members of the public. The check comprised a "desk top" study of Ordnance Survey maps to determine the horizontal alignment and the collection of other data such as measured vehicle speeds and accident records. A walkthrough of the route was also undertaken to identify potential hazards and a number of measures to address these hazards were recommended.

3.3 Road Safety Advisory Panel

The safety check report was distributed to the local Councillors for their information. The safety concerns were subsequently raised by Councillor Budge at a meeting of the Road Safety Advisory Panel on 2 February 2010. He quoted the following excerpt from the safety check report "*I am of the opinion that due to the location of this hazard on the main route between Lerwick and Sumburgh it should be improved, even if it has to be listed as a named scheme for inclusion on the Council's Capital Programme*." Councillor Budge echoed these concerns and referred to the number of accidents which have already occurred in the area (Infrastructure min ref 25/10).

3.4 Capital Programme

The Council's Capital Programme was reported to a meeting of the Infrastructure Committee on 4 May 2010 (min ref 31/10). Councillor Duncan expressed concern that the blind summit at Levenwick did not appear on the attached list and that it should be given high priority. Councillor Robertson advised that the Member Officer/Working Group – Roads was aware of every item raised and endeavoured to promote the projects. He said that all projects were listed but were subject to the gateway process. Following this the Roads Service held a meeting with the local Councillors where it was agreed that costed proposals would be prepared for the autumn. In the meantime the more minor recommendations of the safety check report were followed up with SLOW road markings and new verge markers being installed. The inclusion of a road

improvement at Levenwick was not progressed when the Council's medium term financial plan required that funds be spent on maintaining existing assets rather than on the provision of new.

4.0 Updated Road Safety Check

4.1 The safety concerns regarding the A970 at Levenwick came to prominence again on 20 January 2015 due to an accident involving an articulated truck towing a low loader trailer. The trailers wheels gripped the road side verge causing the southbound truck to veer off the carriageway just to the north of the blind summit referred to above. The truck, trailer and the excavator it was hauling then toppled on to its side on the embankment sloping down from the carriageway to the hillside above Levenwick. Following this incident Councillor Duncan again expressed his concerns regarding the poor road alignment and narrow road width at this location.

4.2 The immediate remedial measure was the provision of an additional "blind summit" sign and SLOW road marking on each approach. The verge markers at the blind summit that had been damaged over the years were also renewed. Councillors were also informed that there would be an investigation of the incident and the part played by the road's geometry. This is now complete with the latest data on traffic volumes, vehicle speeds and traffic accidents having been gathered so that the "Road Safety Check" done in 2009 could be updated.

4.3 <u>Traffic Accident Records</u>
The locations of the road accidents recorded on this route between January 2000 and December 2013 have been plotted on an ordnance plan (see Appendix 1). There were a total of 14 accidents of which 0 were fatal, 2 were "serious" injury and 5 were "slight" injury leaving 7 as damage only.

4.4 A comparison of the expected accident rate and that actually occurring on a length of road is usually made to determine whether or not further investigation is required. Table 1 below shows that this section of road does not compare favourably with national statistics or those for the former Northern Constabulary area. There were no fatal accidents but the slight and serious injury accident figures are more than 3 and 4 times what would be expected from considering the national figures. This would, at first glance, indicate a problem but the number of accidents is so low that only 1 accident can make a large difference to these results. This is an important consideration but further investigation into route treatments is certainly warranted.

4.5 The nationally recognised ratio for injury to damage only accidents is 1 to 7.8. The accidents on this length of the A970 have a ratio of 1 to 1. This suggests that there is an under reporting of damage only accidents or that the nature of the road is resulting in a higher

proportion of injury accidents. The high vehicle speeds and the steep side slope on the east side of the road may contribute to accidents that occur here being more severe than would normally be expected. However, there remains a doubt as to the accuracy of the accident reporting. Therefore, when analysing the cost/benefit ratio of possible safety improvements, only injury accidents will be considered. The value of each accident, taken from "Transport Analysis Guidance (WebTAG)", will be £157,328. A percentage of this figure is made up of the value of the damage only accidents that would normally be associated with a single injury accident.

4.6 There were 4 accidents in this 13 year period of a similar nature to the 20 January 2015 incident where a vehicle, on leaving the road, came to rest on the east side of the road after running down the steep embankment. These were made up of 3 slight injuries and 1 damage only.

TABLE 1: Injury Accidents Per 100 Million Vehicle Kilometres

ACCIDENT SEVERITY	SCOTTISH AVERAGE (per 100 million veh km)	NORTHERN CONSTABULARY AREA (per 100 million veh km)	A970 (per 100 million veh km)	EXPECTED INJURY ACCIDENTS OCCURRING (%)
FATAL	0.53	0.7	0	0
SERIOUS & FATAL	4.21	4.1	15.09	358
SERIOUS	3.68	3.4	15.09	410
SLIGHT	12.44	14.9	37.74	303
ALL INJURY	25.04	19.0	52.84	211

4.7 Vehicle Speeds and Traffic Volumes

Traffic counters were placed on site at the following locations for a 4-week period between 10 April and 8 May 2015.

4.8 A970 South of "Fradigill" Dwelling House

The average 85th percentile speed recorded in the northbound and southbound directions was 64 and 61 mph respectively showing an average reduction of 1 mph since 2009. The daily average volumes for each lane were 758 and 751 respectively, an increase of 75 vehicles since 2009. The peak hour was 08:00 to 09:00 for the northbound lane and 17:00 and 18:00 for the southbound lane with 10.4% and 11.5% of the daily traffic volume respectively.

4.9 A970 South of Levenwick Community Hall

The average 85th percentile speed recorded in the northbound and southbound directions was also 64 and 61 mph respectively showing an average reduction of 1.5 mph since 2009. The daily average volumes for each lane were 758 and 754 respectively, an increase of 73 vehicles since 2009. The peak hours were again 08:00 to 09:00 for the northbound lane and 17:00 and 18:00 for the

southbound lane with 9.4% and 10.4% of the daily traffic volume respectively.

4.10 Data Analysis

The counter data shows that the traffic volumes are low compared to other sections of the A970 between Lerwick and Sumburgh. The sections further north and nearer Lerwick have twice the volume of traffic, due to commuters etc travelling into and out of the town. There is also a noticeable increase in traffic from 06:00 that coincides with staff, passengers, taxis etc travelling south to the airport for its opening time at 06:30. A slightly smaller number of vehicles are travelling north between 20:00 and 21:00 after the airport closes at 20:30.

4.11 The vehicle speeds are high considering the narrow carriageway that averages only 5.65 metres in width. This may be partly explained by the low traffic volumes that mean drivers are not meeting many oncoming vehicles in the other lane. This section of road also has few bends and a low degree of "bendiness." This is shown by the design speed that has been calculated at 100 km/h (62 mph). There is a noticeable difference between the northbound and southbound lanes with the average 85th percentile speed in the former being approximately 3 mph greater than the latter. This may be explained by the design speeds that are 100 km/h on the south approach and 85 km/h on the north approach. Therefore, vehicles are likely to be travelling faster as they travel north onto this section of road as they are when heading south onto the road via the bends at Brune, Teevliks and The Moull. These northbound speeds will be maintained by the road's gradient that drops 50 metres in a distance of 2 km as it heads north.

4.12 Low Loader Incident 20 January 2015

The investigation into the latest incident on the A970 at Levenwick, in close proximity to the blind summit, has revealed that it was not directly attributable to the summit although it may have had some bearing due to the "sudden" appearance of a vehicle in the opposite lane. The cause would appear to have been due to the wheels of the vehicle's trailer over running the soil verge. This caused the trailer to grip the verge then slide down towards the embankments side slope. Once the wheels had reached this slope it dragged the truck cab over resulting in the cab, trailer and its load toppling over onto its side on the embankment. It would appear from the relatively low level of damage to the vehicle and embankment that excessive speed was not a contributory factor in the incident. The incident did happen at a bend which together with the narrow width of the A970 above Levenwick increases the likelihood of an incident like this occurring.

5.0 Possible Road Safety Improvements

5.1 Single Site Treatments

The accident analysis has shown that there are no cluster sites on this route. However, immediately south of "Fradigill" dwelling house there is a blind summit that coincides with a short bend with a radius of 740 metres. The visibility distance through this summit, measured from an eye height of 1.05m to a target of the same height above the road level, is 78m. This is extremely poor and the lack of visibility here together with the bend may have been a contributory factor in a "loss of control" accident that occurred here.

5.2 Since the measured 85th percentile speeds exceed 62 mph a visibility distance of less than 185 metres would allow the use of a prohibitory double centreline at the summit. Unfortunately, this type of line is not permitted here because the road width is less than the required 6.1m. The alternative in this situation is to use the rural warning centreline (6m dash, 3m gap) and this is already in place. The visibility distance is so poor that this line has been enhanced with "blind summit" warning signs and "SLOW" road markings. In the long term a scheme to improve the visibility at this summit may be an option as would an alternative localised widening scheme that would move the road approximately 6 metres west into the hillside. There has been only one "slight" injury accident due to the summit in a period of 13 years. The cost to society of the accident that occurred here is £157,328 so preventing this accident would on average save only £12,102 per year. The cost of improving the vertical alignment at the summit would be in the region of £525,000 with a lesser cost of £400,000 for the road widening option. The difference largely due to the need to divert the British Telecom fibre optic cable, located in the roadside verge, if the road level is lowered. Therefore the respective rates of return for these investments would be 2.3% and 3% in the first year. The "Road Safety Engineering Manual (RESM)" recommends that the return on single site safety improvements should be 200% in the first year before they are considered value for money. However, the Roads Service is of the opinion that due to the location of this hazard on the main route between Lerwick and Sumburgh and the significant departure from the design guidance on visibility, an improved vertical alignment or road widening should not be discounted. This would be an improvement scheme which is contrary to the medium term financial plan requirement of maintaining our current asset.

5.3 The preliminary design work has been done for the proposals in 5.2 for costing purposes only. The completion of these designs to tender readiness is an option that would allow construction to begin sooner should there be a desire and funding to proceed with either of these options. The designs themselves would require in the region of £50,000 of capital funding to complete, including the cost of preparing the contract documents and identifying land owners.

5.4 It should be noted that these options may have a slight detrimental effect in that vehicle speeds are likely to be increased due to the improved alignment and/or widening. This may be significant if speeds are increase on the approach to another sub-standard feature such as a tight bend.

5.5 Route Action Treatment

The main hazards encountered on this length of the A970 are the 3 blind summits. The north most summit has already been discussed in detail above. The visibility distance through the other summits is 150m at the south most and 125m at the middle one. These summits also meet the criteria for the use of a prohibitory double centreline but again this is not permitted due to insufficient carriageway width. The existing solution here is simply the use of the warning centreline with no additional signage. This complies with the advice given in "The Traffic Signs Manual, Chapter 5: Road Markings" and is consistent with the treatment of other blind summits further to the south on the A970. There have also been no recorded accidents at these locations. For these reasons it is not intended to provide any signs at the summits. There will however be provision of the same verge markers at the second summit that are currently used at the other summits to indicate the road's horizontal alignment to approaching drivers. The cost of installing these 16 verge markers would be £1,200 and would be met from the existing Traffic Signs Maintenance Budget.

5.6 The only bend that gives cause for concern is at "Fradigill." Its radius is much tighter than the desirable minimum for the road's design speed. The line of sight through the bend is also partially obscured by the house's retaining wall and vegetation on the inside of the bend. The carriageway measures only 5.5m in width and both verges are less than 1.0m wide. Therefore, the Roads Service is of the opinion that a "junction on bend ahead" warning sign, a "reduce speed now" plate and a "SLOW" road marking should be provided on the south approach to this bend. The visibility through the bend is not obstructed to the same extent for southbound traffic so a warning sign is not required on the south approach. The cost of providing this sign and marking would be £400 and would be met from the existing Traffic Signs Maintenance Budget.

5.7 Safety Barriers

The site visit identified that in order to comply with the guidelines on embankment height and safety barrier provision some 1,000 metres of barrier would need to be installed in the road's east verge. This is the total length of road where there are embankments above 6m in height on a straight and above 3m in height on the outside of a bend. The only point where the embankment is less than 3m in height is at the blind summit at chainage 1,390. This is for a distance of only 50 metres so it would be more practical to continue the barrier through this section. This avoids the need for two end

terminals and would also give some indication of the roads horizontal alignment to drivers as it disappears from view at the crest of the summit.

5.8 Unfortunately, the existing verge over much of this length is not wide enough to accommodate a barrier. In places the distance between the edge of the carriageway and the top edge of the embankment is only 0.9 metres. A barrier on a road with a 60 mph speed limit has to be set back a minimum of 1.2m from the edge of the carriageway. These barriers also deform when struck by a vehicle. The deformation can be by as much as 1.7 metres for a standard tensioned barrier before the vehicle is deflected back into the road. This can be reduced to 1.3m for an open box beam barrier with posts spaced at 2.4m centres and for a tensioned barrier with the post spacing halved to 1.6 metres. It can be reduced further still to 0.8m if the post spacing of the open box beam barrier is halved to 1.2m centres. Therefore, the absolute minimum verge width required before a barrier can be provided is between 2.9m for a standard tensioned barrier and 2.0m for an open box beam barrier that has its posts spaced at 1.2m centres. Lesser widths could result in a vehicle that collides with the barrier passing under it then running down the embankment. It is also worth bearing in mind that currently the majority of the verge has a width of between 1.5 and 2.0m. Therefore, a 1.2m verge would in places be considerably narrower than the existing verge, meaning less space available for pedestrians to either walk along or step onto when vehicles approach.

5.9 The construction of a retaining wall is the only practical method of widening the verge. Simply widening it by adding more fill material would not be workable due to the embankment's long side slopes. The usual method of providing a retaining wall, when short lengths of widening are required for barrier installation, is to use gabion baskets. This would be the most cost effective means of providing a low retaining wall here at approximately a quarter the cost of a mass concrete gravity wall. For an existing verge width of 1.5m and an embankment with a 45º side slope the wall would be formed from a single layer of 2 x 1 x 1m gabions bedded on a 100mm layer of type 1. This would be the situation for a length of approximately 750m and would support a verge width of 2.5m so that a tensioned corrugated barrier with posts spaced at 1.6m centres could be used. There are some lengths where a shallower gabion could be used and others where two would be required, so on balance the total number of gabions needed would be 500. This is equivalent to 1 gabion over the entire 1,000m length.

5.10 The total estimate for providing this length of barrier, not including the cost of any land acquisition that may be necessary, comes to £400,000. This includes items for the barrier itself, temporary traffic lights, fencing, earthworks, the gabion retaining wall and temporary

re-routing of telecom cables. This is 3 times the cost of providing the same barrier on a verge that is already of sufficient width. A considerable sum especially when the projected reduction in accidents is considered. Analysis of similar sites where safety barriers have been installed shows that on average there is a 53% reduction in injury accidents. There were 3 injury accidents attributable to the steep embankment in the 13 year period between January 2000 and December 2013. This equates to 0.23 accidents per year so there would only be an average saving of 0.12 accidents per year. Since the cost of an injury accident is £157,328 the monetary saving would be £19,242 and the FYRR would only be 5.6%. The minimum recommended return for route action treatments given in the "RSEM" is 100%.

5.11 A short section of barrier, between the North Levenwick Junction and "St Clair Cottage," could be installed without the need for a retaining wall. The verge here, over a distance of 150 metres, has a width of between 2.5 and 3.5m. There was a "damage only" accident here in January 2006 that resulted in vehicle travelling down the steep embankment. The total cost of this barrier, not including land acquisition would be £30,000. An application could be made for funding via a "Capital Programme Service Need Case."

5.12 In summary, the provision of 1,000m of safety barrier on the A970 at Levenwick is technically possible but, for a number of reasons, cannot be considered a practical solution. The Police records show that there have been very few accidents involving the steep embankment and considering that the barrier will not stop accidents from occurring, but only reduce their severity, it is debateable that the limited benefit justifies the expense. Having said that the guidelines contained in the "DMRB" state that barriers should be provided at embankments of the height that this road is constructed on. In conclusion, having considered both these arguments, we are of the opinion that the funds would give a better return if spent on other accident prevention schemes. There is also the possibility that in future this section of the A970 may be improved by excavating into the hill on its west side. Even if only a part of the road, such as the worst blind summit, was to have its vertical alignment improved a significant proportion of the barrier works would be wasted. It would be better to allocate these funds towards the cost of doing the re-alignment. Alternatively, they could be used to do barrier improvement works on lengths of road, with an identified need, that do not have substandard visibility and carriageway width as these are less likely to require major alterations at a later date. These newer lengths of road also tend to have sufficient verge widths for the installation of barriers so 3 kilometres of barrier could be provided in these areas for the cost of installing 1 kilometre of barrier on the A970 at Levenwick.

5.13 Width Restrictions

In October 2013 a temporary width restriction was introduced on this section of road when rock armour was being hauled to the Sumburgh runway extension. The purpose of this order was to address concerns regarding the safety of this haulage because it was being done with oversized trailers measuring 3.0 metres in width. These trailers were damaging the verges and there was the very real possibility of a serious incident due to a vehicle leaving the road and rolling down the embankment. The order prevented the use of trailers with a width greater than 2.6 metres from using the road.

5.14 Operators of trailers exceeding 2.9 metres in width are required, by the Road Traffic Act 1998, to give the Police 2 days notice of the trailer's movements. There is no need to notify the roads or bridge authority unless the gross vehicle weight exceeds 44 tonnes. Therefore, to ensure that the Council in its role as roads authority is informed of the use of wide vehicles on this length of road it may be appropriate to re-introduce the width restriction with a permanent traffic order. There would be an exemption to the order so that where hauliers had the "express permission of the roads authority" vehicles in excess of 2.6 metres in width would be allowed. This would give the Roads Service the opportunity to impose conditions such as a requirement for escort vehicles or a more appropriate time of day for the journey.

5.15 Major Capital Scheme to Re-align A970 between South and North Levenwick Junctions

The site investigation revealed that the roadside verges on almost the entire length of road between the North and South Levenwick Junctions have been over-run by vehicles. The soil verges normally have an upstand of 100mm above the carriageway. It is evident that the verges are being over-run when two large vehicles meet. This is having the effect of reducing the verge height so that it is flush with the carriageway over a width of approximately 300mm from the carriageway edge. The concrete grips or drainage channels in the verge have also been damaged by this over-running. This level of over-running will eventually result in cracking and failure of the carriageway's edges requiring significant repairs. It would appear from the level of repairs in the past that the level of over-running has recently increased.

5.16 It is a concern that the existing carriageway width is too narrow to accommodate the heavy goods vehicles and buses travelling to and from the South Mainland. It would appear that the lack of width may have played a part in the low loader incident. However, there are no other **reported** accidents involving HGV's or buses in the 13 year period from 2000 to 2013. The current road width should be sufficient for cars but any increase in width may have been beneficial in some of the accidents that occurred. An increase in

road width along this entire length would require a major capital scheme at which point it would make sense to address sub-standard horizontal and vertical bends and design a new road that meets the requirements of the "Design Manual for Roads and Bridges (DMRB)." This option would ensure a consistent design approach throughout the A970 at Levenwick and from there to the north on the A970 to Lerwick. A scheme of this scale, which would cost in the region of £3 million, could not be justified by current accident levels alone. The need for this scheme would have to be identified through the "Scottish Transport Appraisal Guidance (STAG)" process to determine whether there would be sufficient benefit. The criteria assessed would include economy, environment, accessibility and social inclusion as well as safety.

5.17 This is likely to be safer than a more piecemeal approach where single sites, such as the "Fradigill" blind summit, are treated with the result that vehicle speeds are perhaps increased on the approach to sub-standard features further down the road. The A970 to the south of Levenwick is another length of road that has not had the benefit of being designed according to "DMRB" guidance. However, the A970 at the South Levenwick Junction has been designed to this standard for a length of over 700 metres. Therefore an improvement between the junctions is unlikely to increase vehicle speeds to the south of Levenwick.

5.18 The completion of a design for this major capital scheme to tender readiness is again an option that would allow construction to begin sooner should there be a desire and funding to proceed with the option. This would require in the region of £100,000 of capital funding to complete including the cost of preparing the contract documents and identifying land owners.

6.0 Implications

Strategic

6.1 Delivery On Corporate Priorities – The local outcomes from Shetland's Single outcome agreement include "Shetland stays a safe place to live, and we have strong, resilient and supportive communities." Improvements to the A970 at Levenwick would have direct implications for road safety.

A further local outcome that is particularly relevant to carriageway condition is "Our internal and external transport systems are efficient, sustainable, flexible and affordable, meet our individual and business needs and enable us to access amenities and services."

6.2 Community /Stakeholder Issues
The potential improvements to the road alignment and provision of new safety barrier would improve the safety of road users.

6.3 Policy and/or Delegated Authority – The Council's Scheme of Administration and Delegation provides authority for each functional Committee to discharge the powers and duties of the Council within their own functional areas in accordance with the policies of the Council, and the relevant provisions in its approved revenue and capital budgets.

6.4 Risk Management – Failure to manage and maintain the road network the net ongoing running costs of the Council carries a significant risk of the Council's financial policies not being adhered to and will require a further draw on Reserves.

6.5 Equalities, Health And Human Rights
No implications.

6.6 Environmental
No implications.

Resources

6.7 Financial – The cost of staff time to undertake preliminary design work and costings for the proposals in this report was met from existing approved staffing budgets. A number of the more "minor" safety improvements, such as the provision of road signs, could be funded from existing traffic management and/or traffic signs budgets. The total cost of these is approximately £5,000. Detailed design costs would require capital funding through the "Service Need Case" process.

6.8 The estimated cost of the possible capital schemes detailed in this report are:

To construct a 150m length of new tensioned corrugated beam safety barrier in the wide east verge between "St Clair Cottage" and the North Levenwick Junction	£30,000 (not including land acquisition)
To improve the vertical alignment at the blind summit immediately to the south of "Fradigill" dwelling house (land survey and preliminary design already done by the Design Section)	£525,000
To increase the road width at the blind summit immediately to the south of "Fradigill" dwelling house (land survey and preliminary design already done by the Design Section)	£400,000(not including land acquisition)
The design to tender readiness of the above vertical re-alignment or road widening	£50,000
To re-construct the A970 between the South and North Levenwick Junctions with a new alignment and width designed in accordance with Design Manual for Roads and Bridges	£3,000,000
The design to tender readiness of a major improvement scheme of the A970 between the north and south Levenwick junctions.	£100,000

6.9 This report does not seek approval for the construction of any scheme. If any of the schemes are to be introduced, implementation will require a fully costed business case to be made for consideration under the Council's Gateway Process for capital project prioritisation. No detailed costing work has been carried out on the proposals at this time as any detail would be subject to change and review during the design process. The costs provided in the report are approximate based on historic knowledge. It should be noted that improvements to the blind summit on the A970 at Levenwick is number 4 on the "Prioritised List of Capital Road Improvement Schemes" reported to this Committee on 21 January 2015 (min ref 07/15).

6.10 The Council's Long Term Financial Plan sets out the challenge faced by the Council in terms of the investment required to replace and maintain existing assets. The £4.5m average annual Roads expenditure detailed in the plan is for replacement and maintenance of the existing asset. This list of improvement schemes would be additional expenditure.

6.11 Legal – Shetland Islands Council is the local roads authority for the Shetland area. Section 39(3)(a) of the Roads Traffic Act 1988 places duties on the roads authority and reads: "Each local authority must carry out studies into accidents arising out of the use of vehicles on roads within their area." Section 39 (3)(b) goes on that "Each authority must, in the light of those studies, take such measures as appear to the authority to be appropriate to prevent such accidents, including the construction, improvement, maintenance or repair of and other measures taken in the exercise of their powers for controlling, protecting or assisting the movement of traffic on roads."

6.12 Human Resources – None.

6.13 Assets And Property – Implementation of the safety improvements would in some cases involve the construction and future maintenance of additional assets within the public road network.

7.0 Conclusion

7.1 The Committee is asked to approve the following safety improvement recommendations:

- the installation of verge markers at the "middle" blind summit to match those already provided at the summits to the north and south;
- the installation of a "junction on bend ahead" warning sign, "reduce speed now" plate and a "SLOW" road marking on the south approach to "Fradigill;"and

- the introduction of a 2.6 metre width restriction on the A970 at Levenwick and on the B9122 between Teevliks and Bigton to ensure that the roads authority is notified of movements of vehicles exceeding the specified width.

7.2 The Committee is asked to note, consider and comment on the following safety improvement options:

- an application via a "Service Need Case" to fund the construction of a 150m length of new tensioned corrugated beam safety barrier in the wide east verge between "St Clair Cottage" and the North Levenwick Junction;
- a Capital Scheme to improve the vertical alignment or increase the road width at the blind summit immediately to the south of "Fradigill" dwelling house (land survey and preliminary design already done by the Design Section) including an option to design to tender ready stage; and
- a major Capital Scheme to re-construct the A970 between the South and North Levenwick Junctions with a new alignment and width designed in accordance with the Design Manual for Roads and Bridges including an option to design to tender ready stage.

Dave Coupe, Executive Manager, Roads
01595 744104, dave.coupe@shetland.gov.uk
5 June 2015.

List of Appendices

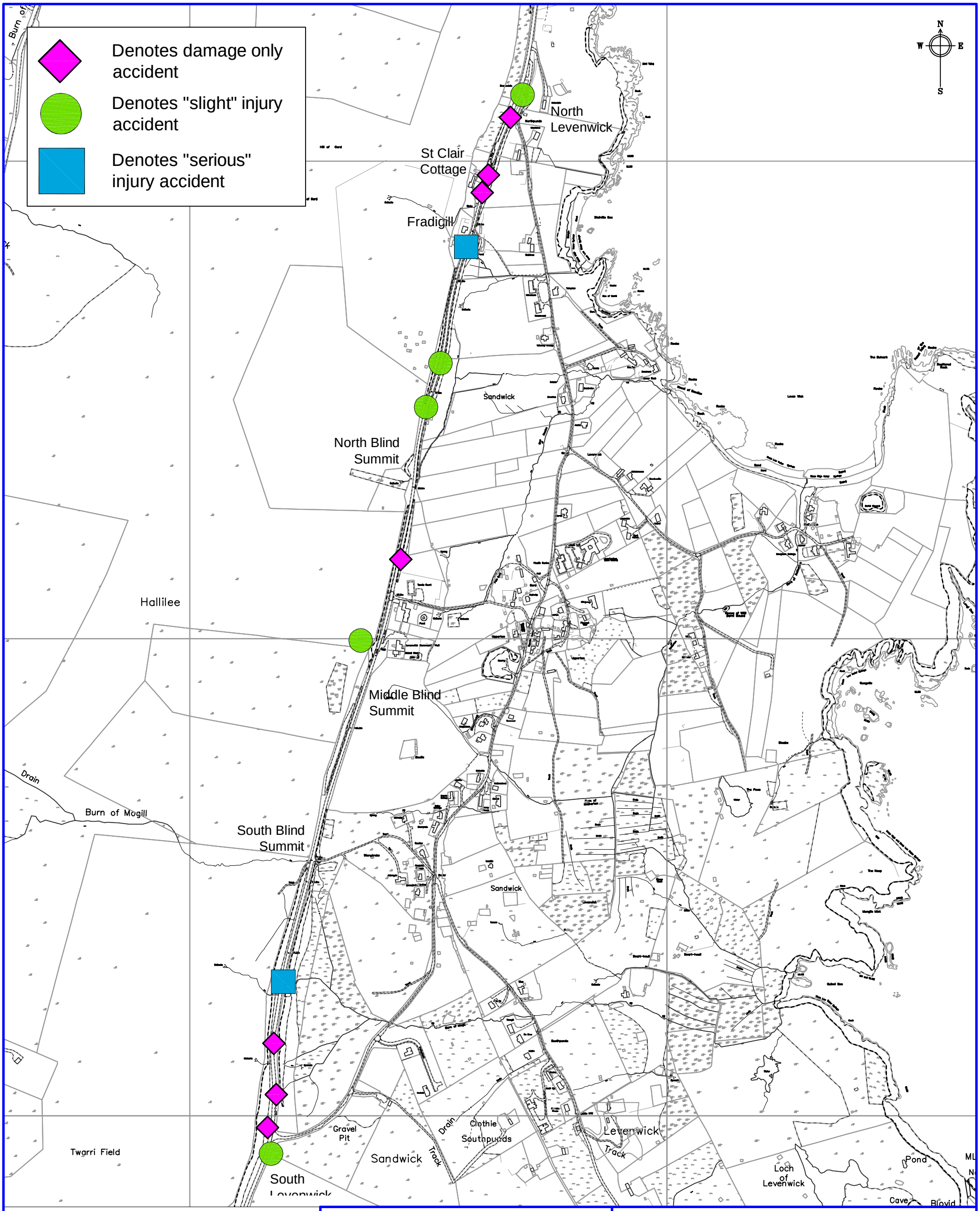
Appendix 1 "A970 Levenwick: Road Accident Locations Jan 2000 to Dec 2013"

Background Documents

None

END

File Ref: FILE



Scheme:
A970 Levenwick South to North Junctions

Title:
Traffic Accident Locations from Jan 2000 to Dec 2013

Shetland Islands Council

Traffic & Road Safety Section, Roads Service
Department of Infrastructure Services
Grantfield, Lerwick, Shetland

Tel: 01595 744866 Fax: 01595 744869

Date:	Drawn:	Checked:	Scale:
26/5/2015	N.E.H.		N.T.S.

Drg No: APPENDIX 1

Rev:

Shetland Islands Council

Environment and Transport Committee **15 June 2015**

Exception to Contract Standing Orders for Work on Ferries	
ISD-17-15-F	
Director Infrastructure Services	**Infrastructure Services Department**

1.0 Summary

1.1 This report requests that the Environment and Transport Committee note the Single Sourcing of work without it being tendered.

2.0 Decision Required

2.1 That the Committee NOTES an exception from Contract Standing Orders for the planned overhaul of an Aquamaster Thruster. This report is for noting only.

3.0 Detail

3.1 The Council's Contract Standing Orders require competitive tendering where the estimated value of goods, works and services is in excess of £10,000. Where the estimated cost is equal to or greater than £50,000, appropriate advertising would apply in accordance with the Contract Standing Orders.

3.2 Standing Orders allow single sourcing "where the Sponsor has satisfied the Director of Corporate Services that the requirement is not readily obtainable from more than one supplier, service provider, or contractor, and it can be demonstrated that no equivalent is available"; For Contracts with an estimated value below £50,000 then the sponsor only has to satisfy line management of the appropriate service.

3.3 One of the m.v."Dagalien's" Aquamaster thrusters was due for major overhaul as part of the planned maintenance system and manufacturers recommendations. The thruster is manufactured by Rolls Royce. During the drydocking the thruster was removed and replaced with the spare. The thruster which is removed has then to be sent for overhaul.

3.4 As Dagalien is a "class" vessel, the MCA requires that this work must be carried out by the original manufacturer or an approved service agent, and all parts must be original manufacturer's parts. The Director

of Infrastructure Services, in consultation with Corporate Services, agreed that the Service should single source by using Rolls Royce, as the original manufacturer rather than through competitive tendering as no other supplier could tender for these works due to the following restrictions follows:

- When the thruster is changed out a Rolls Royce Service engineer is required, because this satisfies Lloyds register and also maintains the warranty provided by Rolls Royce.
- Parts and Labour for the major overhaul are to be completed by Rolls Royce, as required by the MCA to maintain class, and the thruster will be sent to their facilities.

3.5 The cost of the overhaul is estimated to be:

- Labour for overhaul £55,000.
- Parts for overhaul £67,869.78 as there may be unexpected wear/damage, once the thruster is dismantled and inspected, there is a potential for costs to increase.
- Engineer for commissioning replacement thruster in Lerwick is estimated to cost around £8,000 including expenses.
- The transportation costs to the Rolls Royce Facilities will also be included in the final invoice.

4.0 Implications

Strategic

4.1 Delivery On Corporate Priorities – Development of a sustainable Inter Island Ferry Service contributes to the "Stronger" section of the Community Plan and also to the Corporate aim to use resources sustainably.

4.2 Community /Stakeholder Issues – Communities and Stakeholders are not affected by this issue.

4.3 Policy And/Or Delegated Authority – In accordance with Section 2.3.1 of the Council's Scheme of Delegations the Environment and Transport Committee has functional responsibility for Ferry Services. The Council's Contract Standing Orders section 2(vi) require all exceptions to be reported to the relevant Service Committee within 6 months of the exception being made.

4.4 Risk Management – There is a risk to the economical and social well being of the island communities if ferries cannot be returned to service as quickly as possible following technical problems, overhauling the thruster maintains a spare for any breakdown or future drydocking.

4.5 Equalities, Health and Human Rights – There are no Equality, Health or Human Rights implications.

4.6 Environmental – There are no Environmental implications.

Resources

4.7 Financial

The cost of the overhaul is estimated to be:

- Labour for overhaul £55,000.
- Parts for overhaul £67,869.78 as there may be unexpected wear/damage, once the thruster is dismantled and inspected, there is a potential for costs to increase.
- Engineer for commissioning replacement thruster in Lerwick is estimated to cost around £8,000 including expenses.
- The transportation costs to the Rolls Royce Facilities will also be included in the final invoice.

This is met from the maintenance budget for the m.v "Dagalien".

4.8 Legal

There is a legal requirement for Ferry Services to comply with EU Procurement Regulations and Council Contract Standing Orders.

4.9 Human Resources

The only Human Resources implications are the resource required to ensure compliance.

4.10 Assets & Property

N/A

5 Conclusions

5.1 In order for the Council to comply with MCA requirements for a class vessel, works must be undertaken by the manufacturer of the parts or an approved service agent, and all spare parts sourced from the manufacturer. The tendering of this work could not provide competitive tenders because the market is restricted to Rolls Royce or their Service Agents (This would be Rolls Royce within the UK).

For further information please contact:
Maggie Sandison Director Infrastructure Services
01595 744851
4 June 2015

END