# **ANNEX E**

**BRESSAY LINK** 

OPTION GENERATION AND INITIAL APPRAISAL WORKSHOP REPORT



# **Bressay Link**

# STAG Options Generation and Initial Review

**Workshop Report** 

December 2007



# Report

# ZetTrans

**Bressay Link STAG Workshop: Options Generation and Initial Appraisal** 

December 2007

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# Report

#### ZetTrans

# Bressay Link STAG Workshop: Options Generation and Initial Appraisal

For and on behalf of Natural Capital Ltd.

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Signed:

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Date: 15 January 2008

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#### PURPOSE OF THE WORKSHOP 1

#### **PREAMBLE**

The Scottish Transport Appraisal Guidance (STAG)<sup>1</sup> is underpinned by the core belief that good planning and appraisal result in good transport proposals. The STAG process is objective led and an output of the first workshop (22.11.07) was draft planning (scheme) objectives to be used in the appraisal of options for the link<sup>2</sup>. These draft objectives were evolved initially at the workshop from a sound understanding of relevant issues related to the transport link between Lerwick and Bressay and also taking into account the Government transport objectives (see Appendix C of the first workshop report) and other relevant committed objectives (national and local). The objectives were subsequently combined and sorted by the project team and discussed and agreed (with minor amendments) at the Bressay Link Group meeting (30.11.07).

The purpose of the second workshop was:

- to refine and agree the draft options;
- to generate options which could help resolve the transport issues which have been raised at the first workshop and in other feedback from consultees;
- undertake an initial appraisal of the options against the agreed objectives as a first part of the Part 1 STAG<sup>3</sup> appraisal.

Any option which did not meet the agreed objectives in a satisfactory manner would be rejected at this early stage. Those options which met the objectives would be taken through the full Part 1 STAG appraisal.

#### 1.2 THE WORKSHOP

The workshop was held in Sound Public Hall. All participants or their representatives invited to the workshop attended - some 15<sup>4</sup> people. A list of attendees with contact details is included in Appendix A.

The workshop ran from 9.30am to about 3.00pm. It was facilitated by Dr Annie Say of Natural Capital with help from Emma Perring of ZetTrans. Annie is a trained facilitator who frequently facilitates workshops and other participative processes for projects including transport related proposals. Natural Capital has worked in Shetland on a range of projects and the company has a good understanding of local and strategic issues.

#### 1.3 LAYOUT OF THE WORKSHOP REPORT

The remainder of the report is structured as follows:

- Section 2 sets out the format which was used for the workshop;
- Section 3 presents the feedback from the issues exercises collated in plenary sessions;

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<sup>&</sup>lt;sup>1</sup> STAG: Scottish Transport Appraisal Guidance, Scottish Executive, 2003.

<sup>&</sup>lt;sup>2</sup> Bressay Link STAG Strategic Issues and Objectives: Workshop Report November 2007. Natural Capital for ZetTrans

<sup>3</sup> STAG includes a two part appraisal. In the first options are screened against the planning objectives

and the Government objectives and other relevant objectives are taken into account. Those which meet these go forward to further detailed appraisal in Part 2 <sup>4</sup> Numbers varied during the day

- Section 4 makes recommendations for the way forward.
- Appendix A is a list of the people who attended the workshop
- Appendix B includes the Lerwick Port Authority's key strategic objectives
- Appendix C presents the planning objectives as refined after the workshops
- Appendix D includes the individual group feedback from the appraisal exercise
- Appendix E has a copy of a sample STAG Part 1 Appraisal Summary Table

# 2 WORKSHOP

# 2.1 INTRODUCTION

The workshop format and agenda is summarised in this section. Group exercises are described and references given to outputs.

# 2.2 WORKSHOP AGENDA

The workshop agenda as designed is presented below.

<i>Ag</i> •	enda Item  COFFEE  Welcome; Introductions and Introduction to  Workshop	Lead AW	<i>Time</i> <sup>5</sup> From 9.00am 9.15-9.25am (10mins)
•	Recap on STAG Process	AS	9.25-9.35am (10mins)
•	Workshop Agenda and for the Day	AS	9.35-9.45am (10mins)
•	Refined Draft Planning Objectives (PowerPoint and handout and description of process and brief group description) Reminder of Government Transport Objectives Any other relevant Objectives?	AS/EP	9.45-9.55am (10mins)
•	Agreeing Final Planning Objectives	AS	9.55-10.05am (5mins)
•	Options (Brainstorm Long List in Framework of relevant Issues and Objectives)	AS	10.05-10.30am (25mins)
•	Refine Long List of Options (Rapid Group Discussion-have we forgotten anything) BREAK	AS	10.30-10.45am (10mins) 10.45-10.55am (10mins)
•	Appraising Options (Handout - Planning Objectives and STAG criteria) (Work in Groups to appraise options against planning objectives using sheets; then consider effects in context of Government objectives)  If this is too long start pm session-check progress and interest	AS	10.55-12.25am (90mins)
•	Resume of Morning Session	AS	12.25-12.30am (5mins)
•	LUNCH Group Part 1 Appraisal of Options (work through options and complete using PowerPoint-screen out any no-goers and identify those for STAG Part 1 appraisal against Government objectives-run through if time)	AS/EP	12.30-1.00pm 1.00-2.40pm (100mins)
•	Options for full Part 1 and Part 2 Appraisals – Resume-show appraisal tables on PowerPoint Summary and Way Ahead - funding checks; Part 1 feedback; detailed work; consultancy requirements; etc	AS/EP AS/MC	2.40-2.50pm (10mins) 2.50-3.00pm (10mins)

<sup>&</sup>lt;sup>5</sup> Agenda as issued at the beginning of the workshop. Timings therefore approximate

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#### 2.3 Workshop Exercises

#### 2.3.1 Introduction

The workshop was designed to be interactive and to provide all participants with opportunities to share ideas, in groups and also in plenary sessions. The outputs from all workshop exercises were collated on flipcharts during the workshop (participants' contributions in their own words and those from plenary sessions) and are presented in this report (see Section 3 and Appendix D).

The ideas expressed at the workshop were those of individuals and whilst they may be representative of some organisations they were not necessarily the views of all those present. In plenary sessions the facilitator sought to find common ground and where this was not possible to record the different views.

#### 2.3.2 Workshop Introduction

Allan Wishart<sup>6</sup> welcomed everyone to the workshop and all present introduced themselves. The facilitator gave a brief overview of the first workshop<sup>7</sup> and other work to date, outlined the purpose of the workshop and introduced the agenda. It was explained that the format was again one designed to encourage all to participate and that all points raised would not be attributed to individual participants or groups.

The Lerwick Port Authority had provided their summary objectives subsequent to the first workshop and these are included in this report in Appendix B for information.

The facilitator reminded the workshop participants that the overall aim of the STAG process (as agreed with the Bressay Link Group) is:

'To identify means of providing sustainable efficient transport links between Bressay and mainland Shetland for the long-term and identify the most appropriate measures to carry forward to implementation for the benefit of Shetland as a whole'.

As in the first workshop it was important to return to this overall aim throughout the day to ensure that the outputs underpinned the needs of this particular study.

#### 2.3.3 Agreeing the Refined Draft STAG Planning Objectives

In the first part of the STAG appraisal options will be screened against 'planning objectives' (see Section 1.1). Those options which do not meet specific local objectives will be sieved out to avoid unnecessary use of time and resources. Setting and agreeing objectives is thus a critical task in the STAG process.

Following the first workshop the project team considered all the draft objectives which each group at the workshop had produced (see Section 3.6 of the first workshop report) and combined and sieved these. These were then discussed at the November Bressay Link Group meeting (see Section 1.1) and the agreed output is included Appendix C.

At the workshop participants were asked to review the refined objectives as presented in Appendix C and to comment on these following discussions at each table. Emma Perring also reminded everyone of the key issues that had been raised to date in order that participants could check that the objectives covered all key issues. These issues are: -

-

<sup>&</sup>lt;sup>6</sup> Councillor and Chair of ZetTrans

<sup>&</sup>lt;sup>7</sup> All at that workshop should have received a copy of the first workshop report. Additional copies can be obtained by email. Request to emma.perring@shetland.gov.uk

- Accessibility
  - Employment
  - o Ferry/Bus Integration
- Current Fare Levels
  - High!- Business Costs
- Business Constraints
  - o Time Loss
  - Constraint on Development
- Service Delivery
  - o Ageing Population
  - Adequacy of Care
  - Out of Hours Care
- Long Term Impacts
  - Lack of Economic Development
  - High Costs of Access
  - Sustainability of Ferry

Following the group discussions one change was suggested to the draft objective Economy 4 (see Section 3.2). This change was agreed and used in the subsequent appraisal tables and the change included in Appendix C.

# 2.3.4 Options for the Link

Participants were asked to brainstorm options for the link taking account of the issues and the agreed planning objectives. Participants were encouraged to be open-minded and pragmatic and to think of reasonable alternatives. They were asked to think of options relevant to the scale of the problems which had been raised but also to think widely and not just of the obvious. It was also suggested that some issues might best be met by a combination of measures.

Each group spent some time in discussion and then ideas were fed back in plenary (see Section 3.3). A check was made that the options raised in meetings to date<sup>8</sup> had been covered. These were:

- Retain the 'Leirna'
  - Different shift/crew configurations
  - o More hours, more efficient
  - o Possible re-engine
- Bridge
- Lift
- o Swina
- Current high level bridge plans
- Tunnel
- Chain ferry
- Causeway
- Fixed link and central passenger ferry
- Fixed link multi purpose, with for example, cruise ship berthing, tidal energy etc.

It was considered that all these options had been covered in the list collated in the plenary feedback session (see Section 3.4).

<sup>&</sup>lt;sup>8</sup> See Bressay Link First Stage Consultation Report. October 2007. ZetTrans

# 2.3.5 Appraising Options

The next exercise comprised the majority of the workshop. The list of options created in the previous exercise was rationalised (see Section 3.4) and any further option which it was considered did not meet the objectives and which the workshop participants agreed should not be taken forward to STAG Part 1 full appraisal were identified (see Tables 3.1 and 3.2 and Section 4).

Each remaining option (or as many as time allowed) was appraised against the agreed planning objectives. Each group was provided with a copy of the Government Objectives for reference. Tables were provided to record findings. The completed group tables are included in Appendix D<sup>9</sup>.

The options were then appraised in plenary session and any different opinions discussed. The agreed tables are included in Section 3.5.

Time allowed only brief consideration to be given to how each option met the Government transport objectives and issues to do with implementability etc.

# 2.3.6 Concluding Remarks

Participants were provided with a brief summary of the day and of the proposed way ahead. The options appraisal tables will be used to input to the STAG Part 1 Appraisal Summary Tables for all those options which it was considered were worthy of this level of appraisal (see Section 4). The outcome of the STAG Part 1 appraisal would be made known to the participants including those options recommended for detailed appraisals in STAG Part 2. ZetTrans would take on necessary consultancy support to assist in the Part 1 and Part 2 appraisals.

All participants were encouraged to email any further thoughts about options to Emma Perring at ZetTrans. All participants at the workshop were told that they would be emailed a copy of the workshop report and were asked to comment if anything had been misinterpreted in it.

All participants were thanked for attending and contributing to the strategic workshop and for their useful contributions.

 $<sup>^{9}</sup>$  Each option was given a number for ease of comparison of findings (see Table 3.1)

#### 3 OUTPUTS FROM THE WORKSHOP

#### 3.1 Introduction

This section of the report presents the outputs from the plenary sessions. Individual group outputs (not attributed) from the appraisal exercise are included in Appendix D. Outputs are as recorded at the workshop.

#### 3.2 REFINING OBJECTIVES

One change was suggested to the draft planning objectives which was accepted by the participants (see Section 2.3.3). This was to the objective Economy 4 which had read 'To provide a link which is affordable and sustainable for users and funders' and was amended by splitting into two objectives as follows:

- Economy 4: To provide a link which is affordable for users
- Economy 5: To provide a link which is sustainable for funders and is value for money

The agreed planning objectives are included in Appendix C.

#### 3.2.1 Ideas Parked for Further Discussion at a Future Date

The discussion about the detail of some objectives raised issues which it was considered should be discussed further by the Council and others at an appropriate time. It was considered these issues could not be resolved at the workshop but were worthy of record for the future.

- Promote economic growth- different options have the ability to have significant impacts on economic growth in Shetland in rather different ways
- Centralisation / decentralisation-a fixed link may further focus development on Lerwick whereas continuation of the ferry service may better support decentralisation
- Housing issues-is more land available in Lerwick or is it not?-appear to be mixed messages
- What is 'affordable' SIC to better define affordability and its implication to the detailed options appraisal (STAG 2)
- Need to look at options in Bressay as well as between Bressay and the islands

# 3.3 ADDITIONAL OPTIONS

The following options related to the link were suggested in the plenary session to address the issues <sup>10</sup> (see Section 2.3.4):

# **Ferry Services**

- More regular ferry services
- Less costly ferry service
- Collect fares on shore fewer crew? pay and display
- Encourage car sharing to reduce passenger numbers to reduce crew requirements and frequency
- Hydrogen powered ferry
- Electric ferry
- Ferry
- Extend operating hours from 7 to 11 (1am), earlier operation, 24 hour

<sup>&</sup>lt;sup>10</sup> The options are as recorded at the workshop but have been grouped to facilitate the STAG Part 1 work

- Increase frequency shuttle
- Fares zero, half, variant fares
- Chain ferry
  - Existing ferry link
  - Holm of Cruester
  - Point of Scatland

# **Fixed Link Options: Tunnel**

- Tunnel
  - Point of Scatland
  - Rova Head to North end
- Drill and blast
- Immersed tube
- Bored tunnel
- Double lane tunnel with cycle track and pedestrian facilities
- Immersed tube lay along coast create landfall
- Causeway and tunnel

# **Fixed Link Options: Bridge**

- High level bridge shortest crossing
- Full causeway
- Transporter bridge
- Causeway and opening bridge and power generation

#### Public Transport Enhancements (which could be combined with any option)

- Improve public transport in Bressay
- Taxi, minibus, dial a ride
- Bus link to ferry and on ferry
- Water taxi
- Passenger ferry
- Wider service-demand response
- Cycle racks on ferry

#### **Other Transport Options**

Helicopter service

#### **Additional Options**

- Causeway and chain ferry
- Existing ferry or chain ferry and peak time 'taxi' for passengers
- Fixed link and passenger ferry
- Fixed link and very regular bus service
- Tourist opportunities with boat service
- Transport subsidy (to each resident to use as wish)
- Use causeway for cruise berth

#### 3.4 RATIONALISATION OF OPTIONS

The list of options generated at the workshop (see above) was drawn together and options numbered for reference as shown in Table 3.1. The workshop participants discussed and screened the options and decided which met the planning objectives sufficiently well to be worthy of further consideration (see Tables 3.1 and 3.2). The appraisal of remaining options is described in Section 3.5.

**Table 3.1 Findings of Initial Appraisal of Options v Planning Objectives** 

Option	Description	Comment	Meets Planning Objectives?
1	Chain ferry		✓
2	Reconfigured ferry service (existing vessel)	All options (which would be considered in detail at STAG2)	<b>✓</b> ✓
3	Passenger ferry (or also a ferry service)	May be in combination with other options (eg passenger ferry)	<b>✓ ✓</b>
3a	Water taxi	Included in 3	Yes if in combination with another link option
4	Electric ferry	Need more information and to be considered as a ferry option-may be worthy of consideration as a ferry replacement option in future	Yes but to be considered as ferry option
5	Hydrogen ferry	Need more information and to be considered as a ferry option-may be worthy of consideration as a ferry replacement option in future	Yes but to be considered as ferry option
6	Ferry – cheaper to funders and users (less crew etc), less passengers, more frequent	See no 2	<b>√</b> √
7	Improve public transport  Bus links Taxi DRT Mini bus etc	To be considered with all options	<b>√</b> √
8	Helicopter service	Not considered a viable alternative to ferry	×
9	Transport subsidy to local people	Only considered a viable option in combination with other options eg reconfiguration of ferry service-could be considered as a sensitivity test at later stage	X? Only viable with other options
10	Increase provision for cyclists and pedestrians	To be considered with all options	<b>√</b> √
11	Tunnel (drills and blast bore etc)	All options to be considered further	<b>✓ ✓</b>
12	Immersed tube	Also in combination with part causeway	<b>√</b> √
13	Causeway (and pier/energy generation)	Doesn't meet safety objectives (access north for lifeboat) Option would not meet LPA objectives Environmental impacts?	×
14	Opening bridge	Worthy of some further consideration although LPA has reservations	√ <i>1</i> ?
15	Causeway and tunnel (north end)	Include with no 11	Yes but to be considered as tunnel option
16	High level bridge	Worthy of some further consideration although LPA has reservations	√/?
17	Transporter bridge	Not considered worthy of further consideration because of constraints to harbour and not as efficient as current provision	×

# 3.5 APPRAISAL OF OPTIONS

The findings of the group appraisals of options (see Section 2.3.5) are included in Appendix D. The following option summary sheets were completed in the plenary session:

- Do Minimum and Options 1 (chain ferry) and 2 (reconfigured ferry service) summarised in Table 3.2a.
- Options 8 (helicopter service); 13 (causeway) and 14 (opening bridge) summarised in Table 3.2b.
- Options 11 (tunnel options) and 16 (high level bridge) summarised in Table 3.2c.

The completed summaries are presented below.

# Table 3.2a Bressay STAG: Initial Appraisal of Options Worksheets Feedback in Plenary

Options	Do Minimum No1 Chain Ferry			No 2 Reconfigured Ferry: assume 24 hrs, free, shuttle		
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
Economy: Promote eco				rt services, infrastructure a		mise their efficiency
Ec1: To enhance the transport infrastructure between Bressay and Mainland Shetland to ensure the long-term sustainability of the Bressay community.	No	Not enhancing, not changing	Uncertain	Depends on timing, size and crewings. Journey time could be longer, depending on location, meaning less frequency than current option. Insufficient information	Yes	
Ec2: To provide a link which does not constrain Lerwick Harbour's current activities or its future expansion	Yes	Doesn't not allow access to the land on Bressay – LPA may consider development in the long-term Require terminal and marshalling for Filla	Uncertain, query no	Need more understanding of operation	Yes	Greater frequency could lead to busier navigational situation, as increase in traffic. Doesn't hamper, require more management
Ec3: To provide and promote a link which supports a stable and sustainable economy and enhances employment opportunities	No	No change	Yes No	If more frequent  If leads to less crewing requirements	Yes	
Ec4: To provide a link which is affordable for users	No	Too expensive for users	Unknown	Yes, if cheaper	Yes	
Ec5: To provide a link which is sustainable for funders, and value for money	No Don't know	Council need for savings, makes financial sustainability more challenging. Need for SIC	Unknown	Yes, if cheaper. Location is important, depending on onshore requirements	Don't know	On the whole, less revenue would be a less sustainable situation. Scottish Government

Options	Do Minimum		No1 Chain Ferry		No 2 Reconfigured Ferry: assume 24 hrs, free, shuttle	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
		priorities.				taking off tolls, RET? Affordability is determined by 'value' of accessibility
				and increasing the accessi		work
Ac1: To provide and maintain an accessible, efficient, cost effective transport network for Bressay	No	Because not accessible all the time etc.	Yes?	Depends on configuration	Yes	
Ac2: To provide a link which enables the Bressay community equal opportunities to access employment, services and facilities as other communities in Shetland	No	Shift work, employment	Potentially Yes	Depends on frequency and location	Yes	
Ac3: To provide a link which does not restrain opportunities for housing in Bressay	Uncertain	For private housing – constraints on construction For social housing – lack of demand Issues around uncertainty of link	Uncertain	For private housing – constraints on construction For social housing – lack of demand Issues around uncertainty of link	Yes	
Ac4: To maintain and improve accessibility and response times for emergency services and other service providers, including out-of-hours	Don't Know	Yes for emergency services No for out of hours and Social Care	No	If slower and less frequent. Possible hold up if on wrong side	Yes	There all the time. There is weather constraint, which could be overcome with a re-engining

Options	Do Minimum		No1 Chain Ferry	No1 Chain Ferry		No 2 Reconfigured Ferry: assume 24 hrs, free, shuttle	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	
needs.							
	ur environment and impr iption of resources and e		d investing in public trans	sport and other types of e	fficient and sustainable t	ransport which minimise	
Env1: To develop a link to Bressay that recognises and protects Shetland's unique environment and safeguards the natural, cultural and social heritage of the island	Yes	No change	Yes	No change	Yes		
Env2: To provide a link that seeks to minimise carbon emissions and the use of finite resources	Uncertain	Need to know more about ferry's carbon footprint.	Ditto do minimum	+ less carbon emissions?	No	More ferry use, more car use. Complicated	
Env3: To promote a link that can accommodate current and future patterns of development and land use in Bressay	Uncertain		Ditto do minimum		Yes	Encourages more people	
	of journeys by reducing a	accidents and enhancing		trians, drivers, passenge	rs and staff		
S1. To ensure the link continues to maintain and enhance community safety and health	Yes		Uncertain, to less good	Need more information on operation – believe that would hamper as does have fixed structure.	Yes	Health impact if easier for people to take vehicles. Could pay for vehicles? Could lead to capacity problems. Problems with shuttle, as don't run to timetable	
S2. To ensure the link	Yes		As above		Yes	More vehicles could	

Options	Do Minimum		No1 Chain Ferry		No 2 Reconfigured Ferry: assume 24 hrs, free, shuttle	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
does not compromise maritime safety or road safety	tegration by making iou	urney planning and ticketing	n easier and working to e	nsure smooth connection	s between different form	make it less safe – double vehicles is double safety. Greater frequency could lead to busier navigational situation, as increase in traffic. Better access for police. If more frequent would assist 8.30 'dash' for ferry
Int1: To provide a link which integrates with all Shetland's transport services and infrastructure, including air, ferry, bus, cycling and walking opportunities	No	A lot of issues around access	Depends on frequency of service		Yes	
Int2: To promote a transport link that facilitates the delivery of other committed plans and strategies	Don't know	Planning zones – not taking opportunities up Council's decentralisation policy	Don't know	Planning zones – not taking opportunities up Council's decentralisation policy	Uncertain	

# Table 3.2b Bressay STAG: Initial Appraisal of Options Worksheets Feedback in Plenary (continued)

Options	No 8 Helicopter		No 13 Causeway		No 14 Causeway with Opening Bridge	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
				t services, infrastructure		e their efficiency
Ec1: To enhance the transport infrastructure between Bressay and Mainland Shetland to ensure the long-term sustainability of the Bressay community.	No	Can't take cars. Capacity danger  Does it have any role in combination with any other options? — would have to make sure it was available,	Yes		Yes	
Ec2: To provide a link which does not constrain Lerwick Harbour's current activities or its future expansion		therefore expensive	No	Split port in 2 – increased costs, need 2 sets of tugs, boats steam around Bressay to get from one end to the other	No?	Key issues – conflicts over rights of way (road or boats); width of bridge would have to satisfy LPAs requirements for shipping and future improvements in navigational channel Swing bridge set at height for smaller vessels etc. but would have to be swung for larger/ most shipping. Under control of LA and LPA
Ec3: To provide and promote a link which supports a stable and sustainable economy and enhances			No	Loss of employment in harbour, constrain port. e.g. decommissioning, and other industry needing	Yes	Reliability, location, costs etc>??? Original plans – maintenance costs prohibitive

Options	No 8 Helicopter		No 13 Causeway		No 14 Causeway w	ith Opening Bridge
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
employment opportunities				unrestricted movement. Enhances access to employment for people on Bressay		
Ec4: To provide a link which is affordable for users			Yes		No?	Safety issues over problems happening when moving. Can be lower therefore could be closer to town. Uncertainties as to when open etc  Advantage would be that if broken, boats would have another way out – unlike in estuaries
Ec5: To provide a link which is sustainable for funders			Yes			Maintenance costs may be prohibitive. Nearly costs of high bridge and higher maintenance costs. Cruister to North Ness would make it much more accessible. North Ness isn't possible to be developed now
	social inclusion by cor	nnecting remote and disa	~	and increasing the accessi	bility of the transport	network
Ac1: To provide and maintain an accessible, efficient,			Yes			

Options	No 8 Helicopter		No 13 Causeway		No 14 Causeway with 0	Opening Bridge
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
cost effective transport network for Bressay						
Ac2: To provide a link which enables the Bressay community equal opportunities to access employment, services and facilities as other communities in Shetland			Yes			
Ac3: To provide a link which does not restrain opportunities for housing in Bressay			Yes			
Ac4: To maintain and improve accessibility and response times for emergency services and other service providers, including out-of-hours needs.			Yes	Other than severe weather (e.g. Churchill Barriers, but unlikely to have same wave heights)		
emissions and consum	ur environment and impropried of resources and e	ove health by building and energy			fficient and sustainable tr	ansport which minimise
Env1: To develop a link to Bressay that recognises and protects Shetland's unique environment and safeguards the natural, cultural and social heritage of the island			No	Impact on harbour's environment – natural flushing, no maintenance dredging required at present. If this was required would lead to costs		

Options	No 8 Helicopter		No 13 Causeway		No 14 Causeway with 0	Opening Bridge
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
Env2: To provide a link that seeks to minimise carbon emissions and the use of finite resources			No	Increased shipping and increased car use		
Env3: To promote a link that can accommodate current and future patterns of development and land use in Bressay			Yes			
Safety: Improve safety	of journeys by reducing a	ccidents and enhancing	personal safety of pedes	strians, drivers, passenge	rs and staff	
S1. To ensure the link continues to maintain and enhance community safety and health				Concerns over community safety? Better access to health		
S2. To ensure the link does not compromise maritime safety or road safety			No	Compromise maritime safety. Possible build up of shipping. Lifeboat on one side or another.		
Integration: Improve in	tegration by making jourr	ney planning and ticketing	g easier and working to e	ensure smooth connection	s between different forms	s of transport
Int1: To provide a link which integrates with all Shetland's transport services and infrastructure, including air, ferry, bus, cycling and walking opportunities	, ,,		Yes			·
Int2: To promote a transport link that facilitates the delivery			No	Not with LPA		

Options	No 8 Helicopter		No 13 Causeway		No 14 Causeway with Opening Bridge	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
of other committed plans and strategies						

# Table 3.2c Bressay STAG: Initial Appraisal of Options Worksheets Feedback in Plenary (continued)

Options	No 11 Tunnel		No 16 High Level Bridge			
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
Economy: Promote eco	nomic growth by building	g, enhancing, managing a	and maintaining transport	t services, infrastructure a	and networks to maximise	e their efficiency
Ec1: To enhance the transport infrastructure between Bressay and Mainland Shetland to ensure the long-term sustainability of the Bressay community.	Yes	Future constraint on	Yes	Dananda an aiza (ua		
Ec2: To provide a link which does not constrain Lerwick Harbour's current activities or its future expansion	Yes	Future constraint on depth that can dredge to, so might require advance dredging to future proof	INO	Depends on size (vs practicable cost) and impact on future developments. Navigation – height and width are more important than depth) increase in draft not developing so fast – sea drafts currently up to 9m with 10m future requirement for new		

Options	No 11 Tunnel		No 16 High Level Bridge			
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
				vessels. Unlikely to be able to dredge the area post construction so might require advance dredging to future proof		
Ec3: To provide and promote a link which supports a stable and sustainable economy and enhances employment opportunities	Yes	Detrimental to ferry posts. Maintenance required would be FTE, 1-2? Vs opening up other opportunities	Yes	Adverse affect on port Ferry jobs Vessel operations		
Ec4: To provide a link which is affordable for users	Yes		Yes	If free		
Ec5: To provide a link which is sustainable for funders	Yes		Unknown			
Ac1: To provide and maintain an accessible, efficient, cost effective	social inclusion by conne Yes	Depend on location and whether able to enable cyclists and pedestrians	antaged communities ar Yes	nd increasing the accessit	oility of the transport netv	vork
transport network for Bressay  Ac2: To provide a link which enables the Bressay community equal opportunities to	Yes		Yes	Depends on infrastructure that went with it – decrease in frequency		
access employment, services and facilities as other communities				of 'transport'		

Options	No 11 Tunnel		No 16 High Level Bridge			
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
in Shetland						
Ac3: To provide a link	Yes		Yes			
which does not						
restrain opportunities						
for housing in Bressay	V		\/	Donatri ati an assitta		
Ac4: To maintain and	Yes		Yes	Restriction with		
improve accessibility and response times				weather – plans included wind		
for emergency				sheilding		
services and other				Sheliding		
service providers,						
including out-of-hours						
needs.						
	ur environment and impro	ove health by building an	d investing in public tra	ansport and other types of e	fficient and sustainable	transport which minimise
	ption of resources and e		J 111 J			
Env1: To develop a		Nothing visible, still	No	Visual impact?		
link to Bressay that		feel like an island		Iconic?		
recognises and						
protects Shetland's				Loss of island status		
unique environment						
and safeguards the						
natural, cultural and						
social heritage of the						
island	l la contoia		No/Uncertain	in an and an una		_
Env2: To provide a link that seeks to	Uncertain		No/Uncertain	increased car use		
minimise carbon				versus ferry, increased vessel		
emissions and the use				movements		
of finite resources				movements		
Env3: To promote a			Yes			
link that can						
accommodate current						
and future patterns of						

Options	No 11 Tunnel		No 16 High Level Bridge			
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
development and land use in Bressay						
		ccidents and enhancing p		trians, drivers, passenge	rs and staff	
S1. To ensure the link continues to maintain and enhance community safety and health	yes		Same as tunnel	Concerns over community safety? Better access to health		
S2. To ensure the link does not compromise maritime safety or road safety	yes		No	Compromise maritime safety – air draft, problem of structures in sea. Coastguard issues		
	egration by making journ	ey planning and ticketing	easier and working to en	nsure smooth connection	s between different form	s of transport
Int1: To provide a link which integrates with all Shetland's transport services and infrastructure, including air, ferry, bus, cycling and walking opportunities			Yes	Pedestrians might not be keen to walk across it		
Int2: To promote a transport link that facilitates the delivery of other committed plans and strategies			No	Not with LPA		

#### 4 RECOMMENDATIONS ON THE WAY FORWARD

#### It is recommended that:

- Options 8 (helicopter service); 13 (causeway) and 17 (transporter bridge) are not considered further.
- The following options are taken through full Part 1 STAG appraisal:
  - Option 1 (chain ferry);
  - o Option 2 (including Option 6) (reconfigured ferry service);
  - Option 3 and 3A (passenger ferry and water taxi);
  - Option 7 (improvements to public transport);
  - o Option 10 (improved provisions for cyclists and pedestrians);
  - Option 11 (tunnel options-including Option 15 (causeway and tunnel));
  - Option 12 (immersed tube tunnel);
  - o Option 14 (an opening bridge);
  - Option 16 (a high level bridge).
- Options 4 (electric ferry); Option 5 (hydrogen ferry) and Option 9 (transport subsidies) are considered further in STAG Part 2 if the ferry options are taken forward to this more detailed appraisal.
- Options 7 (improvements to public transport) and Option 10 (improved provisions for cyclists and pedestrians) are considered in combination with other options.
- Further consideration is given on how any option might 'fit' with stakeholder objectives.
- Further consideration is given to the definition of 'affordability' in Shetland by ZetTrans and the Council.
- The Council confirm what available land there is in Lerwick for housing and development and whether there is a shortfall as there appears to be mixed ideas at present.
- The Part 1 STAG appraisals are completed as soon as possible drawing on additional expertise to inform these as required (eg in connection with the chain ferry etc).
- Those options which meet the objectives and other criteria in Part 1 are taken forward to Part 2 and that appropriate expertise is commissioned to assist in the detailed appraisals.
- The Council considers the strategic landuse transport planning effects of the preferred options as defined by the STAG Part 2 process in the light of their potential impact on Shetland's future (eg promoting centralisation/ decentralisation etc).

Appendix A

Workshop Attendees

### **Appendix A: Workshop Attendees**

Name	Organisation	Address	Email
June Porter	Community Learning and Development	Old Library centre	June.porter@shetland.gov.uk
Shona Thompson	Education and Social Care Department	Hayfield House	Shona.Thompson@shetand.gov.uk
Emma Perring	Transport/ZetTrans	11 Hill Lane	Emma.perring@shetland.gov.uk
Victor Sandison	Lerwick Port Authority	Albert Building, Lerwick	victor@lerwick-harbour.co.uk
Michael Craigie	Transport/ZetTrans	11 Hill Lane	Michael.craigie@shetland.gov.uk
David MacNae	SIC Roads	Gremista	David.macnae@shetland.gov.uk
Bessie Barron	Planning	Grantfield	Bessie.barron@shetland.gov.uk
Jonathan Swale	Scottish Natural Heritage	Stewart Building, Alexandra Wharf, Lerwick	Jonathan.swale@snh.gov.uk
John W Clark	SIC Ferries	'Leirna', Bressay	Johnclark774@fsmail.net
Theo Smith	Bressay CC	Bressay	gunnista@aol.com
Iris Hawkins	Councillor	Town Hall, Lerwick	Iris.Hawkins@shetland.gov.uk
Wendy Hatrick	NHS	Brevik House, Lerwick	Wendy.hatrick@shb.shetland.scot.nhs.uk
Anita Jamieson *	SIC Housing	Fort Road, Lerwick	Anita.jamieson@shetland.gov.uk
Katrina Wiseman *	HIE Shetland	North Ness, Lerwick	Katrina.wiseman@hient.co.uk
Allan Wishart *	Councillor	Town Hall, Lerwick	Allan.wishart@shetland.gov.uk

<sup>\*</sup> attended for half of the workshop

# Appendix B

Lerwick Port Authority's Key Strategic Objectives

#### Appendix B: Lerwick Port Authority's Key Strategic Objectives

#### The **key strategic objectives** of the Authority are:

- The management, maintenance and regulation of Lerwick Harbour.
- To continuously improve its environmental performance.
- To invest in new port facilities where a need is identified. To diversify its
  portfolio of investments and sources of income, especially where this also
  supports and strengthens its core harbour activity.
- To attract new businesses and ensure the continued satisfaction of existing customers and users, and to defend the port against unfair competition and anti-competitive practices.
- To maximise quality and value for money in all its services through continually endeavouring to make its operations cost-effective, efficient and streamlined while maintaining high standards.
- To maintain existing buildings, plant and equipment and harbour facilities in a safe and serviceable order.
- To operate safely with particular regard to ensuring compliance with any new legislative requirements within required timescales.

A full copy of Lerwick Port Authority's Strategy & Business Plan can be downloaded from the Lerwick Port Authority website at:- <a href="http://www.lerwick-harbour.co.uk/pdfs/stratbusplan.pdf">http://www.lerwick-harbour.co.uk/pdfs/stratbusplan.pdf</a>

Appendix C

Aim and Planning Objectives

#### **Appendix C: Aim and Planning Objectives**

#### **Bressay STAG: Aim**

To identify means of providing sustainable efficient transport links between Bressay and mainland Shetland for the long-term and identify the most appropriate measures to carry forward to implementation for the benefit of Shetland as a whole'.

#### **Bressay STAG: Planning Objectives** (as agreed)

**Economy:** Promote economic growth by building, enhancing, managing and maintaining transport services, infrastructure and networks to maximise their efficiency

- Ec1: To enhance the transport infrastructure between Bressay and Mainland Shetland to ensure the long-term sustainability of the Bressay community.
- Ec2: To provide a link which does not constrain Lerwick Harbour's current activities or its future expansion
- Ec3: To provide and promote a link which supports a stable and sustainable economy and enhances employment opportunities
- Ec4: To provide a link which is affordable and sustainable for users and fundersrefined at workshop into two objectives-see below
- Ec 4: To provide a link which is affordable for users
- Ec 5: To provide a link which is sustainable for funders and is value for money

**Accessibility:** Promote social inclusion by connecting remote and disadvantaged communities and increasing the accessibility of the transport network

- Ac1: To provide and maintain an accessible, efficient, cost effective transport network for Bressay
- Ac2: To provide a link which enables the Bressay community equal opportunities to access employment, services and facilities as other communities in Shetland
- Ac3: To provide a link which does not restrain opportunities for housing in Bressay
- Ac4: To maintain and improve accessibility and response times for emergency services and other service providers, including out-of-hours needs.

**Environment:** Protect our environment and improve health by building and investing in public transport and other types of efficient and sustainable transport which minimise emissions and consumption of resources and energy

- Env1: To develop a link to Bressay that recognises and protects Shetland's unique environment and safeguards the natural, cultural and social heritage of the island
- Env2: To provide a link that seeks to minimise carbon emissions and the use of finite resources
- Env3: To promote a link that can accommodate current and future patterns of development and land use in Bressay

**Safety:** Improve safety of journeys by reducing accidents and enhancing personal safety of pedestrians, drivers, passengers and staff

- S1. To ensure the link continues to maintain and enhance community safety and health
- S2. To ensure the link does not compromise maritime safety or road safety

**Integration:** Improve integration by making journey planning and ticketing easier and working to ensure smooth connections between different forms of transport

- Int1: To provide a link which integrates with all Shetland's transport services and infrastructure, including air, ferry, bus, cycling and walking opportunities
- Int2: To promote a transport link that facilitates the delivery of other committed plans and strategies

Appendix D

Individual Group Feedback

#### **Appendix D: Workshop Output**

#### **D1.1** Introduction

This appendix presents the output from each group for the appraisal exercise undertaken in the workshop (see Section 2.3.5). Plenary feedback is included in Section 3.5 of the main report.

#### BRESSAY STAG: INITIAL APPRAISAL OF OPTIONS WORKSHEET

Aim: To an provide affordable, efficient, flexible and sustainable transport link between Bressay and Mainland Shetland

#### **D1.2** Group 1

#### Group 1\_Table A

Options	1. Chain Ferry		4. Electric Ferry		5. Hydrogen Ferry	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
<b>Economy</b> : Promote econo	omic growth by building, enh	ancing, managing and main	taining transport services, in	frastructure and networks to	maximise their efficiency	
Ec1: To enhance the transport infrastructure between Bressay and Mainland Shetland to ensure the long-term sustainability of the Bressay community.	What is enhanced?	<ul><li>Further away?</li><li>Disrupted by shipping?</li></ul>				
Ec2: To provide a link which does not constrain Lerwick Harbour's current activities or its future expansion	×	<ul> <li>Minor disruption</li> </ul>				
Ec3: To provide and promote a link which supports a stable and sustainable economy and enhances employment opportunities	<b>√</b>	<ul> <li>Could do if more frequent</li> </ul>				
Ec4: To provide a link which is affordable for users	?	<ul> <li>Maybe</li> </ul>	<b>√</b>		<b>√</b>	

Options	1. Chain Ferry		4. Electric Ferry		5. Hydrogen Ferry	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
Ec5: To provide a link which is sustainable for funders and is value for money	?	maybe	<b>√</b>		<b>~</b>	
Accessibility: Promote s	social inclusion by connecting	remote and disadvantaged	communities and increasing	the accessibility of the trans	sport network	
Ac1: To provide and maintain an accessible, efficient, cost effective transport network for Bressay	?					
Ac2: To provide a link which enables the Bressay community equal opportunities to access employment, services and facilities as other communities in Shetland	<b>√</b>					
Ac3: To provide a link which does not restrain opportunities for housing in Bressay	=					
Ac4: To maintain and improve accessibility and response times for emergency services and other service providers, including out-of-hours needs.	=	● "maintain"				
Environment: Protect ou consumption of resources	r environment and improve has and energy	ealth by building and investi	ng in public transport and oth	ner types of efficient and sus	tainable transport which mir	nimise emissions and
Env1: To develop a link to Bressay that recognises and protects Shetland's unique environment and safeguards the natural, cultural and social heritage of the island	=					

Options	1. Chain Ferry		4. Electric Ferry		5. Hydrogen Ferry	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
Env2: To provide a link that seeks to minimise carbon emissions and the use of finite resources	<b>√</b>	·	√		<b>√</b>	
Env3: To promote a link that can accommodate current and future patterns of development and land use in Bressay	=					
	journeys by reducing accide	ents and enhancing persona	al safety of pedestrians, driv	ers, passengers and staff		
S1. To ensure the link continues to maintain and enhance community safety and health	=					
S2. To ensure the link does not compromise maritime safety or road safety	×	<ul><li>Maybe (maritime)</li></ul>				
Integration: Improve inte	gration by making journey p	anning and ticketing easier	and working to ensure smoo	th connections between diffe	erent forms of transport	
Int1: To provide a link which integrates with all Shetland's transport services and infrastructure, including air, ferry, bus, cycling and walking opportunities	=					
Int2: To promote a transport link that facilitates the delivery of other committed plans and strategies	=					

### Group 1\_Table B

Options	11. Drill and Blast Tunno	el	13. Causeway		14. Causeway and Ope	n Bridge
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
	omic growth by building, enh		taining transport services, in		maximise their efficiency	
Ec1: To enhance the transport infrastructure between Bressay and Mainland Shetland to ensure the long-term sustainability of the Bressay community.	<b>V</b>	<ul> <li>possibly</li> </ul>	<b>~</b>	Improved access	<b>√</b>	Improved access
Ec2: To provide a link which does not constrain Lerwick Harbour's current activities or its future expansion	·	Apart from dredging/quay side issues	×××		×	Opening bridge
Ec3: To provide and promote a link which supports a stable and sustainable economy and enhances employment opportunities	<b>✓</b>		×	Harbour jobs	√/×	(Bressay)     (effect on Harbour)
Ec4: To provide a link which is affordable for users	√/?	(Funders)     (Users: unless toll)	×	Compensation (for loss of navigation)	?	<ul> <li>Engineering assessment and requirement</li> </ul>
Ec5: To provide a link which is sustainable for funders and is value for money						
	social inclusion by connecting	remote and disadvantaged		g the accessibility of the tran	sport network	
Ac1: To provide and maintain an accessible, efficient, cost effective transport network for Bressay	<b>V</b>		<b>√</b>		<b>√</b>	
Ac2: To provide a link which enables the Bressay community equal opportunities to	<b>√</b>		<b>√</b>		<b>√</b>	

Options	11. Drill and Blast Tunne	el	13. Causeway		14. Causeway and Open Bridge	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional   Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
access employment, services and facilities as other communities in Shetland						
Ac3: To provide a link which does not restrain opportunities for housing in Bressay	<b>√</b>		<b>V</b>		<b>√</b>	
Ac4: To maintain and improve accessibility and response times for emergency services and other service providers, including out-of-hours needs.	<b>√</b>		<b>√</b>		✓	
Environment: Protect our consumption of resources		nealth by building and investi	ing in public transport and o	ther types of efficient and sus	stainable transport which m	inimise emissions and
Env1: To develop a link to Bressay that recognises and protects Shetland's unique environment and safeguards the natural, cultural and social heritage of the island	√	(apart possibly from approach roads)	×	Removes fishing effect	?	
Env2: To provide a link that seeks to minimise carbon emissions and the use of finite resources	?		?	Ferries versus vehicles (all indirectly construction)	?	
Env3: To promote a link that can accommodate current and future patterns of development and land use in Bressay	<b>V</b>		<i>'</i>		<b>√</b>	
Safety: Improve safety of S1. To ensure the link continues to maintain and enhance community	journeys by reducing accide	ents and enhancing persona	al safety of pedestrians, dri	vers, passengers and staff	<b>√</b>	

Options	11. Drill and Blast Tunn	el	13. Causeway	13. Causeway		n Bridge
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
safety and health						
S2. To ensure the link	✓		×		✓	
does not compromise						
maritime safety or road						
safety						
Integration: Improve inte	gration by making journey p	lanning and ticketing easier	and working to ensure smo	oth connections between diff	erent forms of transport	
Int1: To provide a link	✓		×		×	<ul> <li>Effect on</li> </ul>
which integrates with all						passenger and
Shetland's transport						freight shipping
services and						
infrastructure, including						
air, ferry, bus, cycling						
and walking opportunities						
Int2: To promote a	✓		×	<ul> <li>harbour</li> </ul>		
transport link that						
facilitates the delivery of						
other committed plans						
and strategies						

Group 1\_Table C

Options	No change to Current s	ervice				
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
Economy: Promote econo	Economy: Promote economic growth by building, enhancing, managing and maintaining transport services, infrastructure and networks to maximise their efficiency					
Ec1: To enhance the transport infrastructure between Bressay and Mainland Shetland to ensure the long-term sustainability of the Bressay community.	=					
Ec2: To provide a link which does not constrain Lerwick Harbour's current activities or its future expansion	<b>√</b>					

Options	No change to Current s	ervice				
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
Ec3: To provide and promote a link which supports a stable and sustainable economy and enhances employment opportunities	=					
Ec4: To provide a link which is affordable for users	?					
Ec5: To provide a link which is sustainable for funders and is value for money	?					
Accessibility: Promote s	ocial inclusion by connecting	remote and disadvantaged	communities and increasing	the accessibility of the trans	sport network	
Ac1: To provide and maintain an accessible, efficient, cost effective transport network for Bressay	=					
Ac2: To provide a link which enables the Bressay community equal opportunities to access employment, services and facilities as other communities in Shetland	×					
Ac3: To provide a link which does not restrain opportunities for housing in Bressay	×					
Ac4: To maintain and improve accessibility and response times for emergency services and other service providers, including out-of-hours needs.	=					

Options	No change to Current s	ervice				
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
	•	nealth by building and investi	ng in public transport and ot	ther types of efficient and sus	stainable transport which mi	nimise emissions and
consumption of resources						
Env1: To develop a link	=					
to Bressay that						
recognises and protects						
Shetland's unique						
environment and						
safeguards the natural,						
cultural and social						
heritage of the island						
Env2: To provide a link	×					
that seeks to minimise						
carbon emissions and						
the use of finite						
resources						
Env3: To promote a link	× / ?					
that can accommodate						
current and future						
patterns of development						
and land use in Bressay						
	f journeys by reducing accid	ents and enhancing persona	al safety of pedestrians, driv	vers, passengers and staff		
S1. To ensure the link	=					
continues to maintain						
and enhance community						
safety and health						
S2. To ensure the link	=					
does not compromise						
maritime safety or road						
safety						
Integration: Improve inte	egration by making journey p	lanning and ticketing easier	and working to ensure smoo	oth connections between diff	erent forms of transport	
Int1: To provide a link	×					
which integrates with all						
Shetland's transport						
services and						
infrastructure, including						
air, ferry, bus, cycling						
and walking opportunities						
Int2: To promote a	×					
transport link that						

Options	No change to Current service					
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
facilitates the delivery of other committed plans and strategies						

### D1.3 Group 2

### Group 2\_Table A

Options	1. Chain Ferry		2. Reconfiguration Ferry		3. Tunnel	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
		hancing, managing and mainta	ining transport services, infr		maximise their efficiency	
Ec1: To enhance the transport infrastructure between Bressay and Mainland Shetland to ensure the long-term sustainability of the Bressay community.	√ (potentially)	<ul> <li>More detail required on this type of operation</li> <li>Maintenance/need reserve ferry?</li> <li>Cost and frequency on this type of operation</li> </ul>	<b>*</b>	<ul> <li>Depend on cost</li> <li>Need more information on options</li> </ul>	<b>~</b>	Depend on initial cost and maintenance cost
Ec2: To provide a link which does not constrain Lerwick Harbour's current activities or its future expansion	? (unsure)	<ul> <li>Restrictions on anchoring vessels where chain on seabed</li> <li>Could present navigation constraints for other vessels</li> </ul>	<b>√</b>		<b>√</b>	
Ec3: To provide and promote a link which supports a stable and sustainable economy and enhances employment	√ (potentially)	<ul> <li>Could supplement with a water taxi(although may be commercial venture)</li> <li>Further details</li> </ul>	<b>~</b>	Depend on frequency cost	<b>~</b>	

Options	1. Chain Ferry		2. Reconfiguration Ferry		3. Tunnel	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
opportunities		required on cost, frequency and time (of operation)				
Ec4: To provide a link which is affordable for users	√ (potentially)		√ (potentially)	<ul> <li>Dependant on cost (provision and use)</li> </ul>	<b>√</b>	• Tolls?
Ec5: To provide a link which is sustainable for funders and is value for money						
		ng remote and disadvantaged c	ommunities and increasing	g the accessibility of the trans		
Ac1: To provide and maintain an accessible, efficient, cost effective transport network for Bressay	<b>√</b>	<ul> <li>Could connect in with existing services</li> <li>Location may require additional infrastructure</li> </ul>	<b>√</b>	•	<b>√</b>	Location may require additional infrastructure provision
Ac2: To provide a link which enables the Bressay community equal opportunities to access employment, services and facilities as other communities in Shetland	√ (potentially)	Dependant on frequency of service	<b>~</b>	Dependant on frequency of service	<b>~</b>	Would provide 24hour access
Ac3: To provide a link which does not restrain opportunities for housing in Bressay	√ (potentially)	Dependant on cost	√ (potentially)	Dependant on cost	·	
Ac4: To maintain and improve accessibility and response times for emergency services and other service providers, including out-of-hours needs.	√ (potentially)	Dependant on frequency – might be slower	<b>~</b>	Increased service could improve access	<b>~</b>	
		health by building and investing	g in public transport and ot	her types of efficient and sust	ainable transport which	minimise emissions and
consumption of resources	0,					
Env1: To develop a link	✓		√ (potentially)	<ul> <li>Increased</li> </ul>	✓	

Options	1. Chain Ferry		2. Reconfiguration Fe	2. Reconfiguration Ferry		3. Tunnel	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	
to Bressay that recognises and protects Shetland's unique environment and safeguards the natural, cultural and social				carbon emissions?			
heritage of the island Env2: To provide a link that seeks to minimise carbon emissions and the use of finite resources	<b>✓</b>		√ (potentially)	Increased carbon emissions?	<b>/</b>		
Env3: To promote a link that can accommodate current and future patterns of development and land use in Bressay	√ (potentially)	Dependant on capacity of ferry % cost	√ (potentially)	Dependant on capacity of ferry % cost	<b>V</b>		
	f journeys by reducing acci	dents and enhancing personal	safety of pedestrians, driv	vers, passengers and staff			
S1. To ensure the link continues to maintain and enhance community safety and health	<b>√</b>		<b>√</b>		?/√	<ul> <li>claustrophobia</li> </ul>	
S2. To ensure the link does not compromise maritime safety or road safety	?	<ul> <li>need further information on operation and possible impacts/ navigational constraints</li> </ul>	<b>\</b>		✓	would increase traffic flows	
Integration: Improve inte	egration by making journey	planning and ticketing easier an	d working to ensure smoo	th connections between differ	ent forms of transport		
Int1: To provide a link which integrates with all Shetland's transport services and infrastructure, including air, ferry, bus, cycling and walking opportunities	√ (potentially)		<b>~</b>	as long as better provision / integration	· ·		
Int2: To promote a transport link that	<b>√</b>		<b>√</b>		✓		

Options	1. Chain Ferry		2. Reconfiguration Ferry		3. Tunnel	
Objectives			Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
facilitates the delivery of						
other committed plans and strategies						

Group 2\_Table B

Options	13. Causeway		16. High Level Bridge	16. High Level Bridge		Do Minimum	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	
	omic growth by building, enl	nancing, managing and maintair	ning transport services, infra	astructure and networks to r	maximise their efficiency		
Ec1: To enhance the transport infrastructure between Bressay and Mainland Shetland to ensure the long-term sustainability of the Bressay community.	<b>*</b>		<b>✓</b>	Depend on cost and maintenance	×	No     enhancement     of service	
Ec2: To provide a link which does not constrain Lerwick Harbour's current activities or its future expansion	×	split port in two increased costs to port – would need two sets of tugs – for example – vessels have to go round Bressay (3 hours)	× / ?	dependant on central span/height (clearance) constraints on ability to dredge post construction requirements of port as statutory navigation authority must be considered/met dependant on parameters			
Ec3: To provide and promote a link which supports a stable and sustainable economy	×	would constrain     development of     Port     reduce	× / ?	·	?	no     enhancement     of service = no     enhanced	

Options	13. Causeway		16. High Level Bridge	16. High Level Bridge		Do Minimum	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	
and enhances		employment				opportunities	
employment opportunities		opportunities					
Ec4: To provide a link which is affordable for users	<b>√</b>		potentially	<ul> <li>Dependant on type and cost of tolls?</li> </ul>	×		
Ec5: To provide a link which is sustainable for funders and is value for money							
	social inclusion by conne	cting remote and disadvantaged c	ommunities and increasi	ng the accessibility of the trans	port network		
Ac1: To provide and maintain an accessible, efficient, cost effective transport network for Bressay	, , , , , , , , , , , , , , , , , , ,	Location may require additional infrastructure	<u> </u>	Location may require additional infrastructure	×	•	
Ac2: To provide a link which enables the Bressay community equal opportunities to access employment, services and facilities as other communities in Shetland	<b>V</b>		<b>✓</b>		×	restricted service	
Ac3: To provide a link which does not restrain opportunities for housing in Bressay	·		·		×/?		
Ac4: To maintain and improve accessibility and response times for emergency services and other service providers, including out-of-hours needs.	<b>V</b>		<b>✓</b>		√ for emergency services × for other service providers		
consumption of resources		ove health by building and investin	g in public transport and	other types of efficient and sus	tainable transport which min	nimise emissions and	
Env1: To develop a link to Bressay that	?	could encourage silting in harbour	?	<ul> <li>size could have visual</li> </ul>	<b>√</b>	no change	

Options	13. Causeway		16. High Level Bridge		Do Minimum	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
recognises and protects Shetland's unique environment and safeguards the natural, cultural and social heritage of the island		Port currently has     a natural through     flushing current –     may require     maintenance     dredging		environmental impact • weather impacts - closures		
Env2: To provide a link that seeks to minimise carbon emissions and the use of finite resources	×	ships round     Bressay etc	<b>\</b>		×/?	need more information with regard to ferry and carbon emissions
Env3: To promote a link that can accommodate current and future patterns of development and land use in Bressay	<b>V</b>		<b>V</b>		×/?	•
		dents and enhancing personal				
S1. To ensure the link continues to maintain and enhance community safety and health	<b>~</b>		?	<ul> <li>depend on parameters         (height) – vertigo         windage     </li> </ul>	<b>✓</b>	no current issues
S2. To ensure the link does not compromise maritime safety or road safety	×		×	<ul> <li>parameters?</li> <li>Pillars a         permanent         obstruction</li> <li>Restriction on         air draft</li> <li>Tidal flow         effects         constrain free         movement of         vessels         through Port</li> </ul>	V	No issues
		planning and ticketing easier and				
Int1: To provide a link which integrates with all Shetland's transport	<b>√</b>		<b>√</b>	<ul> <li>as long as better provision/</li> </ul>	×	<ul><li>timetable etc</li><li>access issues</li></ul>

Options	Options 13. Causeway		16. High Level Bridge	16. High Level Bridge		Do Minimum	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	
services and infrastructure, including air, ferry, bus, cycling and walking opportunities				integration			
Int2: To promote a transport link that facilitates the delivery of other committed plans and strategies	<b>√</b>		<b>√</b>		× / ?	<ul> <li>planning zones</li> <li>not taking up opportunities</li> <li>councils decentralisatio n policies</li> </ul>	

### **D1.4** Group 3

Group 3\_Table A

Options	1.		2.		4. and 5.	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
Economy: Promote econ Ec1: To enhance the transport infrastructure between Bressay and Mainland Shetland to ensure the long-term sustainability of the Bressay community.	omic growth by building, en	hancing, managing and mainta  Ionger crossing time relocation terminal	ining transport services, infi  ✓	cost less for user     more frequent	maximise their efficiency	cost less for user     more frequent
Ec2: To provide a link which does not constrain Lerwick Harbour's current activities or its future expansion	×	<ul> <li>navigation restricted during crossing</li> </ul>	<b>√</b>	• ASIS	<b>√</b>	• ASIS
Ec3: To provide and promote a link which	×	<ul> <li>employment less on this ferry</li> </ul>	<b>√</b>	• ASIS	✓	• ASIS

Options Objectives	1.		2.		4. and 5.	
	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
supports a stable and		•				•
sustainable economy						
and enhances						
employment						
opportunities						
Ec4: To provide a link	<b>√</b>	<ul> <li>Potential cost less</li> </ul>	✓		√/?	
which is affordable for						
users						
Ec5: To provide a link	?		?			
which is sustainable for						
funders and is value for						
money						
	social inclusion by conne	ecting remote and disadvantaged c		sing the accessibility of the trans	port network	
Ac1: To provide and	✓		✓	•	✓	
maintain an accessible,						
efficient, cost effective						
transport network for						
Bressay			,			
Ac2: To provide a link	×	<ul> <li>time constraints</li> </ul>	✓	<ul> <li>frequency</li> </ul>	✓	<ul> <li>frequency</li> </ul>
which enables the		and location		• cost		• cost
Bressay community						
equal opportunities to						
access employment,						
services and facilities as						
other communities in Shetland						
Ac3: To provide a link	<b>✓</b>	+	/	frequency		frequency
which does not restrain	Ĭ		ľ	• cost	·	• cost
opportunities for housing				Cost		Cost
in Bressay						
Ac4: To maintain and	×	Worse than	<b>√</b>	Even better if	<b>√</b>	Even better if
improve accessibility	<u> </u>	existing	,	vessel is re-	,	vessel is re-
and response times for		CAISTING		engined		engined
emergency services and				ong.noa		ong.nou
other service providers,	1					
including out-of-hours						
needs.						
	ur environment and impr	ove health by building and investin	g in public transport and	d other types of efficient and sus	tainable transport which	n minimise emissions and
consumption of resource			5 ,	7,		

Natural Capital Ltd D - 16 ZetTrans

Options	1.		2.		4. and 5.	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
Env1: To develop a link to Bressay that recognises and protects Shetland's unique environment and safeguards the natural, cultural and social heritage of the island	<b>√</b>	Still seen as ferry, inhibits migration of feral cats	<b>\</b>	Éven better if vessel is re- engined	<b>√</b>	Éven better if vessel is re- engined     Improve carbon footprint
Env2: To provide a link that seeks to minimise carbon emissions and the use of finite resources	<b>✓</b>	Less energy	?	Life cycle analysis required	?	<ul> <li>Life cycle         <ul> <li>analysis</li> <li>required</li> </ul> </li> <li>Improve         <ul> <li>carbon</li> <li>footprint</li> </ul> </li> </ul>
Env3: To promote a link that can accommodate current and future patterns of development and land use in Bressay	?	Dependant on capacity of ferry % cost	<b>\</b>	Frequency     cost	✓	<ul> <li>Frequency</li> <li>Cost</li> <li>Improve carbon footprint</li> </ul>
Safety: Improve safety of	journeys by reducing accid	dents and enhancing personal	safety of pedestrians, driv	vers, passengers and staff		<u> </u>
S1. To ensure the link continues to maintain and enhance community safety and health	×	frequency for long options	· · ·	ASIS	·	ASIS
S2. To ensure the link does not compromise maritime safety or road safety	×	<ul> <li>plenty of issues where used elsewhere</li> </ul>	✓	• ASIS	·	• ASIS
	egration by making journey	planning and ticketing easier ar	nd working to ensure smoo	oth connections between diffe	rent forms of transport	
Int1: To provide a link which integrates with all Shetland's transport services and infrastructure, including air, ferry, bus, cycling and walking opportunities	<b>√</b>	airports	<b>✓</b>	frequency and length of operation day	<b>√</b>	<ul> <li>frequency and length of operation day</li> </ul>
Int2: To promote a transport link that	?		?		?	

Options	1.		2.		4. and 5.	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
facilitates the delivery of other committed plans and strategies						

#### Group 3\_Table B

Options	6.		11. and 12.		16.	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
Economy: Promote econ	omic growth by building, en	hancing, managing and maintai	ning transport services, infra	structure and networks to n	naximise their efficiency	
Ec1: To enhance the transport infrastructure between Bressay and Mainland Shetland to ensure the long-term sustainability of the Bressay community.	<b>√</b>	<ul> <li>cost less for user</li> <li>more frequent</li> </ul>	<b>✓</b>	location     dependant     (public     transport     provision)	<b>✓</b>	
Ec2: To provide a link which does not constrain Lerwick Harbour's current activities or its future expansion	<b>✓</b>	• ASIS	<b>~</b>	Immersed tube during construction	×	Depends on size and location
Ec3: To provide and promote a link which supports a stable and sustainable economy and enhances employment opportunities	<b>√</b>	• ASIS	<b>√</b>	Detrimental to Bressay Ferry jobs	<b>√</b>	Ferry crews!
Ec4: To provide a link which is affordable for users Ec5: To provide a link	√ <i>I</i> ?		√ /?	No toll	√  ?	No toll
which is sustainable for funders and is value for money						

Options	6.		11. and 12.		16.	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
	social inclusion by connectir	ng remote and disadvantaged o	communities and increasing		port network	
Ac1: To provide and maintain an accessible, efficient, cost effective transport network for Bressay	<b>✓</b>		<b>✓</b>	<ul> <li>accessibility depends on location for pedestrians</li> </ul>	<b>~</b>	
Ac2: To provide a link which enables the Bressay community equal opportunities to access employment, services and facilities as other communities in Shetland	<b>\</b>	<ul><li>frequency</li><li>cost</li></ul>	<b>\</b>		<b>√</b>	• location
Ac3: To provide a link which does not restrain opportunities for housing in Bressay	<b>√</b>	frequency     cost	<b>√</b>		<b>√</b>	
Ac4: To maintain and improve accessibility and response times for emergency services and other service providers, including out-of-hours needs.	<b>√</b>	Even better if vessel is re- engined	<b>√</b>		<b>✓</b>	high sided vehicle restrictions in wind
	ur environment and improve	health by building and investing	g in public transport and oth	er types of efficient and sust	ainable transport which r	ninimise emissions and
consumption of resource	s and energy	· · · · · ·				
Env1: To develop a link to Bressay that recognises and protects Shetland's unique environment and safeguards the natural, cultural and social heritage of the island		<ul> <li>Even better if vessel is re- engined</li> </ul>	<b>\</b>	<ul> <li>Usually okay</li> <li>Potential route for feral animals</li> </ul>	=	Fine arts     dependant
Env2: To provide a link that seeks to minimise carbon emissions and the use of finite	?	Life cycle analysis required	?	<ul> <li>Life cycle analysis required</li> </ul>	=	Life cycle

Options	6.		11. and 12.	11. and 12.		16.	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	
resources							
Env3: To promote a link that can accommodate current and future patterns of development and land use in Bressay	<b>√</b>	<ul><li>Frequency</li><li>cost</li></ul>	<b>√</b>		<b>√</b>		
	f journeys by reducing accid	lents and enhancing personal s		ers, passengers and staff			
S1. To ensure the link continues to maintain and enhance community safety and health	<b>√</b>	• ASIS	√/×		=		
S2. To ensure the link does not compromise maritime safety or road safety	<b>√</b>	• ASIS	·	Roads may lead people unfamiliar with single track	<u> </u>	Unfamiliar drivers	
Integration: Improve inte	egration by making journey	planning and ticketing easier ar	nd working to ensure smoo	th connections between diffe	rent forms of transport		
Int1: To provide a link which integrates with all Shetland's transport services and infrastructure, including air, ferry, bus, cycling and walking opportunities	, , , , , , , , , , , , , , , , , , ,	<ul> <li>frequency and length of operation day</li> </ul>		frequency and length of operation day	<b>V</b>	pedestrians     may be height     conscious	
Int2: To promote a transport link that facilitates the delivery of other committed plans and strategies	?		?		?	current SIC policy	

Group 3\_Table C

Oroup o_rubic c							
Options	17.		Do Nothing				
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	
Economy: Promote eco	Economy: Promote economic growth by building, enhancing, managing and maintaining transport services, infrastructure and networks to maximise their efficiency						

Options	17.		Do Nothing			
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
Ec1: To enhance the transport infrastructure between Bressay and Mainland Shetland to ensure the long-term sustainability of the Bressay community.	×	<ul><li>travel time</li><li>weather constraints</li></ul>	×			
Ec2: To provide a link which does not constrain Lerwick Harbour's current activities or its future expansion	×	<ul><li>narrow</li><li>low</li></ul>	·			
Ec3: To provide and promote a link which supports a stable and sustainable economy and enhances employment opportunities	×	<ul><li>narrow</li><li>low</li></ul>	×			
Ec4: To provide a link which is affordable for users	<b>√</b>	Free	×			
Ec5: To provide a link which is sustainable for funders and is value for money	?	• ??				
	social inclusion by connect	ing remote and disadvantaged co		ng the accessibility of the trans	port network	
Ac1: To provide and maintain an accessible, efficient, cost effective transport network for Bressay	×	• Free	×			
Ac2: To provide a link which enables the Bressay community equal opportunities to access employment, services and facilities as other communities in	×	more constraint	×	<ul> <li>shift workers and social</li> </ul>		

Options	17.		Do Nothing			
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
Shetland						
Ac3: To provide a link	?		✓			
which does not restrain opportunities for housing in Bressay						
Ac4: To maintain and improve accessibility and response times for emergency services and other service providers, including out-of-hours	×	• slower	=	social services issues		
needs.			<u></u>		<u> </u>	
consumption of resources		health by building and investing	g in public transport and o	ther types of efficient and sust	ainable transport which mi	nimise emissions and
Env1: To develop a link to Bressay that recognises and protects Shetland's unique environment and safeguards the natural, cultural and social heritage of the island	×	• ugly	<b>*</b>			
Env2: To provide a link that seeks to minimise carbon emissions and the use of finite resources	?		=	life cycle analysis		
Env3: To promote a link that can accommodate current and future patterns of development and land use in Bressay	×	constraints	=	may need more runs		
Safety: Improve safety o	f journeys by reducing acci	dents and enhancing personal	safety of pedestrians, dri	vers, passengers and staff		
S1. To ensure the link continues to maintain and enhance community safety and health	×	hazard in itself				
S2. To ensure the link does not compromise	×		<b>√</b>			

Options	17.		Do Nothing			
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
maritime safety or road						
safety						
Integration: Improve inte	egration by making journey	planning and ticketing easier ar	nd working to ensure smoot	h connections between diffe	rent forms of transport	
Int1: To provide a link which integrates with all Shetland's transport services and infrastructure, including air, ferry, bus, cycling and walking opportunities	<b>~</b>		×	<ul><li>frequency</li><li>length of day</li></ul>		
Int2: To promote a transport link that facilitates the delivery of other committed plans and strategies	?		?			

## D1.5 Group 4

Group 4\_Table A

Options	2. Reconfigured Ferry service		3. Passenger Ferry		7. Improved Public Transport		
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	
Economy: Promote economic growth by building, enhancing, managing and maintaining transport services, infrastructure and networks to maximise their efficiency							
Ec1: To enhance the transport infrastructure between Bressay and Mainland Shetland to ensure the long-term sustainability of the Bressay community.	<b>✓</b>	<ul> <li>depending on reconfigure options</li> </ul>		n its own but could be e another vehicle option	×	<ul> <li>not on its own but only if linked to another option</li> </ul>	

Options	2. Reconfigured Ferry service		3. Passenger Ferry		7. Improved Public Transport	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
Ec2: To provide a link which does not constrain Lerwick Harbour's current activities or its future expansion	<b>√</b>				<ul> <li>not an option in its own right, but needs to be considered as part of another option</li> </ul>	
Ec3: To provide and promote a link which supports a stable and sustainable economy and enhances employment opportunities	<b>√</b>					
Ec4: To provide a link which is affordable for users	?	<ul> <li>Could still be less for funders than other options</li> </ul>				
Ec5: To provide a link which is sustainable for funders and is value for money						
Accessibility: Promote s	social inclusion by connecting	ng remote and disadvantaged co	mmunities and increasing	the accessibility of the trans	port network	
Ac1: To provide and maintain an accessible, efficient, cost effective transport network for Bressay	<b>V</b>	Depending on reconfiguration				
Ac2: To provide a link which enables the Bressay community equal opportunities to access employment, services and facilities as other communities in Shetland	<b>√</b>	Depends				
Ac3: To provide a link which does not restrain opportunities for housing in Bressay	·	depends on other factors, e.g. land use				
Ac4: To maintain and improve accessibility	<b>√</b>					

Options	2. Reconfigured Ferry	service	3. Passenger Ferry		7. Improved Public Tra	ansport
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
and response times for						
emergency services and						
other service providers,						
including out-of-hours						
needs.	r anvironment and improve	health by building and investing	a in public transport and oth	or turned of officient and aug	toinable transport which mi	niming amingians and
		nealth by building and investing	g in public transport and oth	er types of efficient and sus	tainable transport which mi	nimise emissions and
consumption of resources	s and energy		T	T	T	
Env1: To develop a link to Bressay that	, v	no need for				
recognises and protects		increased infrastructure				
Shetland's unique		iiiiasiiuciuie				
environment and						
safeguards the natural,						
cultural and social						
heritage of the island						
Env2: To provide a link	?	<ul> <li>no need for</li> </ul>				
that seeks to minimise		increased				
carbon emissions and		infrastructure				
the use of finite						
resources						
Env3: To promote a link	✓	<ul> <li>no need for</li> </ul>				
that can accommodate		increased				
current and future		infrastructure				
patterns of development						
and land use in Bressay	<u> </u>	<u> </u>	L			
	<u>,</u>	dents and enhancing personal	safety of pedestrians, drive	rs, passengers and staff		
S1. To ensure the link	✓					
continues to maintain						
and enhance community						
safety and health S2. To ensure the link	<b>✓</b>					
does not compromise	ľ					
maritime safety or road						
safety						
	egration by making journey n	l Danning and ticketing easier and	d working to ensure smooth	connections between differ	rent forms of transport	
Int1: To provide a link	√	depending on	I manage of the or of the office of the offi		ronno or transport	
which integrates with all		reconfiguration of				
Shetland's transport		options				
services and		-,				

Options	2. Reconfigured Ferry	service	3. Passenger Ferry		7. Improved Public Transport	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
infrastructure, including air, ferry, bus, cycling and walking opportunities						
Int2: To promote a transport link that facilitates the delivery of other committed plans and strategies	<b>√</b>	e.g. decentralisation				

## Group 4\_Table B

Options	8. Helicopter		9. Subsidy		10. Provision cyclists	pedestrians
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
Economy: Promote econ	omic growth by building, en	hancing, managing and mainta	ining transport services, infi	astructure and networks to	maximise their efficiency	
Ec1: To enhance the transport infrastructure between Bressay and Mainland Shetland to ensure the long-term sustainability of the Bressay community.	×	• on its own – no!	×	only solution for island people	•	tion on its own right accommodated by on is chosen
Ec2: To provide a link which does not constrain Lerwick Harbour's current activities or its future expansion	<b>V</b>			s own idered as part of another onfiguration of ferry service		
Ec3: To provide and promote a link which supports a stable and sustainable economy and enhances employment opportunities	×	not on its own				
Ec4: To provide a link which is affordable for	×	Too costly				

Options	8. Helicopter		9. Subsidy		10. Provision cyclists	pedestrians
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
users						
Ec5: To provide a link which is sustainable for funders and is value for money	×					
Accessibility: Promote s	social inclusion by connectin	ng remote and disadvantaged co	ommunities and increasing	the accessibility of the trans	port network	
Ac1: To provide and maintain an accessible, efficient, cost effective transport network for Bressay	×		×			
Ac2: To provide a link which enables the Bressay community equal opportunities to access employment, services and facilities as other communities in Shetland	×		×	shift workers and social		
Ac3: To provide a link which does not restrain opportunities for housing in Bressay	×		<b>√</b>			
Ac4: To maintain and improve accessibility and response times for emergency services and other service providers, including out-of-hours needs.	<b>√</b>	expensive but possible emergency option	=	social services issues		
consumption of resources		health by building and investing		er types of efficient and sust	ainable transport which mir	nimise emissions and
Env1: To develop a link to Bressay that recognises and protects Shetland's unique environment and safeguards the natural, cultural and social	✓	could be tourist attraction     minimal infrastructure	<b>√</b>			

Options	8. Helicopter		9. Subsidy		10. Provision cyclists / pedestrians	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
heritage of the island						
Env2: To provide a link that seeks to minimise carbon emissions and the use of finite resources	?		=	life cycle     analysis		
Env3: To promote a link that can accommodate current and future patterns of development and land use in Bressay	×		=	may need more runs		
	f journeys by reducing accid	dents and enhancing personal	safety of pedestrians, drive	ers, passengers and staff		
S1. To ensure the link continues to maintain and enhance community safety and health  S2. To ensure the link does not compromise	<b>V</b>		<b>V</b>			
maritime safety or road safety	agration by making journey r	planning and ticketing easier an	d working to ensure emooth	connections between differ	ent forms of transport	
Int1: To provide a link which integrates with all Shetland's transport services and infrastructure, including air, ferry, bus, cycling and walking opportunities	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	● limited	×	frequency     length of day	entrollis of transport	
Int2: To promote a transport link that facilitates the delivery of other committed plans and strategies	<b>V</b>	but at a cost	?			

## Group 4\_Table C

Options	11. Tunnel		14. Causeway and Opening Bridge		16. High Level Bridge	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
	nomic growth by building, er	hancing, managing and mainta	ining transport services,		maximise their efficiency	/
Ec1: To enhance the transport infrastructure between Bressay and Mainland Shetland to ensure the long-term sustainability of the Bressay community.	<b>√</b>		<b>✓</b>	depends on design/location and other infrastructure	<b>√</b>	
Ec2: To provide a link which does not constrain Lerwick Harbour's current activities or its future expansion	✓ 		?	<ul> <li>location and design</li> </ul>	?	Lerwick Port     Authority
Ec3: To provide and promote a link which supports a stable and sustainable economy and enhances employment opportunities	<b>√</b>		<b>✓</b>		<b>√</b>	
Ec4: To provide a link which is affordable for users	?	Depends on toll     Unknown capital and ongoing costs	?	Depends on toll	?	<ul> <li>Depends on toll</li> <li>Unknown capital cost and ongoing costs</li> </ul>
Ec5: To provide a link which is sustainable for funders and is value for money			?	Unknown capital and ongoing costs		
Accessibility: Promote Ac1: To provide and maintain an accessible, efficient, cost effective transport network for Bressay	social inclusion by connectin	g remote and disadvantaged co	mmunities and increasin √ / ?	the accessibility of the trans     Cost effect     and if its     breaks down!	port network  ✓	? cost     effectiveness     of option
Ac2: To provide a link which enables the	<b>√</b>	<ul> <li>Depends on island</li> </ul>	<b>√</b>	Issues     reliability	√/?	Depends on island

Options	11. Tunnel		14. Causeway and	Opening Bridge	16. High Level Bridge	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
Bressay community equal opportunities to access employment, services and facilities as other communities in Shetland		island infrastructure which accompanied this option		reliability		island infrastructure which accompanies this option
Ac3: To provide a link which does not restrain opportunities for housing in Bressay	<b>√</b>		<b>V</b>		<b>√</b>	Land     dependent
Ac4: To maintain and improve accessibility and response times for emergency services and other service providers, including out-of-hours needs.	<b>~</b>		<b>~</b>	Weather and breakdown	<b>~</b>	All weather use?
Environment: Protect ou	ir environment and improv	e health by building and investin	g in public transport and	d other types of efficient and sus	tainable transport which	n minimise emissions and
consumption of resources Env1: To develop a link to Bressay that recognises and protects Shetland's unique environment and safeguards the natural, cultural and social heritage of the island	x	<ul> <li>loss of island status / identity</li> <li>? Skye example</li> </ul>	×	loss of island identity	×	loss os island status / identity     ? Skye example
Env2: To provide a link that seeks to minimise carbon emissions and the use of finite resources	×/?	more people driving versus current ferry emissions	×	same issues     as tunnel /     bridge	× / ?	more people driving versus current ferry emissions
Env3: To promote a link that can accommodate current and future patterns of development and land use in Bressay	<b>√</b>	availability of land	<b>V</b>	• ? land use	<b>V</b>	availability of land?
		idents and enhancing personal		drivers, passengers and staff		
S1. To ensure the link	?		?	<ul> <li>same issues</li> </ul>	?	positive –

Options	11. Tunnel		14. Causeway and Ope	ening Bridge	16. High Level Bridge	
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
continues to maintain and enhance community safety and health				as tunnel / bridge		health • negative – anti-social issues
S2. To ensure the link does not compromise maritime safety or road safety	maritime ?	road safety	?	<ul> <li>same issues as tunnel / bridge</li> </ul>	?	ongoing     debate ,     Lerwick Port     Authority etc
	gration by making journey p	planning and ticketing easier an	d working to ensure smoot	n connections between diffe	rent forms of transport	
Int1: To provide a link which integrates with all Shetland's transport services and infrastructure, including air, ferry, bus, cycling and walking opportunities	<b>~</b>		<b>~</b>	same issues     as tunnel /     bridge	<b>~</b>	<ul> <li>cater         everything         depending on         island         transport         infrastructure         etc</li> </ul>
Int2: To promote a transport link that facilitates the delivery of other committed plans and strategies	<b>✓</b>		<b>V</b>		<b>√</b>	which in particular?

Group 4 Table D

Options	Do Nothing					
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
Economy: Promote econ	omic growth by building, en	hancing, managing and mainta	ining transport services, infr	astructure and networks to	maximise their efficiency	
Ec1: To enhance the transport infrastructure between Bressay and Mainland Shetland to ensure the long-term sustainability of the Bressay community.	×					
Ec2: To provide a link	<b>√</b>					

Options	Do Nothing					
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
which does not constrain						
Lerwick Harbour's						
current activities or its						
future expansion						
Ec3: To provide and	×					
promote a link which						
supports a stable and						
sustainable economy						
and enhances						
employment						
opportunities						
Ec4: To provide a link	×					
which is affordable for						
USERS						<del> </del>
Ec5: To provide a link which is sustainable for						
funders and is value for						
money						
	rocial inclusion by connect	I ing remote and disadvantaged c	ommunities and increasing	the accessibility of the trans	port petwork	
Ac1: To provide and	×	T	T	The accessibility of the trans	I	
maintain an accessible,	^					
efficient, cost effective						
transport network for						
Bressay						
Ac2: To provide a link	×					
which enables the						
Bressay community						
equal opportunities to						
access employment,						
services and facilities as						
other communities in						
Shetland						
Ac3: To provide a link	×					
which does not restrain				1		
opportunities for housing						
in Bressay						
Ac4: To maintain and	✓	<ul> <li>out of hour needs</li> </ul>				
improve accessibility						
and response times for						

Options	Do Nothing					
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
emergency services and						
other service providers,						
including out-of-hours						
needs.		haalth hu huilding and investige	in multip transport and at	and the second state and such		
consumption of resources	ir environment and improve	health by building and investing	In public transport and oth	ner types of efficient and sust	ainable transport which mi	nimise emissions and
Env1: To develop a link	s and energy		1	T	1	
	ľ					
to Bressay that recognises and protects						
Shetland's unique						
environment and						
safeguards the natural,						
cultural and social						
heritage of the island						
Env2: To provide a link	?					
that seeks to minimise	·					
carbon emissions and						
the use of finite						
resources						
Env3: To promote a link	×					
that can accommodate						
current and future						
patterns of development						
and land use in Bressay						
	f journeys by reducing acci	dents and enhancing personal	safety of pedestrians, driv	vers, passengers and staff		
S1. To ensure the link	✓					
continues to maintain						
and enhance community						
safety and health						
S2. To ensure the link	✓					
does not compromise						
maritime safety or road						
safety	<u> </u>	1	1		1	<u> </u>
		planning and ticketing easier ar	na working to ensure smoo	oth connections between diffe	erent forms of transport	
Int1: To provide a link	×					
which integrates with all						
Shetland's transport services and						
infrastructure, including						

Options	Do Nothing					
Objectives	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required	Meet Planning Objective?	Comment – if not why not/Any Additional Work Required
air, ferry, bus, cycling and walking						
opportunities						
Int2: To promote a transport link that facilitates the delivery of	?					
other committed plans and strategies						

## Appendix E

Example STAG PART 1 Appraisal Table

## Appendix E: Example STAG PART 1 Appraisal Table

Proposal Details				
Name and address of authority or organisation promoting the proposal: (Also provide name of any subsidiary organisations also involved in promoting the proposal)				
Proposal Name:		Name of Planner:	Name of principle contact within the authority or organisation promoting the proposal.	
			Capital costs/grant	
Proposal Description:		Estimated Total Public Sector Funding Requirement:	Annual revenue support	
		, anamag quantum	Present Value of Cost to Govt.	
Funding Sought From: (if applicable)		Amount of Application:	Sum	
Background Information				
Geographic Context:	Describe the location of the proposal and the areas likely to be affected.  Describe the built and natural environment of the areas likely to be affected.			
Social Context:	Describe the social make up of the areas likely to be affected. Identify areas which suffer from problems of deprivation and social exclusion. Is the area likely to be affected within a European Structural Fund area, a Priority Partnership area or a Social Inclusion Partnership area?			

**Economic Context:** 

Describe the economic context of the area likely to be affected. What are the principle sectors / industries and what are the factors affecting performance?

Planning Objectives			
Objective:	Performance against planning objective:		
List each of the planning objectives in summary  (This should be supported in the accompanying report by a more detailed description on objectives and how they were derived)	For each planning objective describe to what extent the proposal is expected to meet the objective.		

Rationale for Selection or Rejection of Proposal:

State whether the proposal is being selected for consideration at Part 2 or being rejected. Describe why the proposal is favoured over the other alternatives or why the proposal is being rejected from further consideration.

Implementability Appraisal			
Technical:	From a technical standpoint, how straightforward will it be to implement the proposal? Are any novel / untried / leading edge technologies involved? Are there any risks involved in developing or implementing the proposal?		
Operational:	Are there any factors which might adversely affect the ability to operate the proposal over its projected life without major additional costs?		

Financial:	Can the capital costs of the proposal be funded and under what methods of funding? Can the proposal meet its on-going operating costs? If operating subsidies are required, how will these be funded?
Public:	Has the proposal been made public? If so, how acceptable is the proposal? Are there objections from particular sections of the community or from particular areas?

Government's Objectives for Transport				
Objective	Assessment Summary Supporting Information			
Environment:	Description of Impacts Assessment using 7 levels of impact	How the proposal will contribute towards reducing emissions of CO <sub>2</sub> and other pollutants, and promote better air and water quality. Are there adverse impacts on the environment? What are the distributional impacts, who will be the gainers and losers?		
Safety:	Description of Impacts Assessment using 7 levels of impact	How will the proposal enhance safety for different types of transport users? Will it involve gainers and losers in terms of safety? Are there impacts on personal safety / security?		

Economy:	Description of Impacts Assessment using 7 levels of impact	How will the proposal affect traffic volumes, journey times, or the reliability of travel times? Will there be gainer and losers, and if so what are the impacts on users and operators of different transport modes and in different areas? How might the proposal help attract new jobs, help existing businesses, open up appropriate land for development?
Integration:	Description of Impacts Assessment using 7 levels of impact	How will the proposal promote or enhance transport integration? Will services be able to function in a more complementary manner? How does the proposal fit with wider government policy including national transport targets?
Accessibility & Social Inclusion:	Description of Impacts Assessment using 7 levels of impact	How does the proposal affect accessibility for transport users and for others, including access to jobs, communities, shops, services and other facilities? How does it impact in terms of tackling social exclusion?

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