

**Table M1 Option 1: Drill and Blast Tunnel**

<b>Proposal Details</b>			
<b>Name and address of authority or organisation promoting the proposal:</b>		<b>ZetTrans (Shetland's Transport Partnership)</b> 11 Hill Lane Lerwick Shetland ZE1 0HA	
<b>Proposal Name:</b>	<b>OPTION 1 - DRILL AND BLAST TUNNEL</b>	<b>Name of Planner</b>	Michael Craigie, Lead Officer, ZetTrans
<b>Proposal Description</b>	Option covers the construction of a tunnel by drill and blast techniques in the rock beneath the Sound of Bressay on an alignment between Point of Scatland and Hoegan. The tunnel would allow bi-directional traffic movement with provision for a cycle way/footpath and a hard shoulder.	<b>Present Value of Cost to Government</b>	£2,613,631
<b>Funding Sought From:</b>	Scottish Government and Shetland Islands Council	<b>Amount of Application:</b>	To be confirmed
<b>Performance against planning objectives:</b>			
<b>Aim:</b> To provide an affordable, efficient, flexible and sustainable transport link between Bressay and Mainland Shetland			
<p><b>Economy:</b> Promote economic growth by building, enhancing, managing and maintaining transport services, infrastructure and networks to maximise their efficiency</p> <p><b>Ec1:</b> To enhance the transport infrastructure between Bressay and Mainland Shetland to ensure the long-term sustainability of the Bressay community.</p> <p><b>Ec2:</b> To provide a link which does not constrain Lerwick Harbour's current activities or its future expansion</p> <p><b>Ec3:</b> To provide and promote a link which supports a stable and sustainable economy and enhances employment opportunities</p> <p><b>Ec4:</b> To provide a link which is affordable for users</p> <p><b>Ec5:</b> To provide a link which is sustainable for funders and value for money</p>		<ul style="list-style-type: none"> <li>• Tunnel provides 24 hour link</li> <li>• Provides opportunities for economic development in Bressay</li> <li>• Does not constrain current plans to dredge harbour to - 10m</li> <li>• No cost to users other than fuel or public transport fares</li> <li>• Best value for money option</li> </ul>	
<p><b>Accessibility:</b> Promote social inclusion by connecting remote and disadvantaged communities and increasing the accessibility of the transport network</p> <p><b>Ac1:</b> To provide and maintain an accessible, efficient, cost effective transport network for Bressay</p> <p><b>Ac2:</b> To provide a link which enables the Bressay community equal opportunities to access employment, services and facilities as other communities in Shetland</p> <p><b>Ac3:</b> To provide a link which does not restrain opportunities for housing in Bressay</p>		<ul style="list-style-type: none"> <li>• Provides 24 hour access to and from Bressay. Savings in travel time to various locations, and able to eliminate down-time waiting for ferries</li> <li>• No direct costs associated with private travel (fares), although distance travelled between locations on either side would increase for most, increasing driving costs. Public transport fares likely to be comparable to current</li> </ul>	

<b>Proposal Details</b>	
<p><b>Ac4:</b> To maintain and improve accessibility and response times for emergency services and other service providers, including out-of-hours needs.</p>	<p>10 ticket passenger ferry fares</p> <ul style="list-style-type: none"> <li>• Loss of centre to centre link, impacting on those that currently walk, cycle, or rely on lifts on Bressay. Levels of impact on those without access to a private vehicle would depend on the level of public transport provision put in place (Sub-option B as minimum)</li> <li>• 24 hour emergency and out-of-hours access</li> </ul>
<p><b>Environment:</b> 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</p> <p><b>Env1:</b> 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</p> <p><b>Env2:</b> To provide a link that seeks to minimise carbon emissions and the use of finite resources</p> <p><b>Env3:</b> To promote a link that can accommodate current and future patterns of development and land use in Bressay</p>	<ul style="list-style-type: none"> <li>• The line for the tunnel has taken environmental constraints into account</li> <li>• Initial mitigation has been identified which could be developed to further protect the environment</li> <li>• Vehicle trips would increase with a fixed link with a corresponding rise in emissions</li> <li>• Smallest carbon footprint of the options considered</li> <li>• The link could help promote development on Bressay which would be more than that currently in the local plan</li> </ul>
<p><b>Safety:</b> Improve safety of journeys by reducing accidents and enhancing personal safety of pedestrians, drivers, passengers and staff</p> <p><b>S1:</b> To ensure the link continues to maintain and enhance community safety and health</p> <p><b>S2:</b> To ensure the link does not compromise maritime safety or road safety</p>	<ul style="list-style-type: none"> <li>• Unlikely to be changes in levels of maritime or road safety, at currently insignificant levels (increased access from Police may assist with drink driving related accidents)</li> <li>• Importance of people's perceptions of community safety, which are bound up in their overall desire or not, for different options</li> </ul>
<p><b>Integration:</b> Improve integration by making journey planning and ticketing easier and working to ensure smooth connections between different forms of transport</p> <p><b>Int1:</b> To provide a link which integrates with all Shetland's transport services and infrastructure, including air, ferry, bus, cycling and walking opportunities</p> <p><b>Int2:</b> To promote a transport link that facilitates the delivery of other committed plans and strategies</p>	<ul style="list-style-type: none"> <li>• Improved opportunity for integration with other internal and external transport services, using private vehicle. Levels of integration using public transport is dependent on level of public transport provision put in place</li> </ul>

<b>Implementability Appraisal</b>	
<b>Bressay Link Option 1: Drill and Blast Tunnel</b>	
<b>Technical:</b>	No technical issues with implementability of tunnel, and proposed alignment is considered optimum when compared against a list of objectives including design standards, stakeholder and client objectives whilst minimising disturbance (to structures in immediate vicinity and to the harbour)
<b>Operational:</b>	No apparent operational difficulties. Care is required to ensure safety is maintained with transport of dangerous loads. A traffic management scheme would be developed for the tunnel and further risk management measures might need to be introduced during the planning stage, which could include a fire suppression system
<b>Financial:</b>	Significant capital outlay required
<b>Public:</b>	May not be acceptable to those who wish to retain the ferry service, or who do not like tunnels, depending on implementation of other options

<b>Environment</b>	
<b>Bressay Link Option 1: Drill and Blast Tunnel</b>	
Mitigation Options Included: (Costs & Benefits)	<ul style="list-style-type: none"> <li>• All works to be completed in accordance with best practice to reduce unnecessary water, noise or air pollution and disturbance to wildlife</li> <li>• Lerwick tunnel portal design to take account of potential risk from flooding. Dredged material could be used to help reduce risk</li> <li>• Detailed design to take account of potential hydrological and hydrogeological impacts and mitigate these</li> <li>• Design to include measures to protect Noss from increased risk of polecat ferrets</li> <li>• Pre-construction ecological surveys to protect wildlife interests</li> <li>• Tunnel portals and entrance/exit areas to be designed so as to be sympathetic in character with surrounding areas. Design to be simple</li> <li>• Approach cuttings to be graded to fit into surrounding contours and made aesthetically pleasing through design and landscaping.</li> <li>• Lighting to tunnel portals and associated areas to be designed to be sympathetic and not to shine into property windows or cause unnecessary pollution of the night sky. Avoid any unnecessary lighting</li> <li>• Planting of trees and shrubs is inappropriate, so surrounding disturbed areas are to be topsoiled and cultivated and returned to vegetation types to match surrounding areas, generally rough grass and heathland. Where peat is present then this would be removed, carefully stored and returned to the areas from where it originated, so that the seed bank within it could promote regeneration</li> <li>• Detailed design would avoid unnecessary landscape and visual impacts, such as disturbance to areas</li> </ul>

<b>Environment</b>			
<b>Bressay Link Option 1: Drill and Blast Tunnel</b>			
	<ul style="list-style-type: none"> <li>or features of high landscape value, or intrusion into close views from residential properties</li> <li>The shoreline in the vicinity of Gremista and Point of Scatland comprises made ground and is unsightly, with debris and dumped material being present. Mitigation would include tidying up the waterfront and improving the environmental quality of this area. A landscape design for the shore front and tunnel portal areas would be recommended</li> </ul>		
<b>Sub-objective</b>	<b>Qualitative Information</b>	<b>Quantitative Information</b>	<b>Significance of Impact</b>
Land Use	<ul style="list-style-type: none"> <li>Option would require demolition of an LPA shed but is unlikely to impact significantly on other land uses in the area</li> <li>The excess material from construction could potentially be used to reclaim an area of shallow water at the Bight of Gremista marina alongside the tunnel access road and adjacent to Shetland Catch</li> <li>Construction would provide opportunities for environmental enhancements of a degraded area of the port with removal of dumped materials and demolition of the old property</li> <li>Loss of some land used for grazing</li> </ul>	No specific detail available (but see Annex G)	Minor adverse to moderate beneficial
Agriculture and Soils	<ul style="list-style-type: none"> <li>Loss of small areas of low quality semi-improved fields at Heogan and Gremista which are used for rough grazing to facilitate construction of access roads and tunnel portal (on Bressay)</li> </ul>	No specific detail of area etc available	Minor adverse
Geology	<ul style="list-style-type: none"> <li>No designated sites affected or important geological resources</li> <li>Rock removed could be re-used</li> </ul>	Tunnelling would result in the removal of some 124,000m <sup>3</sup> of rock (168,000m <sup>3</sup> bulk volume)	Minor adverse to neutral because material could be re-used (subject to necessary consents)
Water Quality, Drainage and Flood Defence	<ul style="list-style-type: none"> <li>There would be impacts to water quality during construction particularly if land is reclaimed at the edge of the marina and near Shetland Catch. Effects would be short term and controlled by carefully planning the works and implementation of best construction practices on site. Bressay Sound has high natural dispersal characteristics which would aid</li> </ul>	<p>Bressay Sound: water quality is generally high and of good quality with some local areas where discharges affect this</p> <p>Minor unnamed watercourses</p>	<p>Minor adverse during construction</p> <p>Minor adverse</p>

Environment			
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	<ul style="list-style-type: none"> <li>recovery on completion of construction</li> <li>Potential for impacts on groundwater but unlikely to be significant. Further work required to confirm this</li> <li>Potential flood risk at Lerwick tunnel portal. Further design work required to identify level of risk and appropriate mitigation</li> </ul>		Minor adverse
Landscape	<ul style="list-style-type: none"> <li>No landscape designations within 500m</li> </ul> <p><i>Landscape Resources Lerwick Side:</i></p> <ul style="list-style-type: none"> <li>Industrial areas with some rough grassland separating areas of sheds, hard standing and access roads</li> <li>Semi improved grassland and heath beyond developed area</li> <li>Disturbed shore line comprising made ground, with tipped waste materials</li> </ul> <p><i>Landscape Resources Bressay Side:</i></p> <ul style="list-style-type: none"> <li>Open moorland grassland and heath, wetland areas</li> <li>Natural shoreline – low earth bank and shingle</li> <li>Gently rolling open hills dropping to the shore</li> <li>Traditional Bressay stone dykes separate rough fields</li> <li>Scattered traditional properties are apparent across the area</li> <li>Shetland Fish Products (SFP) factory is a landscape detractor</li> <li>Historic remains including a suspected broch and old herring processing plant</li> </ul> <p>Summary of Effects (see Appendix 8.1 for further detail)</p> <ul style="list-style-type: none"> <li>A tunnel would result in minimal long term impacts on the wider landscape</li> <li>In the locality of the portals themselves and along the routes of the proposed access roads serving the tunnel, localised impacts on the</li> </ul>	Landscape Character Areas listed in Appendix 8.1	Minor/moderate adverse (mainly on Bressay side) with some opportunities for benefits on the Lerwick side (minor beneficial)

<b>Environment</b>			
<b>Bressay Link Option 1: Drill and Blast Tunnel</b>			
	<ul style="list-style-type: none"> <li>landscape would result, particularly on Bressay</li> <li>On the Lerwick side, these have potential to be positive though enhancing currently degraded areas</li> </ul>		
Visual Amenity	<p><i>Existing Views</i></p> <ul style="list-style-type: none"> <li>Existing views in the vicinity of the west tunnel portal are generally low quality as they are dominated by the industrial infrastructure around Gremista, and the made ground which forms the shore in this location. Wider views are available from higher open ground to the west (Hill of Greenhead and North Hoo) and from the northern side of Lerwick</li> <li>In the vicinity of the proposed east tunnel portal, the Shetland Fish Products (SFP) factory is a dominant feature in views, reducing their quality in this area. Beyond this, views are available from small scale scattered properties, across an open rolling landscape, and over Bressay Sound. Wider views are available from the low rolling hills to the east (e.g. Hill of Cruester)</li> </ul> <p><i>Summary of Effects (see Appendix 8.1 for further detail)</i></p> <ul style="list-style-type: none"> <li>A tunnel would result in minimal long term visual impacts in the wider area</li> <li>In the locality of the portals themselves and along the routes of the proposed access roads serving the tunnel, localised visual impacts would result, but some of these have potential to be positive</li> </ul>	Viewpoints listed in Appendix 8.1	Minor/moderate adverse (mainly on Bressay side) with some opportunities for benefits on the Lerwick side (minor beneficial)
Biodiversity	<ul style="list-style-type: none"> <li>No effect on any site designated for its nature conservation interests</li> <li>Increased risk of facilitating the access of polecat ferrets to Noss This risk would need to be taken into account in the detailed design</li> </ul>	<p>Sea mammals</p> <p>Otter</p>	Minor to moderate adverse during construction; minor adverse on completion

Environment			
Bressay Link Option 1: Drill and Blast Tunnel			
	<ul style="list-style-type: none"> <li>Construction activities could impact on marine life such as cetaceans (European Protected Species (EPS)), which are particularly sensitive to subterranean acoustic disturbance and vibration. The impact during any construction works may extend to several kilometres from the sound source. Specific mitigation would need to be agreed with SNH to ensure the risk of disturbance was reduced to the minimum necessary for the works if option was taken forward</li> <li>Option could impact on otter (EPS) in the marine environment or on land. Pre-construction surveys would be required to confirm this</li> <li>Options would involve the construction of new roads on Bressay which could disturb breeding waders. Pre-construction surveys would be required to identify and specific mitigation requirements including timing of the works</li> </ul>	Important bird species	
Cultural Heritage	<ul style="list-style-type: none"> <li>Option would impact on the setting of the Bod of Gremista Category B Listed museum building</li> <li>Potential for environmental improvement although portal and traffic would be visible</li> </ul>	No specific information on numbers of sites at this stage – Shetland has a rich archaeological heritage and sites are numerous and widespread	Neutral to minor adverse or minor positive (not significant)
Noise and Vibration	<ul style="list-style-type: none"> <li>Noise and vibration would be created during construction and is likely to be significant at some locations over short periods but could be managed through implementation of mitigation measures to reduce the magnitude of the impacts</li> <li>During operation option would remove traffic and therefore noise impacts from the current quay in Lerwick and potentially from Lerwick centre itself. Similarly, the existing road from Maryfield to the Heogan Road on Bressay would experience a reduction in traffic levels and associated noise. On both the Lerwick</li> </ul>	No specific detail available	Minor to moderate adverse but minor beneficial in some areas

Environment			
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	<p>(western) landfall and Bressay (eastern) landfall there would be increased traffic movements in the area (Gremista Industrial Estate and Gremista Road and Heogan Road) and associated noise and vibration impacts</p> <ul style="list-style-type: none"> <li>The fixed link would increase accessibility and associated increased traffic and noise levels could increase on the island as a whole but this would not be anticipated to be significant as flows would be spread throughout the day with concentrations in the peak periods</li> </ul>		
Air Quality - Overall	<ul style="list-style-type: none"> <li>Option would lead to increased levels of traffic and therefore localised reduction in air quality in Gremista and Heogan but could remove traffic and therefore relieve congestion and improve air quality in some areas of Lerwick centre and Maryfield. Impacts are not considered to be significant because flows would still be comparatively low as compared with for example the Scottish mainland</li> <li>Increased traffic would contribute to global emissions but partly balanced by removal of ferry emissions</li> <li>Carbon footprint smallest of three options</li> </ul>	<p>No specific detail available</p> <p>20,884 tonnes CO2e over 60 years including electricity consumption for ventilation, lighting etc</p>	Minor adverse



Safety			
Sub-objective	Item	Qualitative Information	Quantitative Information
Accidents	Change in Annual Personal Injury Accidents	<ul style="list-style-type: none"> <li>An increase in traffic numbers on all roads leading to the tunnel on both sides. This could lead to an increase in road accidents. However, given the current low levels of vehicle damage only accidents, it is likely that there would still be a low level of injury accidents. With possible developments on Bressay in the long-term, this situation could change</li> <li>Improved access for taxis and public transport provision, leading to possible decrease in driving incidents</li> <li>24 hour access for out-of-hours care, in addition to emergency services and option of being taken to A&amp;E by car/taxi at night, rather than ambulance</li> <li>There is risk of more serious affects from fire in a tunnel. However, the risk of accidents in a tunnel has been demonstrated to be less than on the connected road network</li> </ul>	<p>Numbers too small (currently 1-2 minor incidents a year). Damage to vehicles only, no injuries or fatalities</p> <p>No change.</p>
	Change in Balance of Severity	No change	As above
	Total Discounted Savings	Not significant	Not significant
Security		<ul style="list-style-type: none"> <li>Possible increase in joy riders; possible increased risk of burglary (need to lock cars and houses); possible deterioration of social cohesion, with loss of ferry. This compares to possible improvement in social cohesion because of increased number of people</li> <li>It is difficult to make any firm conclusions on the impact of different options on security from the data available. The importance of people's perceptions of how security might change with different options, and their feelings of being safe are as important. In the main, people's feelings, whether for negative or positive change as a result of different options, are bound up with their overall desire or not, for a fixed link</li> </ul>	Numbers too small and inconsistent to make firm conclusions

<b>Economy (Transport Economic Efficiency)</b>			
<b>Bressay Link Option 1: Drill and Blast Tunnel</b>			
Sub-objective	Item	Qualitative Information	Quantitative Information
User Benefits	Travel Time	Less down time for those delivering services who cross to or from Bressay. This would provide benefits to the Council and other organisations	£17,103,782
	User Charges		£6,501,983
	Vehicle Operating Costs		-£5,254,909
	Quality/Reliability Benefits	No disruption due to bad weather, provides reliability benefits	£0
Private Sector Operator Impacts	Investment Costs		£0
	Operating & Maintenance Costs		£0
	Revenues		£1,096,161
	Grant/Subsidy Payments		£0
<b>Economy (Economic Activity and Location Impacts)</b>			
Sub-objective	Item	Qualitative Information	Quantitative Information
Economic Activity and Location Impacts	Local Economic Impacts	<p>Positive Direct Impacts:</p> <ul style="list-style-type: none"> <li>Potential for sub-contracting to local firms</li> <li>Reduced cost and improved access for residents, businesses and holiday visitors</li> <li>Reduce ongoing operational costs of inter-island ferry service by almost £1 million per annum</li> </ul> <p>Negative Direct Impacts:</p> <ul style="list-style-type: none"> <li>Demolition of LPA warehouse with limited life expectancy but current tenant receives favourable rental that would be unlikely to be achieved in more modern premises</li> <li>Some disruption to access for businesses near to the Lerwick portal during construction.</li> <li>Loss of 18 employment opportunities in Bressay on-board ferry</li> </ul> <p>Indirect Impacts</p> <ul style="list-style-type: none"> <li>Improved competitiveness of businesses based in Bressay.</li> <li>Potential for new enterprise to locate in Bressay</li> </ul>	

		<ul style="list-style-type: none"> <li>• Increase in one-off private housing developments in Bressay.</li> <li>• Improved productivity for private sector and public sector that travel to Bressay to trade or deliver services</li> <li>• Increased exposure to competition for some businesses in Bressay which can be seen as a threat in the community but could equally improve quality of service. The nature of this impact, positive or negative, would depend on response of potential gainer/loser</li> <li>• Increase in overnight visitors</li> <li>• Reduction in community fragility</li> </ul> <p>Possible Long-term Impacts</p> <ul style="list-style-type: none"> <li>• Harbour development in Bressay</li> <li>• Increase in industrial and housing development</li> <li>• A more diversified Bressay economy</li> </ul>	
	National Economic Impacts	None	
	Distributional Impacts	Many impacts expected in the near future would improve economic parity at a Shetland level and enable Bressay to compete on similar terms with businesses on the Shetland Mainland. However, some of the impacts would result in increased competitiveness and displacement at a local level	

<b>Integration</b>			
<b>Bressay Link Option 1: Drill and Blast Tunnel</b>			
Sub-Objective	Item	Qualitative Information	Quantitative Information
Transport Interchanges	Services & Ticketing	<ul style="list-style-type: none"> <li>24 hour access for those with access to private vehicle/taxi</li> <li>Walking and cycling possible</li> <li>Ability to achieve this without private transport depends on extent of public transport provision: Sub-option A limits opportunities, whilst Sub-option B provides opportunities for integration. Sub-option C could provide seamless travel in public transport provision (dependent on wider Shetland network)</li> </ul>	<p><b>Holmsgarth Ferry Terminal:</b> 3.19 miles (mi), drive time of <b>9.5min</b>, @ 20mph. Able to access all departing and arriving vessels.</p> <p><b>Sumburgh Airport:</b> 28.8mi, drive time of <b>34.5min</b>, @ 50mph. Able to access all departing and arriving flights</p>
	Infrastructure & Information	<ul style="list-style-type: none"> <li>Loss of current ability for light freight to be delivered to Lerwick ferry terminal, for transport to Bressay</li> </ul>	
Land Use Transport Integration		<ul style="list-style-type: none"> <li>Option would facilitate access to develop land on Bressay but improvements to infrastructure required</li> </ul>	
Policy Integration	Disabled	<ul style="list-style-type: none"> <li>Ambulant disabled travellers would lose centre to centre link</li> <li>Most, with accessible vehicles, could use existing vehicle, improving access and convenience to all medical and other appointments</li> <li>Increased cost of journey for current Blue badge holders</li> <li>Improved emergency response and out of hours service</li> <li>Public transport unlikely to assist, unless a door to door, fully accessible service</li> </ul>	
	Health	<ul style="list-style-type: none"> <li>Improved access to specific health services</li> <li>Potential to decrease feelings of isolation</li> <li>Increased opportunities to access supermarkets and potentially wider choice and cheaper food, particular advantage to those with specific dietary requirements</li> <li>Possible decrease in physical activity, as longer distance to walk/cycle resulting in possible increase in car use (this could be minimised with good public transport links). However possible improvement to access to leisure centres benefiting health</li> <li>Potential increased access to tobacco, alcohol and drugs but also better access to support services</li> <li>Easier and more flexible access might lead to increased social and family support, but may leave an island that empties during the day, for commuting to the mainland</li> </ul>	

<b>Integration</b>			
<b>Bressay Link Option 1: Drill and Blast Tunnel</b>			
		<ul style="list-style-type: none"> <li>• May be less stressful if people don't have to plan around the ferry timetable, but others may feel the current remoteness is relaxing</li> <li>• Unlikely to have impact on transmission of infectious disease</li> <li>• Importance of maintaining 24 hour emergency services</li> <li>• Possible increase in demand for primary care in Lerwick, and difficulty of shifting resources from elsewhere in Shetland (impact of centralisation of population)</li> </ul>	
	Rural Affairs	<ul style="list-style-type: none"> <li>• SIC Planning Services work on Main Issues paper ongoing - option could stimulate development in rural location</li> </ul>	

Accessibility & Social Inclusion			
Bressay Link Option 1: Drill and Blast Tunnel			
Sub-Objective	Item	Qualitative Information	Quantitative Information
Community Accessibility	Public Transport Network Coverage	<ul style="list-style-type: none"> <li>Low level of public transport provision (Sub-option A) would have negative impact on the ability of those currently reliant on centre-to-centre link to access opportunities, but high level of service (Sub-option C) would provide current levels of access and improve access closer to and from people's homes</li> </ul>	
	Access to Other Local Services	<ul style="list-style-type: none"> <li>Convenience of 24 hour access to and from Bressay</li> <li>Decrease in travel time, extent of which depends on the location</li> <li>Loss of current centre to centre link, and therefore less time savings when accessing central Lerwick locations</li> <li>Extent to which 24 access can be optimised for all, and the loss of central link minimised, depends on access to private vehicle and/or level of public transport provision</li> <li>No direct costs associated with private travel (fares), although distance travelled between locations on either side would increase for most, increasing driving costs. Public transport fares likely to be comparable to current 10 ticket passenger ferry fares</li> </ul>	<p><b>Supermarket</b> 4.41mi, <b>13min</b> 4.45, <b>13.5min</b> 6.29, <b>19min</b> 5.24, <b>15.5min</b> @ 20mph. Approx. 12 minutes shorter than ferry</p> <p><b>King Harald Street</b> 5.02mi, <b>15min</b> 5.82mi, <b>17min</b> 5.05mi, <b>15min</b> 6.90mi, <b>20.5min</b> @ 20mph Approx. 7 minutes shorter than ferry</p> <p><b>Sullom Voe</b> 31.59mi, <b>38min</b> 32.40mi, <b>39min</b> 31.62mi, <b>38min</b> 33.47mi, <b>40min</b> @ 50mph Approx. 16 minutes shorter ferry</p> <p><b>Health Centre</b> 6.88mi, <b>20.5min</b> 5.18mi, <b>15.5min</b> 5.85mi, <b>17.5min</b> 6.66mi, <b>20min</b> @ 20mph. Approx. 8 minutes shorter than ferry</p>

<b>Accessibility &amp; Social Inclusion</b>			
<b>Bressay Link Option 1: Drill and Blast Tunnel</b>			
Comparative Accessibility	Distribution/Spatial Impacts by Social Group	<ul style="list-style-type: none"> <li>Without regular public transport services to the Viking Bus Station/central Lerwick there would be substantial deterioration in access for those individuals and households in Bressay identified in the deprivation research</li> <li>Vehicles would no longer be exempt from MOT certification: currently a number of low income families can afford to run a vehicle on Bressay, providing them with ready access to the ferry and other areas of Bressay. This option and no exemption, could lead to deterioration in access</li> <li>Some older members of Bressay do not have a driving licence, but are able to drive on the island, providing them with access to the ferry terminal etc. This option and no exemption, could lead to deterioration in access</li> </ul>	Statistical recording inconclusive in remote rural areas.
	Distribution/Spatial Impacts by Area	<ul style="list-style-type: none"> <li>Those relying on private vehicle to travel to opportunities would experience improvements in access</li> <li>Those currently walking or cycling to Bressay ferry terminal would experience a negative impact</li> <li>Extent to which negative impacts could be minimised would depend on the level of public transport provision</li> </ul>	Statistical recording inconclusive in remote rural areas

<b>Monetised Summary</b>		
<b>Bressay Link Option 1: Drill and Blast Tunnel</b>		
Present Value of Transport Benefits	£19,447,016	
Present Value of Cost to Government	-£2,613,631	
Net Present Value	£16,833,385	
Benefit-Cost to Government Ratio	7.44	

**Table M2 Option 2: High Level Bridge**

<b>Proposal Details</b>			
<b>Name and address of authority or organisation promoting the proposal:</b>		<b>ZetTrans (Shetland's Transport Partnership)</b> 11 Hill Lane Lerwick Shetland ZE1 0HA	
<b>Proposal Name:</b>	<b>OPTION 2 – HIGH LEVEL BRIDGE</b>	<b>Name of Planner</b>	Michael Craigie, Lead Officer, ZetTrans
<b>Proposal Description</b>	The option covers a high level bridge with an air draft of 60m above MHWS over a 260m wide navigation channel. The bridge would also be provided with wind shielding. It would allow two directional traffic as well as a 2m combined footway/cycleway on one side and a 0.6m wide verge on the other.	<b>Present Value of Cost to Government</b>	-£41,901,088
<b>Funding Sought From:</b>	Scottish Government and Shetland Islands Council	<b>Amount of Application:</b>	Not known at this stage
<b>Performance against planning objectives:</b>			
<b>Aim:</b> To provide an affordable, efficient, flexible and sustainable transport link between Bressay and Mainland Shetland			
<p><b>Economy:</b> Promote economic growth by building, enhancing, managing and maintaining transport services, infrastructure and networks to maximise their efficiency</p> <p><b>Ec1:</b> To enhance the transport infrastructure between Bressay and Mainland Shetland to ensure the long-term sustainability of the Bressay community.</p> <p><b>Ec2:</b> To provide a link which does not constrain Lerwick Harbour's current activities or its future expansion</p> <p><b>Ec3:</b> To provide and promote a link which supports a stable and sustainable economy and enhances employment opportunities</p> <p><b>Ec4:</b> To provide a link which is affordable for users</p> <p><b>Ec5:</b> To provide a link which is sustainable for funders and value for money</p>		<ul style="list-style-type: none"> <li>• Bridge provides 24 hour link apart from in extreme weather conditions</li> <li>• Provides opportunities for economic development in Bressay</li> <li>• Constraint to harbour mitigated by choice of navigation parameters (60m air draft over 260m channel)</li> <li>• Perceived constraint to navigation by collision risk</li> <li>• No cost to users other than fuel or public transport fares</li> <li>• Very high capital costs because of size of structure</li> </ul>	
<p><b>Accessibility:</b> Promote social inclusion by connecting remote and disadvantaged communities and increasing the accessibility of the transport network</p> <p><b>Ac1:</b> To provide and maintain an accessible, efficient, cost effective transport network for Bressay</p> <p><b>Ac2:</b> To provide a link which enables the Bressay community equal opportunities to access employment, services and facilities as other communities in Shetland</p> <p><b>Ac3:</b> To provide a link which does not restrain opportunities for housing in Bressay</p> <p><b>Ac4:</b> To maintain and improve accessibility and response times for emergency services</p>		<ul style="list-style-type: none"> <li>• Provides 24 hour access to and from Bressay. Savings in travel time to various locations and able to eliminate down-time waiting for ferries</li> <li>• No direct costs associated with private travel (fares), although distance travelled between locations on either side would increase for most, increasing driving costs. Public transport fares likely to be comparable to current 10 ticket passenger ferry fares</li> </ul>	



<b>Proposal Details</b>	
<p>and other service providers, including out-of-hours needs</p>	<ul style="list-style-type: none"> <li>• Loss of centre to centre link, impacting on those that currently walk, cycle, or rely on lifts on Bressay. Levels of impact on those without access to a private vehicle would depend on the level of public transport provision put in place</li> <li>• 24 hour emergency and out-of-hours access</li> <li>• Possible weather disruption</li> </ul>
<p><b>Environment:</b> 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  <b>Env1:</b> 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>Env2:</b> To provide a link that seeks to minimise carbon emissions and the use of finite resources  <b>Env3:</b> To promote a link that can accommodate current and future patterns of development and land use in Bressay</p>	<ul style="list-style-type: none"> <li>• The line for the bridge has taken environmental constraints into account</li> <li>• Initial mitigation has been identified which could be developed to further protect the environment</li> <li>• Vehicle trips would increase with a fixed link with a corresponding rise in emissions</li> <li>• 23,525 tonnes CO2e over 60 years including electricity consumption for lighting etc</li> <li>• The link could help promote development on Bressay which would be more than that currently in the local plan</li> </ul>
<p><b>Safety:</b> Improve safety of journeys by reducing accidents and enhancing personal safety of pedestrians, drivers, passengers and staff  <b>S1:</b> To ensure the link continues to maintain and enhance community safety and health  <b>S2:</b> To ensure the link does not compromise maritime safety or road safety</p>	<ul style="list-style-type: none"> <li>• Unlikely to be changes in levels of maritime or road safety, at currently insignificant levels (increased access from Police may assist with drink driving related accidents)</li> <li>• 24 hour access for emergency services would be compromised due to extreme wind conditions but no different to ferry</li> <li>• Importance of people's perceptions of community safety, which are bound up in their overall desire or not, for different options</li> </ul>
<p><b>Integration:</b> Improve integration by making journey planning and ticketing easier and working to ensure smooth connections between different forms of transport  <b>Int1:</b> To provide a link which integrates with all Shetland's transport services and infrastructure, including air, ferry, bus, cycling and walking opportunities  <b>Int2:</b> To promote a transport link that facilitates the delivery of other committed plans and strategies</p>	<ul style="list-style-type: none"> <li>• Improved opportunity for integration with other internal and external transport services, using private vehicle. Levels of integration using public transport is dependent on level of public transport provision put in place</li> </ul>

Implementability Appraisal	
Bressay Link Option 2: High Level Bridge	
Technical:	Bridge parameters agreed with LPA. Some potential difficulties working at height in exposed conditions during construction. Construction operations would be weather dependent and would therefore be planned around summer months
Operational:	No apparent operational difficulties
Financial:	Significant capital outlay required
Public:	May not be acceptable to those who wish to retain the ferry service, or who do not like high bridges. May be perceived constraints to harbour use. May be issues relating to high costs compared with 40m aircraft which would need to be explained

Environment	
Bressay Link Option 2: High Level Bridge	
Mitigation Options Included: (Costs & Benefits)	<ul style="list-style-type: none"> <li>• All works to be completed in accordance with best practice to reduce unnecessary water, noise or air pollution and protect people and wildlife interests</li> <li>• Hydraulic modelling to be undertaken to determine any risks to users of the harbour or coastal interests</li> <li>• Pre-construction ecological surveys to protect wildlife interests</li> <li>• Design to include measures to protect Noss from increased risk of polecat ferrets</li> <li>• The proposed bridge would form a dramatic new feature in the landscape. It is important that this is designed to fit in with and respect the landscape into which it is placed. The scale, size, bulk and form need to be carefully designed and attention paid to aesthetics at all levels, from the overall form of the bridge, abutments and columns, though to detailing of features such as wind shielding and lighting. Multiple visualisations of each alternative design would be needed to be produced and analysed to ensure that the design complements and is in scale with its environment, rather than being out of character or dominating</li> <li>• Bridge abutments, land falls and access roads would be designed so as to be sympathetic in character with surrounding areas. Design to be simple</li> <li>• Embankments to be graded to fit into surrounding contours. Convex and concave rounded slopes with gentle gradients to be created. Steep engineered slopes to be avoided</li> <li>• Lighting to bridge and associated with access roads to be designed to be sympathetic and not to shine into property windows or cause unnecessary pollution of the night sky. Avoid any unnecessary lighting</li> <li>• Planting of trees and shrubs would be inappropriate, so surrounding disturbed areas to be topsoiled and cultivated and returned to vegetation types to match surrounding areas, generally rough grass and heathland. Where peat is present then this would be removed, carefully stored and returned to the</li> </ul>

<b>Environment</b>			
<b>Bressay Link Option 2: High Level Bridge</b>			
	<p>areas from where it originated, so that the seed bank within it could promote regeneration</p> <ul style="list-style-type: none"> <li>Detailed bridge and access road design would avoid unnecessary landscape and visual impacts, such as disturbance to areas or features of high landscape value, or intrusion into close views from residential properties</li> <li>The shoreline in the vicinity of Point of Scotland comprises made ground and is unsightly, with debris and dumped material being present. Mitigation would include tidying up the waterfront and improving the environmental quality of this area. A landscape design for the shore front and bridge embankment and abutments would be recommended</li> </ul>		
<b>Sub-objective</b>	<b>Qualitative Information</b>	<b>Quantitative Information</b>	<b>Significance of Impact</b>
Land Use	<ul style="list-style-type: none"> <li>Option could impact on existing or future harbour activities but has been designed (air draught of 60m) to accommodate large vessels which might wish to pass through Bressay Sound in the future</li> <li>Construction would result in the change of use of some land currently used for grazing (crofting) to facilitate construction of the connecting roads</li> <li>Construction activities could cause some disruption to ongoing port activities and landuses at Lerwick landfall (eg HGVs accessing Hjaltland Sea Farms)</li> <li>One pier would be positioned on site of an LPG store which would have to be relocated</li> </ul>	No specific information available	Moderate to major adverse during construction and minor adverse when operational
Agriculture and Soils	<ul style="list-style-type: none"> <li>Loss of small areas of semi-improved fields at Heogan which are used for low intensity rough grazing to facilitate construction of access roads and bridge landfall</li> </ul>	No specific detail of area etc available	Minor adverse
Geology	<ul style="list-style-type: none"> <li>No designated sites or important geological resources affected</li> <li>Any removed material would be re-used if possible</li> </ul>	No quantitative information available	Neutral

Environment			
Bressay Link Option 2: High Level Bridge			
Water Quality, Drainage and Flood Defence	<ul style="list-style-type: none"> <li>Construction would result in impacts to water quality during construction particularly during construction of any temporary causeways or coffer dams because of increased loads of suspended solids and other pollutants. Implementation of best site management practices would reduce the significance of effects but some impacts could not be avoided. Bressay Sound has high natural dispersal characteristics which would aid recovery on completion of construction</li> <li>If this option was taken forward modelling of the effects of the bridge on currents and dispersion would be required</li> <li>No additional flood risk</li> </ul>	<p>Bressay Sound: water quality is generally high and of good quality with some local areas where discharges affect this</p> <p>Minor unnamed watercourses</p>	Moderate adverse during construction
Landscape	<ul style="list-style-type: none"> <li>There are no landscape designations within 500m</li> </ul> <p><i>Landscape Resources Lerwick side:</i></p> <ul style="list-style-type: none"> <li>Industrial areas with some rough grassland separating areas of sheds, hard standing and access roads</li> <li>Semi improved grassland and heath beyond and above developed area</li> <li>Disturbed shore line comprising made ground</li> </ul> <p><i>Landscape Resources Bressay Side:</i></p> <ul style="list-style-type: none"> <li>Open moorland grassland and heath, wetland areas</li> <li>Natural shoreline – low earth bank and shingle</li> <li>Gently rolling open hills dropping to the shore</li> <li>Scattered traditional properties are</li> </ul>	Landscape Character Areas listed in Appendix 8.1	Major adverse (because of size and scale of structure in Shetland landscape)

Environment			
Bressay Link Option 2: High Level Bridge			
	<p>apparent across the area</p> <ul style="list-style-type: none"> <li>• Shetland Fish Products (SFP) factory is a landscape detractor</li> <li>• Historic remains including a suspected broch and Herring Processing Plant</li> </ul> <p><i>Summary of Effects (see Appendix 8.1 for further detail)</i></p> <ul style="list-style-type: none"> <li>• A bridge would result in long term impacts on the wider landscape, as it would be apparent across a wide area for the duration of its life span</li> <li>• It would form a new feature and land mark, rising above the industrial areas at the Point of Scatland and extending to the rural landscape of Bressay</li> <li>• In the locality of the land falls and along the routes of the proposed access roads serving the bridge, localised impacts on the landscape would result, particularly on Bressay</li> <li>• On the Lerwick side, these have potential to be positive though enhancing currently degraded areas</li> </ul>		
Visual Amenity	<p><i>Existing Views</i></p> <ul style="list-style-type: none"> <li>• Existing views in the immediate vicinity of the west bridge landfall are generally low quality as they are dominated by the industrial infrastructure around Point of Scatland</li> <li>• Wider views are available from higher open ground to the west (Hill of Greenhead, onto which the</li> </ul>	Viewpoints listed in Appendix 8.1	Major (adverse or beneficial according to personal views)

Environment			
Bressay Link Option 2: High Level Bridge			
	<p>landfall would extend, and North Hoo) and from the northern side of Lerwick</p> <ul style="list-style-type: none"> <li>• In the vicinity of the proposed east bridge landfall, the Shetland Fish Products (SFP) factory is a dominant feature in views, reducing their quality in this area. Beyond this, views are available from small scale scattered properties, across an open rolling landscape, and over Bressay Sound. Wider views are available from the low rolling hills to the east (eg Hill of Cruester)</li> <li>• Views of Bressay Sound from the wider area are extensive. This open water forms the setting to and backdrop to views from Lerwick, Bressay and the wider surrounding landscape of open, low, rolling hills, across which are scattered a large number of sensitive visual receptors</li> </ul> <p><i>Summary of Effects (see Appendix 8.1 for detail)</i></p> <ul style="list-style-type: none"> <li>• A bridge of the scale proposed would result in wide scale visual impacts across north facing areas of Lerwick, from the west side of Bressay and the flanks and tops of surrounding hills which face towards the proposed bridge</li> <li>• If the design is of aesthetic merit, it may be considered to be a positive new land mark in Shetland. Viewers would vary in their feelings towards the new bridge depending upon their like or dislike of the design.</li> <li>• In the locality of the land falls</li> </ul>		

Environment			
Bressay Link Option 2: High Level Bridge			
	<p>themselves and along the routes of the proposed access roads serving the bridge, more localised visual impacts would result</p> <ul style="list-style-type: none"> <li>Some of these have potential to be positive though enhancing currently degraded areas</li> </ul>		
Biodiversity	<ul style="list-style-type: none"> <li>No effect on any site designated for its nature conservation interests</li> <li>Increased risk of facilitating the access of polecat ferrets to Noss. This risk would need to be taken into account in the detailed design</li> <li>Construction activities could impact on marine life such as cetaceans (European Protected Species), which are particularly sensitive to subterranean acoustic disturbance and vibration. The impact during any construction works may extend to several kilometres from the sound source. Specific mitigation would need to be agreed with SNH to ensure the risk of disturbance was reduced to the minimum necessary for the works if option was taken forward</li> <li>Option could impact on otter (EPS) in the marine environment or on land. Pre-construction surveys would be required to confirm this</li> <li>Option could result in the collisions between eiders and other seabirds with the structure</li> <li>Would involve the construction of new roads on Bressay which could disturb breeding waders. Pre-construction surveys would be required to identify and specific</li> </ul>	<p>Sea mammals</p> <p>Otter</p> <p>Important bird species</p>	<p>Minor to moderate adverse during construction; minor adverse on completion</p>

<b>Environment</b>			
<b>Bressay Link Option 2: High Level Bridge</b>			
	mitigation requirements including timing of the works		
Cultural Heritage	<ul style="list-style-type: none"> <li>Option would impact on the setting of the Bod of Gremista Category B Listed museum building</li> <li>Could have an effect on setting of cultural heritage resources across a wide area because of scale of proposal</li> </ul>	No specific information on numbers of sites at this stage – Shetland has a rich archaeological heritage and sites are numerous and widespread	Minor adverse
Noise and Vibration	<ul style="list-style-type: none"> <li>Noise would be created during construction and is likely to be significant at some locations over short periods but could be managed through implementation of mitigation measures to reduce the magnitude of the impacts</li> <li>During operation option would remove traffic and therefore noise impacts from the current quay in Lerwick and potentially from Lerwick centre itself. Similarly, the existing road from Maryfield to the Heogan Road on Bressay would experience a reduction in traffic levels and associated noise. On both the Lerwick (western) landfall and Bressay (eastern) landfall there would be increased traffic movements in the area (Gremista Industrial Estate and Gremista Road and Heogan Road) and associated noise and vibration impacts</li> <li>There would be noise generated by traffic crossing the bridge which could affect nearby properties</li> <li>The fixed link would increase accessibility and associated increased traffic and noise levels could increase on the island as a</li> </ul>	No specific detail available	Minor to moderate adverse but minor beneficial in some areas



<b>Environment</b>			
<b>Bressay Link Option 2: High Level Bridge</b>			
	<p>whole but this would not be anticipated to be significant as flows would be spread throughout the day with concentrations in the peak periods</p>		
Air Quality - Overall	<ul style="list-style-type: none"> <li>Option would lead to increased levels of traffic and therefore localised reduction in air quality in Gremista and Heogan but could remove traffic and therefore relieve congestion and improve air quality in some areas of Lerwick centre and Maryfield. Impacts are not considered to be significant because flows would still be comparatively low as compared with for example the Scottish mainland</li> <li>Increased traffic would contribute to global emissions but partly balanced by removal of ferry emissions</li> </ul>	No specific detail available	Minor adverse

<b>Safety</b>			
<b>Bressay Link Option 2: High Level Bridge</b>			
Sub-objective	Item	Qualitative Information	Quantitative Information
Accidents	Change in Annual Personal Injury Accidents	<ul style="list-style-type: none"> <li>An increase in traffic numbers on all roads leading to the bridge on both sides. This could lead to an increase in road accidents. However, given the current low levels and of vehicle damage only accidents, it is likely that there would still be a low level of injury accidents. With possible developments on Bressay in the long-term, this situation could change</li> <li>Improved access for taxis and public transport provision, leading to possible decrease in driving incidents</li> <li>24 hour access for out-of-hours care, in addition to emergency services, except when closed due to weather (alternative arrangements could be put in place) and option of being taken to A&amp;E by car/taxi at night, rather than ambulance</li> </ul>	<p>Numbers too small (currently 1-2 minor incidents a year). Damage to vehicles only, no injuries or fatalities</p> <p>No change</p>
	Change in Balance of Severity	No change	As above
	Total Discounted Savings	Not significant	Not significant
Security		<ul style="list-style-type: none"> <li>Possible increase in joy riders; possible increased risk of burglary (need to lock cars and houses); possible deterioration of social cohesion, with loss of ferry. This compares to possible improvement in social cohesion because of increased number of people</li> <li>It is difficult to make any firm conclusions on the impact of different options on security from the data available. The importance of people's perceptions of how security might change with different options, and their feelings of being safe are as important. In the main, people's feelings, whether for negative or positive change as a result of different options, are bound up with their overall desire or not, for a fixed link</li> </ul>	<p>Numbers too small and inconsistent to make firm conclusions</p>

<b>Economy (Transport Economic Efficiency)</b>			
<b>Bressay Link Option 2: High Level Bridge</b>			
Sub-objective	Item	Qualitative Information	Quantitative Information
User Benefits	Travel Time	Less down time for those delivering services who cross to or from Bressay. This would provide benefits to the Council and other organisations	£17,124,853
	User Charges		£6,255,149
	Vehicle Operating Costs		-£5,055,418
	Quality/Reliability Benefits		£0
Private Sector Operator Impacts	Investment Costs		£0
	Operating & Maintenance Costs		£0
	Revenues		£1,054,547
	Grant/Subsidy Payments		£0
<b>Economy (Economic Activity and Location Impacts)</b>			
Sub-objective	Item	Qualitative Information	Quantitative Information

<b>Economy (Transport Economic Efficiency)</b>			
<b>Bressay Link Option 2: High Level Bridge</b>			
Economic Activity and Location Impacts	Local Impacts	Economic	<p>Positive Direct Impacts:</p> <ul style="list-style-type: none"> <li>• Potential for sub-contracting to local firms</li> <li>• Reduced cost and improved access for residents, businesses and holiday visitors</li> <li>• Reduce ongoing operational costs of inter-island ferry service by almost £1million per annum</li> </ul> <p>Negative Direct Impacts:</p> <ul style="list-style-type: none"> <li>• Some disruption to access for businesses on the Lerwick side during construction</li> <li>• Loss of 18 employment opportunities in Bressay on-board ferry.</li> <li>• Fear of ongoing and permanent damage to competitiveness of port and key industries, not through actual likelihood of collision but risk of collision</li> <li>• Fear that height of the redesigned bridge (60m) would lead to frequent closures which could lead to reluctance for housing or industry to locate in Bressay and could reduce potential benefit of a fixed link to those in Bressay and those that trade in Bressay</li> </ul> <p>Indirect Impacts</p> <ul style="list-style-type: none"> <li>• Improved competitiveness of businesses based in Bressay as a result of reduced cost base</li> <li>• Potential for new enterprise to locate in Bressay but subject to perception / fear of likely closures during high winds</li> <li>• Increase in one-off private housing developments in Bressay but subject to perception / fear of likely closures during high winds</li> <li>• Improved productivity for private sector and public sector that travel to Bressay to trade or deliver services</li> <li>• Increased exposure to competition for some businesses in Bressay which can be seen as a threat in the community but could equally improve quality of service. The nature of this impact, positive or negative, would depend on response of potential gainer/loser</li> <li>• Increase in overnight visitors.</li> <li>• Reduction in community fragility</li> </ul> <p>Possible Long-term Impacts</p> <ul style="list-style-type: none"> <li>• Harbour development in Bressay</li> <li>• Increase in industrial and housing development</li> <li>• A more diversified Bressay economy, assuming that fear of frequent closures not realised</li> </ul>
	National Impacts	Economic	<ul style="list-style-type: none"> <li>• None</li> </ul>

<b>Economy (Transport Economic Efficiency)</b>			
<b>Bressay Link Option 2: High Level Bridge</b>			
	Distributional Impacts	Many impacts expected in the near future would improve economic parity at a Shetland level and enable Bressay to compete on similar terms with businesses on the Shetland Mainland. However, some of the impacts would result in increased competitiveness and displacement at a local level	

<b>Integration</b>			
<b>Bressay Link Option 2: High Level Bridge</b>			
Sub-Objective	Item	Qualitative Information	Quantitative Information
Transport Interchanges	Services & Ticketing	<ul style="list-style-type: none"> <li>24 hour access for those with access to private vehicle/taxi</li> <li>Walking and cycling possible</li> <li>Ability to achieve this without private transport depends on extent of public transport provision: Sub-option A limits opportunities, whilst Sub-option B provides opportunities for integration. Sub-option C could provide seamless travel in public transport provision (dependent on wider Shetland network)</li> </ul>	<b>Holmsgarth Ferry Terminal:</b> 3.19mi, drive time of <b>9.5min</b> , @ 20mph. Able to access all departing and arriving vessels. <b>Sumburgh Airport:</b> 28.8mi, drive time of <b>34.5min</b> , @ 50mph. Able to access all departing and arriving flights
	Infrastructure & Information	<ul style="list-style-type: none"> <li>Loss of current ability for light freight to be delivered to Lerwick ferry terminal, for transport to Bressay</li> </ul>	
Land Use Transport Integration		<ul style="list-style-type: none"> <li>Option would facilitate access to develop land on Bressay but improvements to infrastructure required</li> </ul>	
Policy Integration	Disabled	<ul style="list-style-type: none"> <li>Ambulant disabled travellers would loose centre to centre link</li> <li>Most, with accessible vehicles, could use existing vehicle, improving access and convenience to all medical and other appointments</li> <li>Increased cost of journey for current Blue badge holders</li> <li>Improved emergency response and out of hours service</li> <li>Public transport unlikely to assist, unless a door to door, fully accessible service</li> <li>Weather disruption could affect appointments and carers accessing Bressay</li> </ul>	
	Health	<ul style="list-style-type: none"> <li>Improved access to specific health services</li> <li>Potential to decrease feelings of isolation</li> </ul>	

<b>Integration</b>			
<b>Bressay Link Option 2: High Level Bridge</b>			
		<ul style="list-style-type: none"> <li>• Increased opportunities to access supermarkets and potentially wider choice and cheaper food, particular advantage to those with specific dietary requirements</li> <li>• Possible decrease in physical activity, as longer distance to walk/cycle resulting in possible increase in car use (this could be minimised with good public transport links). However possible improvement to access to leisure centres benefiting health</li> <li>• Potential increased access to tobacco, alcohol and drugs but also better access to support services</li> <li>• This option may encourage risk taking behaviour: jumping off for fun, or for someone who is feeling suicidal</li> <li>• Easier and more flexible access might lead to increased social and family support, but may leave an island that empties during the day, for commuting to the mainland</li> <li>• May be less stressful if people don't have to plan around the ferry timetable, but others may feel the current remoteness is relaxing</li> <li>• Unlikely to have impact on transmission of infectious disease</li> <li>• Importance of maintaining 24 hour emergency services</li> <li>• Possible increase in demand for primary care in Lerwick, and difficulty of shifting resources from elsewhere in Shetland (impact of centralisation of population)</li> </ul>	
	Rural Affairs	SIC Planning Services work on Main Issues paper ongoing - option could stimulate development in rural location	

<b>Accessibility &amp; Social Inclusion</b>			
<b>Bressay Link Option 2: High Level Bridge</b>			
<b>Sub-Objective</b>	<b>Item</b>	<b>Qualitative Information</b>	<b>Quantitative Information</b>
Community Accessibility	Public Transport Network Coverage	<ul style="list-style-type: none"> <li>Low level of public transport provision (Sub-option A) would have negative impact on the ability of those currently reliant on centre-to-centre link to access opportunities, but high level of service (Sub-option C) would provide current levels of access and improve access closer to and from people's homes</li> </ul>	
	Access to Other Local Services	<ul style="list-style-type: none"> <li>Convenience of 24 hour access to and from Bressay</li> <li>Decrease in travel time, extent of which depends on the location</li> <li>Loss of current centre to centre link, and therefore less timing savings when accessing central Lerwick locations</li> <li>Possible weather disruption</li> <li>No direct costs associated with private travel (fares), although distance travelled between locations on either side would increase for most, increasing driving costs. Public transport fares likely to be comparable to current 10 ticket passenger ferry fares</li> </ul>	<p><b>Supermarket</b>                      4.41mi, <b>13min</b>                      4.45, <b>13.5min</b>                      6.29, <b>19min</b>                      5.24, <b>15.5min</b>                      @ 20mph.                      Approx. 12 minutes shorter than ferry</p> <p><b>King Harald Street</b>                      5.02mi, <b>15min</b>                      5.82mi, <b>17min</b>                      5.05mi, <b>15min</b>                      6.90mi, <b>20.5min</b>                      @ 20mph                      Approx. 7 minutes shorter than ferry</p> <p><b>Sullom Voe</b>                      31.59mi, <b>38min</b>                      32.40mi, <b>39min</b>                      31.62mi, <b>38min</b>                      33.47mi, <b>40min</b>                      @ 50mph                      Approx. 16 minutes shorter than ferry</p> <p><b>Health Centre</b>                      6.88mi, <b>20.5min</b>                      5.18mi, <b>15.5min</b>                      5.85mi, <b>17.5min</b>                      6.66mi, <b>20min</b>                      @ 20mph.                      Approx. 8 minutes shorter than ferry</p>

<b>Accessibility &amp; Social Inclusion</b>			
<b>Bressay Link Option 2: High Level Bridge</b>			
Comparative Accessibility	Distribution/Spatial Impacts by Social Group	<ul style="list-style-type: none"> <li>Without regular public transport services to the Viking Bus Station/central Lerwick there would be substantial deterioration in access for those individuals and households in Bressay identified in the deprivation research</li> <li>Vehicles no longer exempt from MOT certification: currently a number of low income families can afford to run a vehicle on Bressay, providing them with ready access to the ferry and other areas of Bressay. This option and no exemption, would lead to deterioration in access</li> <li>Some older members of Bressay do not have a driving licence, but are able to drive on the island, providing them with access to the ferry terminal etc. This option and no exemption, could lead to deterioration in access</li> </ul>	Statistical recording inconclusive in remote rural areas
	Distribution/Spatial Impacts by Area	<ul style="list-style-type: none"> <li>Those relying on private vehicle to travel to opportunities would experience improvements in access</li> <li>Those currently walking or cycling to Bressay ferry terminal would experience a negative impact</li> <li>Extent to which negative impacts could be minimised would depend on the level of public transport provision</li> </ul>	Statistical recording inconclusive in remote rural areas

<b>Monetised Summary</b>		
<b>Bressay Link Option 2: High Level Bridge</b>		
Present Value of Transport Benefits	£19,379,131	
Present Value of Cost to Government	-£41,901,088	
Net Present Value	-£22,521,957	
Benefit-Cost to Government Ratio	0.46	



**Table M3 Option 3: Reconfigured Ferry Service (existing vessel)/ Reconfigured Ferry**

<b>Proposal Details</b>			
<b>Name and address of authority or organisation promoting the proposal:</b>		<b>ZetTrans (Shetland's Transport Partnership)</b> 11 Hill Lane Lerwick Shetland ZE1 0HA	
<b>Proposal Name:</b>	<b>OPTION 3 - RECONFIGURED FERRY SERVICE (EXISTING VESSEL)/ RECONFIGURED FERRY</b>	<b>Name of Planner</b>	Michael Craigie, Lead Officer, ZetTrans
<b>Proposal Description</b>	<p>This option is for an enhanced ferry service, which includes a lengthened operational day and some increase in the frequency of sailings at certain times of day. From the information gathered during the first stage of consultation, it is believed to address issues raised in terms of access and integration. The service would operate:</p> <ul style="list-style-type: none"> <li>• Sunday to Thursday: 0545 (depart Bressay) to 2400 (depart Lerwick) – 18.5 hour service;</li> <li>• Friday and Saturday: 0545 (depart Bressay) to 0145 (depart Lerwick) – 20.25 hour service;</li> </ul> <p>In addition there would be an improvement in the service on a Sunday morning, returning to that prior to the introduction of Sunday maintenance and drill period.</p>	<b>Present Value of Cost to Government</b>	<ul style="list-style-type: none"> <li>• Same fares: - £3,630,566</li> </ul>
<b>Funding Sought From:</b>	Scottish Government and Shetland Islands Council	<b>Amount of Application:</b>	Not known at this stage
<b>Performance against planning objectives:</b>			
<b>Aim:</b> To provide an affordable, efficient, flexible and sustainable transport link between Bressay and Mainland Shetland			
<p><b>Economy:</b> Promote economic growth by building, enhancing, managing and maintaining transport services, infrastructure and networks to maximise their efficiency</p> <p><b>Ec1:</b> To enhance the transport infrastructure between Bressay and Mainland Shetland to ensure the long-term sustainability of the Bressay community.</p> <p><b>Ec2:</b> To provide a link which does not constrain Lerwick Harbour's current activities or its future expansion</p> <p><b>Ec3:</b> To provide and promote a link which supports a stable and sustainable economy and enhances employment opportunities</p> <p><b>Ec4:</b> To provide a link which is affordable for users</p> <p><b>Ec5:</b> To provide a link which is sustainable for funders and value for money</p>		<ul style="list-style-type: none"> <li>• Link enhances current transport provision</li> <li>• Enhanced ferry provision would not constrain the harbour</li> <li>• High operational costs</li> </ul>	

<b>Proposal Details</b>	
<p><b>Accessibility:</b> Promote social inclusion by connecting remote and disadvantaged communities and increasing the accessibility of the transport network</p> <p><b>Ac1:</b> To provide and maintain an accessible, efficient, cost effective transport network for Bressay</p> <p><b>Ac2:</b> To provide a link which enables the Bressay community equal opportunities to access employment, services and facilities as other communities in Shetland</p> <p><b>Ac3:</b> To provide a link which does not restrain opportunities for housing in Bressay</p> <p><b>Ac4:</b> To maintain and improve accessibility and response times for emergency services and other service providers, including out-of-hours needs.</p>	<ul style="list-style-type: none"> <li>• Improved access to shift work, onward travel and leisure activities. However, continued dependence on timetable and the restrictions this can bring</li> <li>• Retention of important centre to centre link</li> <li>• Levels of access also dependent on fare levels: the current fare levels do not address issues of access raised, but a system appropriate to Bressay's circumstances, would</li> <li>• Current access issues within Bressay and when accessing ferry terminal would be addressed by regular internal service to integrate with ferry timetable</li> <li>• Little change on impact to emergency services and out-of-hours access</li> </ul>
<p><b>Environment:</b> 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</p> <p><b>Env1:</b> 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</p> <p><b>Env2:</b> To provide a link that seeks to minimise carbon emissions and the use of finite resources</p> <p><b>Env3:</b> To promote a link that can accommodate current and future patterns of development and land use in Bressay</p>	<ul style="list-style-type: none"> <li>• Natural and cultural heritage resources would be protected as minimal new infrastructure required and additional disturbance not considered significant</li> <li>• 58,106 tonnes CO2e over 60 years (highest of any option)</li> <li>• Additional ferry services/cheaper fares could encourage more people to live/stay on Bressay and stimulate increased development</li> </ul>
<p><b>Safety:</b> Improve safety of journeys by reducing accidents and enhancing personal safety of pedestrians, drivers, passengers and staff</p> <p><b>S1:</b> To ensure the link continues to maintain and enhance community safety and health</p> <p><b>S2:</b> To ensure the link does not compromise maritime safety or road safety</p>	<ul style="list-style-type: none"> <li>• Unlikely to have impact on road or maritime safety</li> <li>• Provision of public transport could cut down on drink driving</li> <li>• Importance of people's perceptions of community safety, which are bound up in their overall desire or not, for different options</li> </ul>
<p><b>Integration:</b> Improve integration by making journey planning and ticketing easier and working to ensure smooth connections between different forms of transport</p> <p><b>Int1:</b> To provide a link which integrates with all Shetland's transport services and infrastructure, including air, ferry, bus, cycling and walking opportunities</p> <p><b>Int2:</b> To promote a transport link that facilitates the delivery of other committed plans and strategies</p>	<ul style="list-style-type: none"> <li>• Improved ability to integrate with other internal and external transport services, both using public and private transport. With opportunities to integrate ticketing, improve information provision</li> </ul>

Implementability Appraisal	
Bressay Link Option 3: Reconfigured Ferry Service	
Technical:	No technical issues with implementability of option - extension of current provision.
Operational:	No operational difficulties - extension of current provision. Need to extend working day of crew, particularly to ensure time for drills and maintenance to be undertaken
Financial:	Less capital outlay required at any time (for replacement ferry/infrastructure) than fixed link options but high operational costs
Public:	May be most acceptable option to those who wish to retain the ferry service but does not address all issues raised

Environment			
Bressay Link Option 3: Reconfigured Ferry Service			
Mitigation Options Included: (Costs & Benefits)	<ul style="list-style-type: none"> <li>If new piers and slip ways are required then these would be designed to be of high standard, and to tie in with their adjacent landscape and visual environment. A landscape design for the land falls would be recommended, ie streetscape works around the ferry terminal at the Lerwick end and a more rural landscape design on Bressay. All works to be completed in accordance with best practice to reduce unnecessary water, noise or air pollution</li> <li>Associated clutter such as signage, lighting and street furniture would be designed so as to be unified and minimised, ie pole sharing for signs and lights, a 'family' of signs, attention to car park surfacing and road markings etc</li> </ul>		
Sub-objective	Qualitative Information	Quantitative Information	Significance of Impact
Land Use	<ul style="list-style-type: none"> <li>No significant change from current situation unless new infrastructure proposed in future</li> </ul>	As existing	Neutral
Agriculture and Soils	<ul style="list-style-type: none"> <li>No significant change from current situation</li> </ul>	n/a	Neutral
Geology	<ul style="list-style-type: none"> <li>No significant change from current situation</li> </ul>	As existing	Neutral

<b>Environment</b>			
<b>Bressay Link Option 3: Reconfigured Ferry Service</b>			
Water Quality, Drainage and Flood Defence	<ul style="list-style-type: none"> <li>Any spillages of diesel and other pollutants from the ferry and/or vehicles using it could impact on the water quality of the harbour but this is unlikely to be significantly different from at present and with stringent operating practices this risk would continue to be carefully controlled</li> <li>No additional flood risk</li> </ul>	<p>Bressay Sound: water quality is generally high and of good quality with some local areas where discharges affect this</p> <p>Minor unnamed watercourses</p>	Neutral
Landscape	<ul style="list-style-type: none"> <li>The landscape already accommodates the existing ferry service and is not likely to be sensitive to a reconfigured service unless new infrastructure required</li> <li>Effect would depend upon the nature and scale of the proposals, but unlikely to have significant impacts on the landscape as the ferry is already part of the character of the area</li> </ul>	No significant change	Neutral
Visual Amenity	<p><i>Summary of Effects (see Appendix 8.1 for more detail)</i></p> <ul style="list-style-type: none"> <li>Receptors are already accustomed to seeing the existing ferry service. Their sensitivity depends upon the nature and location of the proposals. Receptors which see the existing service would be of low sensitivity to seeing a new service, depending upon what is proposed</li> <li>Longer hours of service have potential for increased visual impacts due to lighting</li> <li>The effects of Option 3 (reconfigured ferry service) would depend upon the nature and scale of the proposals, but would be unlikely to have significant visual impacts as people</li> </ul>	No specific information available	Neutral

<b>Environment</b>			
<b>Bressay Link Option 3: Reconfigured Ferry Service</b>			
	<p>are already accustomed to seeing the existing ferry</p> <ul style="list-style-type: none"> <li>If more boats were introduced with any option, for example smaller boats for passengers only, then these would provide increased activity and visual interest at the existing North Jetty</li> </ul>		
Biodiversity	<ul style="list-style-type: none"> <li>Additional services could cause some additional disturbance to protected species but because of the current level of harbour activities not likely to be significant</li> </ul>	<p>Sea mammals</p> <p>Otter</p> <p>Important bird species</p>	Neutral
Cultural Heritage	<ul style="list-style-type: none"> <li>No significant change from current situation</li> </ul>	n/a	Neutral
Noise and Vibration	<ul style="list-style-type: none"> <li>Could lead to reduction in traffic and associated noise over a longer period of time due to the increased frequency and operation period although there would be increased noise from the increased ferry movements</li> </ul>	No specific information available	Minor adverse
Air Quality - Overall	<ul style="list-style-type: none"> <li>Option could lead to decreased levels of congestion as traffic for the ferry service would be spread out over a longer period of time compared to the present situation.</li> <li>The increased level of service would result in increased levels of emissions from the ferry vessels unless vessels with new technology were introduced in the future with potential for decreased emissions</li> </ul>	No specific information available	Minor adverse

<b>Safety</b>			
<b>Bressay Link Option 3: Reconfigured Ferry Service</b>			
Sub-objective	Item	Qualitative Information	Quantitative Information
Accidents	Change in Annual Personal Injury Accidents	<ul style="list-style-type: none"> <li>Possible small increase in traffic numbers on local roads, which may lead to slight increase in road accidents</li> </ul>	Numbers too small (currently 1-2 minor incidents a year). Damage to vehicles only, no injuries or fatalities No change
	Change in Balance of Severity	No change	As above
	Total Discounted Savings	Not significant	Not significant
Security		<ul style="list-style-type: none"> <li>Little/no impact</li> <li>Public transport from ferry could lead to possible decrease in driving incidents</li> <li>Ferry provides: opportunities to meet people, provide sense of community and support networks, ferry crew able to look after younger and older members of the community, when accessing Shetland Mainland, and provides constraint to open access into Bressay</li> </ul>	Numbers too small and inconsistent to make firm conclusions. Unlikely to change

<b>Economy (Transport Economic Efficiency)</b>			
<b>Bressay Link Option 3: Reconfigured Ferry Service-Existing Fares (see end of table for comparison with other fare options)</b>			
Sub-objective	Item	Qualitative Information	Quantitative Information
User Benefits	Travel Time		£0
	User Charges		£-386,906
	Vehicle Operating Costs		£0
	Quality/Reliability Benefits	Ability to travel earlier and later, including the chance to connect with other transport services. This may attract trips to the service with the associated benefits. A more frequent service makes it easier for users' days to be planned around ferry sailings. Again, this may attract trips to the service with the associated benefits.	£0
Private Sector Operator Impacts	Investment Costs		£0
	Operating & Maintenance Costs		£0
	Revenues		£386,906
	Grant/Subsidy Payments		£0
<b>Economy (Economic Activity and Location Impacts)</b>			
Sub-objective	Item	Qualitative Information	Quantitative Information
Economic Activity and	Local Economic	Positive Direct Impacts	

<b>Economy (Transport Economic Efficiency)</b>			
<b>Bressay Link Option 3: Reconfigured Ferry Service-Existing Fares (see end of table for comparison with other fare options)</b>			
Location Impacts	Impacts	<ul style="list-style-type: none"> <li>If lower cost fare proposal introduced this would reduce costs for businesses and service providers in Bressay, however, inconvenience of ferry and lost productivity due to time spent waiting for ferry would remain</li> <li>Would create 2-3 new full-time equivalent posts in the ferry service</li> </ul> <p>Negative Direct Impacts</p> <ul style="list-style-type: none"> <li>Increase in cost of delivery to the public sector (approximately £300,000 per annum)</li> </ul> <p>Indirect Impacts</p> <ul style="list-style-type: none"> <li>If free fares proposal introduced it would be expected to increase number of trips which could create benefits but could also potentially make it harder for economic actors to access a capacity constrained service</li> </ul>	
	National Economic Impacts	None	
	Distributional Impacts	None, barrier to investment in Bressay would remain	



<b>Integration</b>			
<b>Bressay Link Option 3: Reconfigured Ferry Service</b>			
Sub-Objective	Item	Qualitative Information	Quantitative Information
Transport Interchanges	Services & Ticketing	<ul style="list-style-type: none"> <li>Improved ability to integrate with other transport services because of increased opportunities to do so: lengthened operational day and frequency</li> <li>Ability to achieve this without private transport depends on extent of public transport provision: Option A limits opportunities, whilst Option C could provide more seamless travel, dependent on wider Shetland network</li> <li>Digital boards at terminals provide information on next departure; waiting area with seating and protected from weather</li> <li>Opportunities to integrate ticketing between internal transport services</li> </ul>	<p><b>Holmsgarth Ferry Terminal:</b> 1.47mi, drive time of 4.5min, @ 20mph + ferry crossing: <b>21.5min.</b> Regular ferry service to meet all arrivals and departures.</p> <p><b>Sumburgh Airport:</b> 25.65mi, drive time of 31min, @ 50mph + ferry crossing: <b>48min.</b> Regular ferry service, to meet all arrivals and departures, including early departures.</p>
	Infrastructure & Information	<ul style="list-style-type: none"> <li>Opportunities for improved freight facilities and information provision, particularly with improved public transport provision</li> <li>Digital boards at terminals provide information on next departure; waiting area with seating and protected from weather</li> </ul>	
Land Use Transport Integration		Minor changes to current conditions - unlikely to stimulate significant change	
Policy Integration	Disability	<ul style="list-style-type: none"> <li>Centre to centre link of limited importance to disabled travellers: few can walk</li> <li>Replacement vessel would provide opportunity for accessible facilities, possible to upgrade terminal facilities at Bressay</li> <li>Blue badge provides low cost of travel</li> <li>Able to access day appointments at hospital on Scottish Mainland and easier access to Shetland medical appointments with increased frequency</li> <li>Weather-related cancellations still able to affect appointments and carers accessing Isle</li> <li>Uncomfortable in calling out emergency services which involves calling out ferry crews</li> <li>Incorporation of public transport service of limited use to many disabled travellers who require door to door service using fully accessible vehicles</li> <li>Look to improve methods of providing information (not just verbal)</li> </ul>	

<b>Integration</b>			
<b>Bressay Link Option 3: Reconfigured Ferry Service</b>			
	Health	<ul style="list-style-type: none"> <li>• Some improvement in access to specific health services</li> <li>• Some improvement in opportunities to access supermarkets and potentially wider choice and cheaper food, particular advantage to those with specific dietary requirements</li> <li>• People continuing to benefit from physical activity, by travelling as foot passengers. May improve access to leisure centres benefiting health</li> <li>• Possible increased access to tobacco, alcohol and drugs but also better access to support services</li> <li>• Possible problem of driving too fast to meet ferries, could be eased by more frequent service</li> <li>• Easier and more flexible access might lead to increased social and family support</li> <li>• People may benefit from the remoteness, whilst others may find fitting around the ferry timetable stressful</li> <li>• Unlikely to have impact on transmission of infectious disease</li> <li>• 24 hour emergency service can operate: the clinical outcome for a patient would depend on the type of emergency</li> <li>• Some patients may be reluctant to seek help 'out of hours'</li> <li>• Improved access to Mainland Scotland hospitals</li> <li>• Decrease in down time of staff waiting for ferry</li> </ul>	
	Rural Affairs	<p>Minor change to current service; retains centre to centre connection.                      Unlikely to stimulate major development in Bressay</p>	

<b>Accessibility &amp; Social Inclusion</b>			
<b>Bressay Link Option 3: Reconfigured Ferry Service</b>			
<b>Sub-Objective</b>	<b>Item</b>	<b>Qualitative Information</b>	<b>Quantitative Information</b>
Community Accessibility	Public Transport Network Coverage	<ul style="list-style-type: none"> <li>Particular improvements in access for those living in North, East and South parts of Bressay, currently unable to readily access Bressay ferry terminal without private vehicle: frequency dependent on level of public transport provision (Sub-option A as minimum)</li> </ul>	
	Access to Other Local Services	<ul style="list-style-type: none"> <li>Improved frequency and length of day available to access, within timetables, including to health care, leisure activities and shift work</li> <li>Extent to which this is available depends on access to private vehicle and/or level of public transport provision within Bressay</li> <li>Average journey time may decrease, due to increased frequency of ferry</li> <li>Affordability of access depends on fare structure put in place. The most appropriate structure would be one which better reflected Bressay's dependence on Mainland Shetland for opportunities</li> </ul>	<p><b>Supermarket</b>                      N: 2.78mi, <b>25.5min</b>                      E: 2.63mi, <b>25min</b>                      S: 4.67mi, <b>31min</b>                      C: 3.57mi, <b>27.5min</b>                      Walking and cycling possible, although unable to carry a large shop. Approx. 12 minutes longer than via fixed link options</p> <p><b>King Harald Street</b>                      1.76mi, <b>22.5min</b>                      2.58mi, <b>24.5min</b>                      1.73mi, <b>22min</b>                      3.65mi, <b>28min</b>                      @ 20mph                      Walking and cycling possible. Approx. 7 minutes longer than via fixed link options</p> <p><b>Sullom Voe</b>                      30.65mi, <b>54min</b>                      31.46mi, <b>53.5min</b>                      30.68mi, <b>54min</b>                      32.53mi, <b>56min</b>                      @ 50mph                      Limited public transport opportunities. Approx 16 minutes longer than via fixed link options</p> <p><b>Health Centre</b>                      3.28mi, <b>27min</b>                      2.30mi, <b>24min</b>                      4.12mi, <b>29.5min</b>                      3.01mi, <b>26min</b>                      @ 20mph.</p>

<b>Accessibility &amp; Social Inclusion</b>			
<b>Bressay Link Option 3: Reconfigured Ferry Service</b>			
			Walking and cycling possible, if able. Approx average of 8 minutes longer than fixed link options
Comparative Accessibility	Distribution/Spatial Impacts by Social Group	<ul style="list-style-type: none"> <li>An improved ferry service, without improvements in the internal transport network of Bressay would not lead to deterioration in access (improving the length of the daily service, and frequency), yet would not fully resolve issues of access raised: for those without a private vehicle, it is not always possible to access the ferry terminal on Bressay (Sub-option A as minimum)</li> <li>Fare structure would need to reflect issues of those less able to afford travel</li> </ul>	Statistical recording inconclusive in remote rural areas
	Distribution/Spatial Impacts by Area	<ul style="list-style-type: none"> <li>Those living further away from the Bressay terminal, not within walking/cycling distance would only experience improved access because of increased ferry operations, but would still have to rely on private vehicle to Bressay ferry terminal, unless suitable public transport provision was put in place both within Bressay and that this was better integrated with the transport network on mainland Shetland</li> </ul>	Statistical recording inconclusive in remote rural areas

<b>Monetised Summary</b>			
<b>Bressay Link Option 3: Reconfigured Ferry Service</b>			
<b>Option 3A: Existing Fares</b>			
Present Value of Transport Benefits	£0		
Present Value of Cost to Government	-£3,630,566		
Net Present Value	-£3,630,566		
Benefit-Cost to Government Ratio	0.00		
<b>Option 3B: No Fares</b>			
Present Value of Transport Benefits	£8,014,692		
Present Value of Cost to Government	-£10,940,256		
Net Present Value	-£2,925,564		
Benefit-Cost to Government Ratio	0.73		
<b>Option C: New Fares</b>			
Present Value of Transport Benefits	£838,459		
Present Value of Cost to Government	-£3,764,022		
Net Present Value	-£2,925,564		
Benefit-Cost to Government Ratio	0.22		

**Table M4 Option 4: Do Minimum - Current Ferry Service**

<b>Proposal Details</b>			
<b>Name and address of authority or organisation promoting the proposal:</b>		<b>ZetTrans (Shetland's Transport Partnership)</b> 11 Hill Lane Lerwick Shetland ZE1 0HA	
<b>Proposal Name:</b>	<b>Baseline/Do Minimum: current ferry service</b>	<b>Name of Planner</b>	Michael Craigie, Lead Officer, ZetTrans
<b>Proposal Description</b>	<ul style="list-style-type: none"> <li>The first service of each day departs Bressay at 0700 hours, and departs Lerwick at 0715 hours.</li> <li>Monday to Thursday there are twenty-one crossings each way, in the main on an hourly basis, but more frequently at peak times, including lunch time.</li> <li>On a Friday and Saturday there is an additional service at 2330 and 0045 departing Bressay and 2359 and 0100 departing Lerwick.</li> <li>On a Sunday there are less crossings during the morning, compared to other days, to enable maintenance and drill period.</li> </ul> <p>Passenger costs are as follows:</p> <ul style="list-style-type: none"> <li>Adult – return: £3.30</li> <li>10 return journey ticket: £15.80</li> <li>Children, up to 16 – return: £0.40</li> <li>10 return journey children's ticket: £2.80</li> <li>Concessionary SIC Pass Holders – no charge</li> </ul> <p>Vehicle costs (fares include driver) are as follows:</p> <ul style="list-style-type: none"> <li>Motorcycles – return: £6.00</li> <li>Vehicles up to and including 5.50m – return: £7.80</li> <li>10 return journey ticket: £62.00</li> <li>Limited post car service</li> </ul>	<b>Present Value of Cost to Government</b>	Not applicable <sup>1</sup>
<b>Funding Sought From:</b>	Scottish Government and Shetland Islands Council	<b>Amount of Application:</b>	
<b>Performance against planning objectives:</b>			

<sup>1</sup> Options 1 to 3 are all compared against the Do Minimum

<b>Proposal Details</b>	
<b>Aim:</b> To provide an affordable, efficient, flexible and sustainable transport link between Bressay and Mainland Shetland	
<p><b>Economy:</b> Promote economic growth by building, enhancing, managing and maintaining transport services, infrastructure and networks to maximise their efficiency</p> <p><b>Ec1:</b> To enhance the transport infrastructure between Bressay and Mainland Shetland to ensure the long-term sustainability of the Bressay community.</p> <p><b>Ec2:</b> To provide a link which does not constrain Lerwick Harbour's current activities or its future expansion</p> <p><b>Ec3:</b> To provide and promote a link which supports a stable and sustainable economy and enhances employment opportunities</p> <p><b>Ec4:</b> To provide a link which is affordable for users</p> <p><b>Ec5:</b> To provide a link which is sustainable for funders and value for money</p>	<ul style="list-style-type: none"> <li>• Link enhances current transport provision</li> <li>• Enhanced ferry provision would not constrain the harbour</li> <li>• High operational costs</li> </ul>
<p><b>Accessibility:</b> Promote social inclusion by connecting remote and disadvantaged communities and increasing the accessibility of the transport network</p> <p><b>Ac1:</b> To provide and maintain an accessible, efficient, cost effective transport network for Bressay</p> <p><b>Ac2:</b> To provide a link which enables the Bressay community equal opportunities to access employment, services and facilities as other communities in Shetland</p> <p><b>Ac3:</b> To provide a link which does not restrain opportunities for housing in Bressay</p> <p><b>Ac4:</b> To maintain and improve accessibility and response times for emergency services and other service providers, including out-of-hours needs.</p>	<ul style="list-style-type: none"> <li>• Importance of centre to centre link for access. However timetable and fare structure place constraints, including for access to employment and leisure activities. Impact on travel in relation to downtime waiting for ferry</li> </ul>
<p><b>Environment:</b> 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</p> <p><b>Env1:</b> 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</p> <p><b>Env2:</b> To provide a link that seeks to minimise carbon emissions and the use of finite resources</p> <p><b>Env3:</b> To promote a link that can accommodate current and future patterns of development and land use in Bressay</p>	<ul style="list-style-type: none"> <li>• There would be no change from present circumstances and thus resources would be protected</li> <li>• 39,281 tonnes CO2e over 60 years</li> <li>• Option unlikely to stimulate development</li> </ul>
<p><b>Safety:</b> Improve safety of journeys by reducing accidents and enhancing personal safety of pedestrians, drivers, passengers and staff</p> <p><b>S1:</b> To ensure the link continues to maintain and enhance community safety and health</p> <p><b>S2:</b> To ensure the link does not compromise maritime safety or road safety</p>	<ul style="list-style-type: none"> <li>• High levels of road and maritime safety, although issue with level of drink driving incidents</li> <li>• Low levels of community safety incidents and low levels of fear of crime</li> </ul>
<p><b>Integration:</b> Improve integration by making journey planning and ticketing easier and working to ensure smooth connections between different forms of transport</p> <p><b>Int1:</b> To provide a link which integrates with all Shetland's transport services and</p>	<ul style="list-style-type: none"> <li>• Low levels of integration with internal and external transport services</li> </ul>

<b>Proposal Details</b>	
infrastructure, including air, ferry, bus, cycling and walking opportunities <b>Int2:</b> To promote a transport link that facilitates the delivery of other committed plans and strategies	

<b>Implementability Appraisal</b>	
<b>Bressay Link Option 4: Do Minimum</b>	
Technical:	No technical issues – current provision
Operational:	No operational difficulties – current provision
Financial:	Less capital outlay required at any time for replacement ferry/infrastructure than fixed link options but high operational costs
Public:	May be an acceptable option to those who wish to retain the ferry service but does not address the issues raised

<b>Environment</b>			
<b>Bressay Link Option 4: Do Minimum</b>			
Mitigation Options Included: (Costs & Benefits)	<ul style="list-style-type: none"> <li>Maintain the existing landscape and townscape character associated with the existing services.</li> <li>Maintain facilities in good condition and take opportunities to enhance when replacements are required</li> </ul>		
<b>Sub-objective</b>	<b>Qualitative Information</b>	<b>Quantitative Information</b>	<b>Significance of Impact</b>
Land Use	<ul style="list-style-type: none"> <li>No significant change from current situation</li> </ul>	As existing	Neutral
Agriculture and Soils	<ul style="list-style-type: none"> <li>No significant change from current situation</li> </ul>	n/a	Neutral
Geology	<ul style="list-style-type: none"> <li>No significant change from current situation</li> </ul>	n/a	Neutral

Environment			
Bressay Link Option 4: Do Minimum			
Water Quality, Drainage and Flood Defence	<ul style="list-style-type: none"> <li>No significant change from current situation</li> <li>No additional flood risk</li> </ul>	As existing	Neutral
Landscape	<p>As existing baseline. Landscape Designations</p> <p>Central Lerwick is a Conservation Area.</p> <p>Landscape Resources</p> <p><i>Lerwick side:</i></p> <ul style="list-style-type: none"> <li>Existing pier, car park and waiting facilities.</li> <li>Fort Charlotte overlooking North Jetty and the Esplanade.</li> </ul> <p><i>Bressay side:</i></p> <ul style="list-style-type: none"> <li>Existing pier at Maryfield, car park and waiting area.</li> </ul> <p>Landscape Character Areas /Types</p> <p>The area near Bressay Sound lies within the Bressay and South Mainland Coast Landscape Character Area (LCA)<sup>2</sup>, on the edge of the South Mainland Upland Spine LCA.</p>	As existing	Neutral
Visual Amenity	<p>As existing baseline. Viewers include:</p> <p><i>Lerwick:</i></p> <ul style="list-style-type: none"> <li>Properties and locations around North Jetty and the Esplanade, including Fort Charlotte</li> <li>Commercial Street</li> <li>Alexandra Wharf</li> <li>Alexandra Building</li> </ul>	As existing	Neutral

<sup>2</sup> Shetland Landscape Character Assessment, Review Number 93, SNH, 1998



<b>Environment</b>			
<b>Bressay Link Option 4: Do Minimum</b>			
	<ul style="list-style-type: none"> <li>• Stewart Building</li> <li>• North Ness</li> <li>• Harbour House</li> <li>• Albert Wharf</li> <li>• Victoria Pier</li> <li>• Small Boat Harbour</li> <li>• Hotels such as Queens Hotel on the Lerwick Waterfront.</li> </ul> <p><i>Bressay:</i></p> <ul style="list-style-type: none"> <li>• Maryfield</li> <li>• Gardie House</li> <li>• Voesome</li> <li>• Glebe</li> <li>• Grindiscol</li> </ul>		
Biodiversity	<ul style="list-style-type: none"> <li>• No significant change from current situation</li> </ul>	n/a	Neutral
Cultural Heritage	<ul style="list-style-type: none"> <li>• No significant change from current situation</li> </ul>	n/a	Neutral
Noise and Vibration	<ul style="list-style-type: none"> <li>• No significant change from current situation</li> <li>• Potential for reduced noise in future with improved technology of new vessels</li> </ul>	As existing in near term	Neutral
Air Quality - Overall	<ul style="list-style-type: none"> <li>• No significant change from current situation</li> <li>• Potential for reduced emissions in future with improved technology of new vessels</li> </ul>	As existing in near term	Neutral

Safety			
Bressay Link Option 4: Do Minimum			
Sub-objective	Item	Qualitative Information	Quantitative Information
Accidents	Change in Annual Personal Injury Accidents	Unlikely to change. Current issue with drink driving related traffic incidents.	Unlikely to change
	Change in Balance of Severity	Unlikely to change	Unlikely to change
	Total Discounted Savings		
Security		Little change <ul style="list-style-type: none"> <li>Ferry provides opportunities to meet people, provide sense of community and support networks, ferry crew able to look after younger and older members of the community, when accessing Shetland Mainland, and provides constraint to open access into Bressay</li> </ul>	

<b>Economy (Transport Economic Efficiency)</b>			
<b>Bressay Link Option 4: Do Minimum</b>			
Sub-objective	Item	Qualitative Information	Quantitative Information
User Benefits	Travel Time		Not applicable <sup>3</sup>
	User Charges		Not applicable
	Vehicle Operation Costs		Not applicable
	Quality/Reliability Benefits		Not applicable
Private Sector Operator Impacts	Investment Costs		Not applicable
	Operating & Maintenance Costs		Not applicable
	Revenues		Not applicable
	Grant/Subsidy Payments		Not applicable
<b>Economy (Economic Activity and Location Impacts)</b>			
Sub-objective	Item	Qualitative Information	Quantitative Information
Economic Activity and Location Impacts	Local Economic Impacts	None	
	National Economic Impacts	None	
	Distributional Impacts	None	

<sup>3</sup> Options 1 to 3 are all compared against the Do Minimum

<b>Integration</b>			
<b>Bressay Link Option 4: Do Minimum</b>			
Sub-Objective	Item	Qualitative Information	Quantitative Information
Transport Interchanges	Services & Ticketing	<ul style="list-style-type: none"> <li>Limited integration with other transport services: high dependence for Bressay community on private vehicles or taxis to access external transport options or onward travel within Shetland. Limited opportunities through the day (weekdays), to access onward travel or when visiting Bressay, when dependent on public transport</li> <li>Reliant on private transport, walking &amp; cycling to Bressay ferry terminal, with limited access by post car; short walk between Lerwick ferry terminal and Viking or Esplanade</li> <li>Unable to access first flights from Sumburgh, without overnight stay on Mainland Shetland</li> <li>No onward ticketing</li> </ul>	<b>Holmsgarth Ferry Terminal:</b> 1.47mi, drive time of 4.5min, @ 20mph + ferry crossing: <b>21.5min.</b> <b>Sumburgh Airport:</b> 25.65mi, drive time of 31min, @ 50mph + ferry crossing: <b>48min.</b>
	Infrastructure Information &	<ul style="list-style-type: none"> <li>Digital boards at terminal, but not real-time information</li> <li>No waiting room on either terminal. Toilets near Bressay terminal and short walk along Esplanade in Lerwick</li> <li>Freight delivered door-to-door requires downtime for operator, between ferries.</li> <li>Freight can be delivered and collected from ferry</li> </ul>	
Land Use Transport Integration		Provision of transport as current service. Unlikely to stimulate development in Bressay	
Policy Integration	Disabled	<ul style="list-style-type: none"> <li>Centre to centre link of limited importance to disabled travellers: few can walk</li> <li>Facilities at Bressay terminal not accessible</li> <li>Blue badge provides low cost of travel</li> <li>Difficult to access hospital and GP appointments, including Aberdeen hospitals (overnight stay required for early flight)</li> <li>Weather-related cancellations affect appointments and carers accessing Isle</li> <li>Uncomfortable in calling out emergency services which involves calling out ferry crews</li> <li>Lack of accessible public transport or taxis on Bressay</li> <li>Difficulty accessing phone information service if hearing problems</li> </ul>	
	Health	<ul style="list-style-type: none"> <li>Difficult for some groups to access specific health services</li> </ul>	

<b>Integration</b>			
<b>Bressay Link Option 4: Do Minimum</b>			
		<ul style="list-style-type: none"> <li>• Minority groups may feel isolated</li> <li>• Limited choice of food at local shop and those travelling by foot may find it difficult to carry large amounts of shopping home, but incentive to be more self-sufficient</li> <li>• Those travelling by foot or cycle would benefit from physical activity, but limited opportunities to visit leisure centres</li> <li>• Possible problem of driving too fast to meet ferries</li> <li>• Support from family and friends outwith Bressay may be limited by ferry timetable, but local social support may be maintained if jobs and facilities are maintained</li> <li>• People may benefit from the remoteness, whilst others may find fitting around the ferry timetable stressful</li> <li>• Unlikely to have impact on transmission of infectious disease</li> <li>• 24 hour emergency service operates: the clinical outcome for a patient would depend on the type of emergency</li> <li>• Some patients may be reluctant to seek help 'out of hours'</li> <li>• Issues around accessing day appointments at Mainland Scotland hospitals</li> <li>• Health staff experience down time waiting for ferry</li> </ul>	
	Rural Affairs	<ul style="list-style-type: none"> <li>• No change to current service; retains centre to centre connection and unlikely to stimulate development in Bressay</li> </ul>	

<b>Accessibility &amp; Social Inclusion</b>			
<b>Bressay Link Option 4: Do Minimum</b>			
Sub-Objective	Item	Qualitative Information	Quantitative Information
Community Accessibility	Public Transport Network Coverage	<ul style="list-style-type: none"> <li>• Limited post bus service</li> <li>• Heavy reliance on private vehicles to Bressay ferry terminal and onward travel</li> </ul>	No planned integrated transport network, within and from Bressay

<b>Accessibility &amp; Social Inclusion</b>			
<b>Bressay Link Option 4: Do Minimum</b>			
	Access to Other Local Services	<ul style="list-style-type: none"> <li>Access to services if within walking/cycling distances and within ferry operating hours (central Lerwick employment, learning, recreation, shopping) or access to private vehicle. If not, journeys can be long and complex, including to health facilities</li> </ul>	No organised access to local services <b>Supermarket</b> N: 2.78mi, <b>25.5min</b> E: 2.63mi, <b>25min</b> S: 4.67mi, <b>31min</b> C: 3.57mi, <b>27.5min</b> <b>King Harald Street</b> 1.76mi, <b>22.5min</b> 2.58mi, <b>24.5min</b> 1.73mi, <b>22min</b> 3.65mi, <b>28min</b>
Comparative Accessibility	Distribution/Spatial Impacts by Social Group	<ul style="list-style-type: none"> <li>Importance of current centre to centre link: for those without access to private vehicle, is essential in being able to access opportunities on the mainland: for example young people being able to access out-of-school activities readily in Lerwick; older people being able to access social opportunities. Heavy reliance for elderly/infirm on volunteer Red Cross Drivers</li> <li>Outstanding issue of access for those not currently able to access ferry terminal</li> <li>Outstanding issues of fares: relative cost, OAPs unable to get concessionary fares if with car</li> </ul>	Statistical recording inconclusive in remote rural areas
	Distribution/Spatial Impacts by Area	Those living further away from Bressay terminal would have greater reliance and need for own transport	Statistical recording inconclusive in remote rural areas

<b>Monetised Summary</b>		
<b>Bressay Link Option 4: Do Minimum</b>		
Present Value of Transport Benefits	Not applicable <sup>4</sup>	
Present Value of Cost to Government	Not applicable	
Net Present Value	Not applicable	
Benefit-Cost to Government Ratio	Not applicable	

<sup>4</sup> Options 1 to 3 are all compared against the Do Minimum