

Shetland Inter-Island Transport Connectivity Programme

Health Impact Assessment



Stantec UK Limited

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Stantec UK Limited

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Health Impact Assessment Report
Shetland Inter-Island Transport Connectivity Programme

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Health Impact Assessment Report
Shetland Inter-Island Transport Connectivity Programme

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Prepared by JK / KM

Signature
Jenny Keenan / Kathleen Morrison

Printed Name

Reviewed by KM

Signature
Kathleen Morrison

Printed Name

Approved by CGT

Signature
Cesar Garcia Torres

Printed Name



Table of Contents

Executive Summary	v
Glossary	vii
List of Acronyms	viii
1 Introduction.....	9
1.1 Background	9
1.2 Shetland IITCP Programme Context.....	9
1.3 Impact Assessment Overview	11
1.4 Purpose of the HIA	12
1.5 Role of the HIA within the Business Case Process.....	12
2 HIA Assessment Approach	14
2.1 Overview.....	14
2.2 Requirement for HIA.....	15
2.3 Assessment Framework and Criteria	16
2.4 Limitations and Assumptions.....	17
3 HIA Scoping	19
3.1 Method.....	19
3.2 Health Determinant Scoping	19
4 Baseline Data & Engagement Evidence.....	23
4.1 Overview.....	23
4.2 Study Area	23
4.3 Data Sources.....	23
4.4 Baseline Data Summary.....	24
4.5 May 2026 Engagement Summary.....	26
5 Bluemull Sound: Health Impact Assessment.....	27
5.1 Overview.....	27
5.2 Baseline Evidence	27
5.3 Bluemull Sound: Option Level HIA Summary.....	30
5.4 Conclusion for Bluemull Sound	31
6 Bressay: Health Impact Assessment	32
6.1 Overview.....	32
6.2 Baseline Evidence	32
6.3 Bressay: Option Level HIA Summary.....	36
6.4 Conclusion for Bressay.....	37
7 Whalsay: Health Impact Assessment.....	38
7.1 Overview.....	38
7.2 Baseline Evidence	38
7.3 Whalsay: Option Level HIA Summary	41
7.4 Conclusion for Whalsay.....	42
8 Yell Sound: Health Impact Assessment.....	43
8.1 Overview.....	43
8.2 Baseline Evidence	43
8.3 Yell: Option Level HIA Summary.....	46
8.4 Conclusion for Yell.....	47
9 Foula: Health Impact Assessment.....	48
9.1 Overview.....	48
9.2 Baseline Evidence	48
9.3 Foula: Option Level HIA Summary	51
9.4 Conclusion for Foula.....	51
10 Papa Stour: Health Impact Assessment	52
10.1 Overview.....	52
10.2 Baseline Evidence	52
10.3 Papa Stour: Option Level HIA Summary.....	55
10.4 Conclusion for Papa Stour	55
11 Skerries: Health Impact Assessment	56



Health Impact Assessment

Shetland Inter-Island Transport Connectivity Programme

11.1	Overview.....	56
11.2	Baseline Evidence	56
11.3	Skerries: Option Level HIA Summary.....	59
11.4	Conclusion for Skerries	59
12	Mitigation and Enhancement Measures.....	60
12.1	Cross-cutting mitigation and enhancement measures by health determinant	60
12.2	Implementation Route Map, Investment and Project Development.....	62
13	Conclusions and Next Steps	64
13.1	Conclusions	64
13.2	Next Steps	64

List of Tables

Table 1.1: Preferred programme level options emerging from the IITCP Network Strategy OBC	13
Table 2.1: Assessment Criteria Matrix	17
Table 3.1: Health Determinants and Scoping of Key Impact Pathways	20
Table 5.1 Bluemull Sound: Health Impact Assessment.....	28
Table 6.1: Bressay Health Impact Assessment	34
Table 7.1: Whalsay Health Impact Assessment	39
Table 8.1: Yell Sound Health Impact Assessment.....	44
Table 9.1: Foula Health Impact Assessment	49
Table 10.1: Papa Stour Health Impact Assessment	53
Table 11.1: Skerries Health Impact Assessment.....	57

List of Figures

Figure 1.1: Geographic scope of the Shetland Inter-Island Transport Connectivity Programme	10
Figure 1.2: Option Packaging for Each Island	11
Figure 3.1: Building Blocks of Health and Wellbeing (Public Health Scotland, 2023).	15



Executive Summary

The Health Impact Assessment (HIA) has been undertaken to inform the development of the Shetland Inter-Island Transport Connectivity Programme Network Strategy. The final report provides a structured assessment of how changes to inter-island transport connectivity may influence health and wellbeing across Shetland's island communities.

Although non-statutory, the HIA reflects a Health in All Policies approach and complements a wider suite of statutory impact assessments. The assessment supports decision-making by identifying potential health impacts, highlighting inequalities, and identifying opportunities to enhance positive outcomes and mitigate adverse effects through implementation and future project development.

Approach

- The assessment has been informed by Public Health Scotland guidance and considers the likely health impacts of transport options across five key determinants:
- Access to and quality of services;
- Economic environment;
- Social environment;
- Physical environment; and
- Commercial environment and influences on health.

The HIA draws on baseline evidence, stakeholder engagement, and option-level appraisal across eight island routes. It identifies how changes in connectivity affect different population groups, with a particular focus on those experiencing disadvantage.

Baseline Context

Shetland's island communities are characterised by an ageing population, with some areas experiencing population decline. There is a relatively high prevalence of long-term health conditions, alongside a strong reliance on ferry-based connectivity to access healthcare and essential services. Travel disruption related to weather and the limited availability of alternative transport options are also key features.

These factors contribute to inequalities associated with remoteness, travel costs and variability in service provision. Transport connectivity therefore represents an important determinant of health, influencing access to care, economic participation and social wellbeing.

Key Findings

Across all routes, the most significant health impacts relate to access to services, journey reliability, affordability and the ability to sustain social connections. Disruption and uncertainty are associated with increased stress, particularly in relation to time-critical journeys such as healthcare appointments.

Impacts are not experienced equally. Older people, disabled people, carers, low-income households and residents of the more remote islands are more vulnerable to poor connectivity and more likely to benefit from improvements.

Option Assessment



Health Impact Assessment

Shetland Inter-Island Transport Connectivity Programme

At a programme level, the assessment identifies a consistent pattern across routes:

- **Business as Usual** options generally maintain existing conditions and are unlikely to reduce current health inequalities.
- **Ferry Do Something** options provide modest improvements in reliability and travel conditions, leading to incremental health benefits.
- **Ferry Do Max** options were assessed in the Network Strategy Outline Business Case and shown to offer the strongest ferry-based outcomes, improving flexibility, reducing disruption impacts, and, where applicable, addressing affordability barriers.
- **Fixed Link** options have the potential to deliver transformational health benefits through continuous access and reduced journey uncertainty. However, outcomes depend heavily on inclusive design, affordability, and provision for non-car users.

While improved access to healthcare is a central benefit, the HIA highlights wider effects, including impacts on employment, household resilience, social wellbeing, and access to goods and services.

Mitigation and Enhancement

The HIA identifies a number of cross-cutting measures to strengthen beneficial impacts and reduce inequalities. These include improvements to service reliability and resilience, consideration of affordability through fares or tolling approaches, provision for inclusive access including non-car users, and closer integration with health and social care services through implementation planning and future project development. Consideration of these measures is important in supporting equitable health outcomes across communities.

Conclusions

Inter-island transport connectivity plays a central role in shaping health and wellbeing across Shetland. The assessment demonstrates that investment in improved connectivity has the potential to deliver significant health benefits by strengthening access to healthcare, employment, education, community facilities and social support networks, while reducing the impacts of isolation, disruption and travel uncertainty.

The greatest benefits are associated with interventions that improve reliability, affordability, accessibility and resilience in combination. Connectivity interventions should therefore be recognised not only as transport improvements, but also as important contributors to population health, health equity, economic participation and community wellbeing.

Overall, the assessment concludes that the Shetland IITCP presents a significant opportunity to improve health and wellbeing outcomes across Shetland's island communities. Realising these benefits consistently across the network will require continued attention to inclusive access, affordability, integration with wider services, and the needs of remote and vulnerable populations who may otherwise experience unequal outcomes.



Glossary

Term	Definition
Health Impact Assessment	A systematic process that uses a range of methods and evidence to identify, assess and predict the potential effects of a policy, programme, plan or project on the health and wellbeing of a population, including the distribution of those effects across different groups. It aims to inform decision-making in order to maximise positive health impacts, minimise negative impacts, and reduce health inequalities.
Impact Assessments	A comprehensive suite of impact assessments has been prepared to support SIC in meeting its statutory duties and to consider the implications of the IITCP Network Strategy in accordance with relevant legislation and good practice.
Scottish Transport Appraisal Guidance (STAG)	The Scottish Government's guidance framework for appraising transport projects and interventions. It sets out the process for identifying transport problems, developing options and assessing them against a range of criteria including environment, economy, safety, equality and accessibility.
Transport Planning Objective	A specific, measurable objective set at the outset of a transport appraisal that defines what the investment is seeking to achieve. Options are appraised against the TPOs to determine how well they address the identified transport problems.

List of Acronyms

Acronym	Definition
CHIA	Capital Health Impact Assessment
HIA	Health Impact Assessment
HiAP	Health in All Policies
HUDU	Healthy Urban Planning and Development Unit
IITCP	Inter-Island Connectivity Programme
ISEP	Institute of Environmental and Sustainability Professionals
NHS	National Health Service
OBC	Outline Business Case
SHIAN	Scottish Health and Inequality Impact Assessment Network
SIC	Shetland Islands Council
STAG	Scottish Transport Appraisal Guidance
TPO	Transport Planning Objective
WHIASU	Wales Health Impact Assessment Unit
WTE	Whole Time Equivalent

1 Introduction

1.1 Background

- 1.1.1 This Health Impact Assessment (HIA) report has been prepared by Stantec UK on behalf of Shetland Islands Council (SIC) in support of the Shetland Inter-Island Connectivity Programme (IITCP) Network Strategy Outline Business Case (OBC). The purpose of the Shetland IITCP is to develop a high-level timed and costed sequence of island connectivity investments which, taken together, will form an agreed network strategy to meet the needs of Shetland's island communities.
- 1.1.2 The report provides evidence of how key health and wellbeing considerations have been identified and considered during the development of the network strategy and option typologies.
- 1.1.3 The Impact Assessment Screening Exercise confirmed that an HIA should be undertaken to support development of the IITCP. Although HIA is not a statutory requirement for the Programme, its preparation reflects the importance of understanding how long-term changes to inter-island connectivity may influence the wider determinants of health and the distribution of health outcomes across Shetland's island communities. The HIA forms part of the wider suite of impact assessments that informed the Network Strategy and Outline Business Case and provides a framework for further consideration as individual interventions are developed.
- 1.1.4 This report is intended to be read alongside the Network Strategy OBC. It does not restate the full strategic case, option development process or economic appraisal, which are set out in detail in the OBC. Instead, it focuses on the implications of the Shetland IITCP for people and communities and on how potential impacts have been considered at a programme level.

1.2 Shetland IITCP Programme Context

- 1.2.1 The Shetland IITCP is a long-term programme of work to develop a timed and costed sequence of interventions to improve transport connectivity between Shetland's island communities. The programme covers eight ferry-served islands: Bressay, Fetlar, Foula, Papa Stour, Skerries, Unst, Whalsay and Yell. The geographic scope of Shetland IITCP is shown below in **Figure 1.1**.
- 1.2.2 The Shetland IITCP has been established by SIC to consider long-term solutions for sustaining and improving transport links across Shetland's islands. The programme responds to a range of strategic challenges, including ageing assets, operational resilience, accessibility, affordability, workforce sustainability and the need to support inclusive economic and social outcomes for island communities. The Programme considered a range of option typologies, including enhanced ferry-based solutions and fixed link options, according to route characteristics and anticipated future requirements.



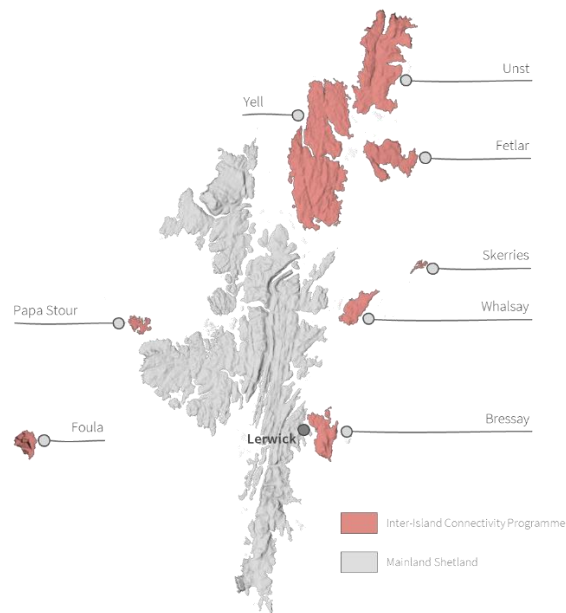


Figure 1.1: Geographic scope of the Shetland Inter-Island Transport Connectivity Programme

- 1.2.3 The study area for the Shetland IITCP includes eight island communities currently connected to Shetland mainland via ferry services operated by SIC. These include: Bressay, Fetlar, Foula, Papa Stour, Skerries, Unst, Whalsay and Yell.
- 1.2.4 It is important to highlight that there are two strands to the IITCP study and option generation and refinement process:
- **Candidate fixed link islands¹ (Bressay, Unst (plus Fetlar, as an integral element of Bluemull Sound), Whalsay and Yell):** For these five islands, the options increment up from the present-day position to a 'Ferry Do Max' option, which is effectively a ferry comparator to a fixed link. The responses to the resident survey for these islands were of a sufficient number to highlight the key areas of dissatisfaction with the service. When combined with other secondary data, it was possible to develop detailed option packages for consideration that incrementally address the problems expressed by communities.
 - **Foula, Papa Stour and Skerries:** For these smaller and more geographically remote islands, the option generation was focused on asset replacement and increments to the current ferry service. The option packages were defined through interviews with each community, supplemented by other secondary data.
- 1.2.5 For assessment and reporting purposes, Unst and Fetlar are considered together within the Bluemull Sound option grouping because their connectivity and health outcomes are interrelated. The HIA distinguishes between the islands where impacts differ. In particular, the fixed link option relates directly to the Yell to Unst connection, while Fetlar would remain ferry-served and may therefore experience a different scale, distribution and timing of health effects.
- 1.2.6 An overview of the options for each island is provided below in **Figure 1.2**.

¹ It should be noted that a fixed link to Fetlar was considered and discounted from further consideration in the Strategic Outline Case.

	Business as Usual	Ferry 'Do Something'	Ferry 'Do Maximum'	Fixed Link
Bressay				
Yell				
Unst				
Whalsay				
Fetlar				
Foula			—	—
Papa Stour			—	—
Skerries			—	—

Figure 1.2: Option Packaging for Each Island

1.3 Impact Assessment Overview

- 1.3.1 A comprehensive suite of impact assessments has been prepared to support SIC meet its statutory duties and consider the implications of the IITCP Network Strategy in accordance with relevant legislation and good practice. A screening exercise was undertaken which confirmed that the following statutory impact assessments are to be prepared in respect of the IITCP Network Strategy:
- Equality Impact Assessment
 - Fairer Scotland Duty Impact Assessment
 - Island Communities Impact Assessment
 - Child Rights and Wellbeing Impact Assessment
 - Climate Change Impact Assessment
- 1.3.1 The Integrated Equality Impact Assessment and Fairer Scotland Duty report also provides consideration to the Consumer Duty under the Consumer Scotland Act 2020 and the Armed Forces Covenant.
- 1.3.2 Although the HIA is non-statutory, it contributes to the wider evidence base supporting informed and proportionate decision-making.
- 1.3.3 The Shetland IITCP has been established by SIC to consider long term solutions for sustaining and improving transport links across Shetland's islands. The existing inter-island transport system is essential to daily life and underpins access to services, community wellbeing and the functioning of sectors of national importance. However, ageing infrastructure, increasing operational pressures and rising expectations around resilience,

accessibility and decarbonisation mean that the current network faces challenges that will intensify over time.

1.4 Purpose of the HIA

- 1.4.1 This final HIA forms part of the wider suite of impact assessments that informed the IITCP Network Strategy Outline Business Case and the identification of preferred connectivity interventions. The assessment considers how future connectivity may affect population health and wellbeing, the distribution of impacts between population groups and island geographies, and existing health inequalities. It recognises Shetland's distinctive island context and identifies measures to support equitable and sustainable health outcomes.
- 1.4.2 The HIA provides a programme-level assessment based on the option definitions and evidence available for the Network Strategy. It identifies the principal health impact pathways, areas of potential differential or disproportionate effect, and mitigation and enhancement priorities that should inform implementation. The Implementation Route Map provides the anticipated sequencing of preferred interventions, while matters requiring more detailed design or delivery information will be considered through proportionate project-level assessment.

1.5 Role of the HIA within the Business Case Process

- 1.5.1 This report supports the OBC by providing structured evidence on potential health and wellbeing impacts at programme level. It complements the strategic, economic and financial appraisal and records how health considerations informed the assessment of option strengths, risks and mitigation requirements.
- 1.5.2 The HIA was undertaken alongside option development, and its findings informed the Network Strategy and the sequencing of preferred interventions through the Implementation Route Map.

Scope and Coverage

- 1.5.3 The scope of this report includes:
- Programme level assessment of potential impacts arising from different option typologies.
 - Consideration of key health and wellbeing considerations to support the development of IITCP. While the HIA is not a statutory requirement in itself, it forms part of the wider evidence base supporting the Council's compliance with statutory impact assessment duties and informed decision-making.
- 1.5.4 Detailed option appraisal, route specific design assumptions and cost information are provided in the OBC and are not repeated here.

Relationship to the Implementation Route Map and Project-Level Assessment

- 1.5.5 The suite of impact assessments were integral to the appraisal of options and the selection of a preferred option for each island community.
- 1.5.6 The Draft Network Strategy Outline Business Case (OBC) was approved by Shetland Islands Council on 30th June 2026. Elected Members made the following decisions:



Table 1.1: Preferred programme level options emerging from the IITCP Network Strategy OBC

Route / Island	Preferred programme level option
Bluemull Sound	Fixed link between Unst and Yell, with a dedicated vessel for Fetlar operating over an extended day. Investment in the Bluemull Sound ferry service will be required in the immediate term.
Bressay	Continued investment in the ferry service with a longer-term commitment to a fixed link.
Whalsay	Continued investment in the ferry service with a longer-term commitment to a fixed link.
Yell	Fixed link
Foula	Business-as-usual
Papa Stour	Ferry Do Something
Skerries	Ferry Do Something

- 1.5.7 The Council is now progressing the preferred programme-level options emerging from the Network Strategy OBC into an Implementation Route Map (IRM), a prioritised and phased plan for delivering the outcomes of the IITCP. This is effectively the temporal expression of the Network Strategy OBC, and thus the impact assessments have not been specifically updated to cover the IRM.
- 1.5.8 For each project emerging from the IITCP (i.e., the programme), individual impact assessments will be undertaken, building on these programme level assessments.
- 1.5.9 This HIA provides the programme-level assessment appropriate to the Network Strategy and Outline Business Case. It establishes the principal health impact pathways, equity considerations and mitigation priorities that should inform subsequent project development. Each preferred intervention will be subject to proportionate project-level impact assessment as its design and delivery arrangements are developed. This will build on, rather than duplicate, the programme-level HIA and will consider matters such as detailed alignments and landing points, vessel and terminal design, construction and transition effects, service patterns, public transport integration, active travel arrangements, fares or tolls, and implications for health and social care delivery.

2 HIA Assessment Approach

2.1 Overview

- 2.1.1 HIA is a systematic approach used to evaluate the potential health effects, both intended and unintended, of policies, strategies, or service plans on a population. It assesses the wider determinants of health and identifies the pathways through which these factors influence health outcomes. HIA is particularly valuable in transport planning, ensuring that infrastructure and services support public health and do not contribute to inequalities.
- 2.1.2 The HIA identifies programme-level health and wellbeing considerations associated with changing transport connectivity across Shetland's island communities. Its findings informed preparation of the OBC, including assessment of the route options and the sequencing of preferred interventions through the Implementation Route Map. The HIA also complements and draws on the wider suite of statutory impact assessments prepared for the Programme.
- 2.1.3 Transport policies and projects affect different population groups in varied ways, influencing both health benefits and health risks. Without proper assessment, certain groups, particularly vulnerable or disadvantaged communities, may experience negative consequences such as limited access to healthcare, increased pollution exposure, or barriers to active travel and integrated public transport options. These impacts are inter-linked with the other required statutory impact assessments, however exploring these through an HIA offers a more comprehensive assessment of their implications in terms of public health and wellbeing.
- 2.1.4 A range of factors influence health and wellbeing indirectly through the social, economic, and physical environment we live in. Known as the building blocks of good health (Public Health Scotland, 2023), these factors include high-quality housing, transport systems and natural environments, strong social relationships and networks, good nutrition, and secure, high-quality employment, as illustrated in **Figure 2.1**.



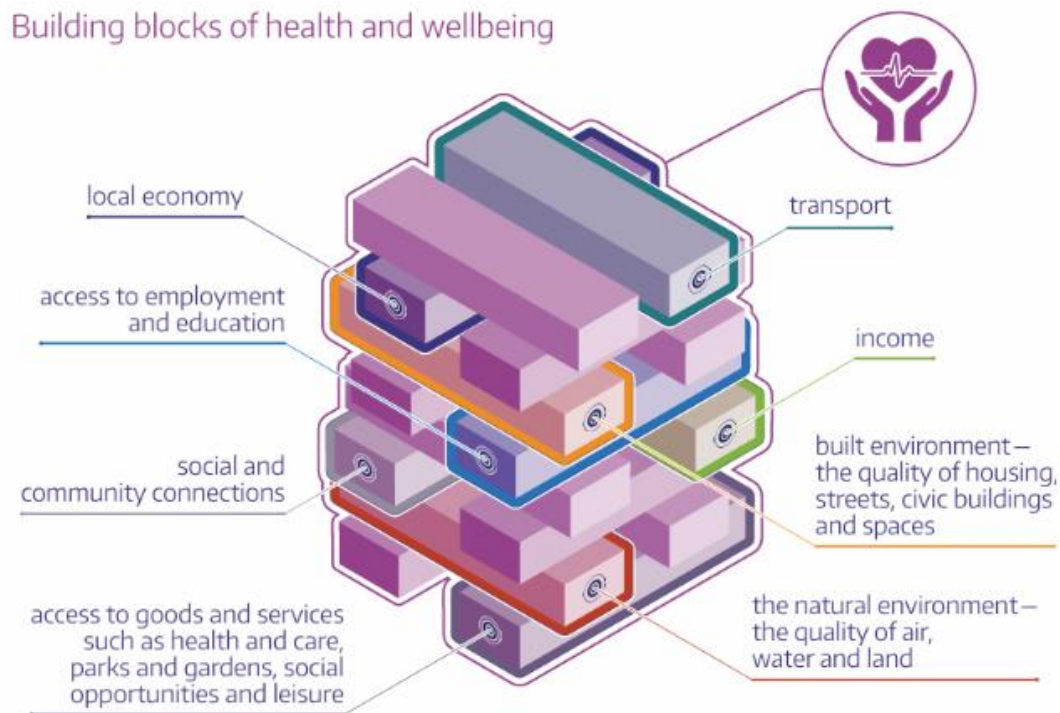


Figure 2.1: Building Blocks of Health and Wellbeing (Public Health Scotland, 2023)².

- 2.1.5 The HIA complements the statutory impact assessments prepared for the IITCP. The assessments have informed one another, supporting integrated consideration of health determinants, equality and distributional effects..

2.2 Requirement for HIA

- 2.2.1 The Impact Assessment Screening Exercise confirmed that a HIA should be undertaken to support the development of IITCP. Although not a statutory requirement, the decision reflects the importance of understanding how long-term changes to inter-island connectivity may influence the wider determinants of health and the potential for unequal health outcomes across Shetland's islands.
- 2.2.2 This decision supports a Health in All Policies (HiAP) approach, which recognises that any policy or strategic decision can influence people's health and wellbeing due to the wide range of factors beyond the health sector that shape health outcomes.
- 2.2.3 Any policy, regardless of its primary focus, has the potential to generate positive or negative health impacts. For example, changes to transport connectivity can influence access to employment, education and essential services, household costs, social participation, travel stress, environmental conditions and opportunities for active travel. The direction and scale of these effects depend on the design and operation of the intervention.
- 2.2.4 The HiAP approach promotes systematic consideration of health and wellbeing impacts during the development, implementation and evaluation of policies. It seeks to identify opportunities to enhance positive effects, address inequalities and avoid or

² Public Health Scotland (2023) [The building blocks of health - Public health approach to prevention - What we do and how we work - About us - Public Health Scotland](#) [Accessed: June 2026].

mitigate unintended harmful consequences. This approach also highlights the reciprocal relationship between policy goals and population health. A healthy population is more likely to contribute to economic productivity, social cohesion and educational success.

- 2.2.5 The 2015 Review of Public Health in Scotland emphasised the value of HIA as part of a wider HiAP approach.

2.3 Assessment Framework and Criteria

- 2.3.1 The HIA considers each option and their potential impacts across different island geographies. The assessment has been undertaken in a structured and consistent way so that likely effects on health and wellbeing were identified transparently and compared across options.

- 2.3.2 For each option, the assessment is organised under the relevant health determinants and issues identified through the scoping, baseline review and stakeholder engagement. Within each assessment topic, the appraisal considers the following headings:

- **Health determinant:** The relevant determinant of health being assessed, for example access to services, access to employment, social connections, cost of living, or access to healthy food and physical activity opportunities.
- **Likely health impact pathway:** The route through which the option may influence health and wellbeing, including direct, indirect, short-term and longer-term effects.
- **Affected populations:** The population groups likely to experience the effect, including where relevant those with protected characteristics and those experiencing economic, geographical or social disadvantage. This will also consider variation between island communities and settlements.
- **Likelihood:** The degree of confidence that the identified effect is likely to arise, taking account of the available evidence, baseline conditions and the nature of the option.
- **Importance to health:** The extent to which the issue is important to health and wellbeing outcomes, including whether it relates to a key determinant, a vulnerable group, or an existing inequality.
- **Direction and scale of impact (by option):** The likely nature of the effect for each option, including whether it is beneficial, adverse, neutral, uncertain, or there is no clear relationship, and the extent to which the effect is expected to be minor or major.
- **Equity considerations:** The extent to which the option may reduce, increase or have no meaningful effect on health inequalities, including inequalities experienced between island communities or by particular groups within those communities.

- 2.3.3 Taken together, these headings provide the analytical framework for the assessment, drawn from Public Health Scotland (2025) guidance. They ensure that each option is considered not only in terms of whether a health effect may occur, but also who may be affected, how important the issue is to health, and whether the effect is likely to support or hinder more equitable outcomes across the island population.

Assessment Criteria

- 2.3.4 The following matrix, as shown in **Table 2.1**, has been used to assess the scale of any potential impact linked to each determinant and issue. The assessment criteria provide an



objective means of undertaking and reporting the assessments to help inform decision making aligned with the wider Impact Assessment suite supporting the OBC.

Table 2.1: Assessment Criteria Matrix

Impact Score	Description	Symbol
Major Beneficial Effect	The option is expected to result in a substantial positive effect on health or wellbeing, including through improvements to one or more key health determinants. The effect is likely to be significant in scale, extent or importance, and may particularly benefit population groups experiencing poorer health outcomes or greater economic, geographical or social disadvantage.	++
Minor Beneficial Effect	The option is expected to result in a positive effect on health or wellbeing, including through improvements to one or more health determinants. The effect is beneficial but is not likely to be significant in scale, extent or importance.	+
Neutral / Negligible Effect	The option is not expected to have a meaningful effect on health or wellbeing, or any effect identified is likely to be negligible.	0
Minor Adverse Effect	The option is expected to result in a negative effect on health or wellbeing, including through adverse effects on one or more health determinants. The effect is adverse but is not likely to be significant in scale, extent or importance.	-
Major Adverse Effect	The option is expected to result in a substantial negative effect on health or wellbeing, including through adverse effects on one or more key health determinants. The effect is likely to be significant in scale, extent or importance, and may particularly affect population groups already experiencing poorer health outcomes or greater economic, geographical or social disadvantage.	--
Uncertain Effect	The relationship between the option and health or wellbeing outcomes is uncertain, or there is insufficient information, evidence or detail available to enable a clear judgement to be made.	?
No Clear Relationship	There is no clear or meaningful relationship between the option and the health determinant or health outcome being assessed.	~

- 2.3.5 The programme-level scores provide a comparative indication of potential impacts based on the option definitions available for the Network Strategy. They do not represent a prediction of the final health effects of an individual project. Final outcomes will depend on detailed design, construction and operation, service and charging arrangements, mitigation and the findings of project-level assessment. Where a score depends on assumptions concerning fares, tolls, public transport, service frequency or operational deliverability, this is identified in the route assessment.

2.4 Limitations and Assumptions

- 2.4.1 The assessment is predominantly qualitative and identifies likely pathways through which the options may affect health and wellbeing. It does not quantify changes in health outcomes or provide a detailed prediction of the severity or extent of effects. The HIA instead draws together available evidence to identify the direction, relative scale and distribution of potential impacts at programme level.



Health Impact Assessment

Shetland Inter-Island Transport Connectivity Programme

- 2.4.2 The assessment is based on the route and option information available for the Network Strategy OBC. Some matters that materially influence health outcomes, including detailed alignments, construction methods, terminal designs, service specifications, fares or tolls and public transport integration, remain subject to future development. These matters should be considered through proportionate project-level assessment as individual preferred interventions progress.
- 2.4.3 Evidence has been drawn from publicly available datasets, available programme information, consultation and engagement, and technical reports and assessments prepared for the OBC. The assessment also reflects any limitations of those sources, including the use of locality-level data that may combine more than one island or island and Mainland populations.



3 HIA Scoping

3.1 Method

- 3.1.1 The HIA has been informed by Public Health Scotland guidance and other relevant good-practice resources, including guidance developed by the Wales Health Impact Assessment Support Unit and the Healthy Urban Planning and Development Unit. Key sources informing the methodological approach include:
- Public Health Scotland (2025) A Guide to Health Impact Assessment³;
 - Capital Health Impact Assessment (CHIA) Toolkit⁴;
 - Scottish Health and Inequality Impact Assessment Network (SHIAN) (2018) Health and Transport: A Guide⁵;
 - Health Scotland (2016) Health Impact Assessment of Transport Initiatives: A Guide⁶; and
 - SHIAN (2015) Health Impact Assessment of Rural Development: A Guide⁷.
- 3.1.2 The HIA was led by experienced HIA practitioners at Stantec and managed by a technical lead with a specialist public health background and experience of infrastructure and major development assessment. The technical lead meets the Institute of Environmental Management and Assessment Competent Expert criteria for an Advanced Human Health Topic Lead.
- 3.1.3 An Impact Assessment Working Group was established to provide subject-matter expertise and support integration across the assessment suite.

3.2 Health Determinant Scoping

- 3.2.1 This section sets out the approach taken to identify the potential health impact pathways associated with the Shetland IITCP prior to undertaking the detailed assessment of individual routes and options. It establishes how the programme-level Health Impact Assessment has defined the relationships between transport connectivity and health outcomes, and how these pathways have informed the structure and scope of the assessment.
- 3.2.2 The identification of health impact pathways has been undertaken using the determinant framework set out in Public Health Scotland's (2025) Health Impact Assessment Guidance, the Health Impact Assessment Checklist, the Building Blocks for Health approach (Public

³ Public Health Scotland (2025) A Guide to Health Impact Assessment. Available at: [A Guide to Health Impact Assessment](#) [Accessed: June 2026].

⁴ CHIA (n.d.) Toolkit. Available at: [CHIA - Capital Investment Health Impact Assessment - CHIA](#) [Accessed: June 2026].

⁵ SHIAN (2018) Health and Transport: A Guide. Available at: [Transport-Guide-2018-Final-Formatted.pdf](#) [Accessed: June 2026].

⁶ Health Scotland (2016) Health Impact Assessment of Transport Initiatives: A Guide. Available at: [03686_NHSHIAGuideFinal1.pdf](#) [Accessed: June 2026].

⁷ SHIAN (2015) Health Impact Assessment of Rural Development: A Guide. Available at: [2015_05_28_SHIAN_Final_Report.pdf](#) [Accessed: June 2026].



Health Scotland, 2025⁸) and evidence from baseline analysis and stakeholder engagement. The process has focused on identifying the most relevant and plausible mechanisms through which changes in connectivity could influence health across Shetland's island communities.

- 3.2.3 The key findings from the health and social care services theme highlighted that health and social care delivery across the islands is strongly shaped by transport constraints, remoteness and weather-related disruption, which affect access to services, the movement of staff, and the timely delivery of care, equipment and supplies. Long and costly journeys, often normalised as part of island life, can negatively impact patient outcomes and place additional strain on carers. Workforce recruitment and retention challenges, combined with reliance on contingency planning, further constrain service capacity. These factors collectively reinforce the complexity and fragility of delivering equitable, reliable health and social care in remote island settings.

Identification of Health Determinants

- 3.2.4 Health impact pathways have been identified by considering how changes in connectivity, including service frequency, reliability, affordability and accessibility, interact with each of the five core health determinants. For each determinant, a series of subtopics has been used to structure thinking and to ensure that both direct and indirect effects are captured.
- 3.2.5 The process has involved:
- Reviewing baseline conditions across island routes, including population characteristics, service provision and connectivity patterns.
 - Identifying key transport-related stressors such as disruption, multi-leg journeys, cumulative costs and dependence on mainland services.
 - Mapping these stressors against the determinant framework to identify causal pathways to health outcomes.
 - Considering differential effects across population groups and geographies, particularly where reliance on connectivity is highest.
- 3.2.6 This has resulted in a set of overlapping pathways that are common across the programme but vary in scale and significance by route and option, as shown in **Table 3.1**.

Table 3.1: Health Determinants and Scoping of Key Impact Pathways

⁸ Public Health Scotland (2025) Health Impact Checklist. Available at: [Health impact checklist](#) [Accessed: June 2026].



Determinant	Key Health Impact Pathways
Access to and Quality of Services	• The influence of timetable dependency, service frequency and weather-related disruption on access to primary, secondary and community healthcare services. • The impact of journey complexity, including multi-leg travel, on the likelihood of missed appointments and delayed treatment. • Cost barriers associated with frequent or accompanied travel, which may deter access to care. • The effect of transport reliability on the delivery of health and social care services, including outreach provision and use of visiting clinicians. • Constraints on workforce planning, including the scheduling of clinics and the recruitment and retention of staff. • The sensitivity of access to specialist and hospital-based services to connection reliability. • The resilience of emergency response pathways, including the interaction between ferry services and air ambulance provision.
Economic Environment	• The extent to which connectivity enables or constrains access to employment, training and education opportunities. • The relationship between travel conditions and job quality, including stress, flexibility and control over working patterns. • The impact of transport costs on disposable income and financial resilience, particularly for households requiring frequent travel. • Indirect costs associated with disruption, including lost income, childcare pressures and additional accommodation requirements. • The influence of connectivity on commercial practices, including supply chain reliability, contractor access and the availability and cost of goods and services.
Social Environment	• The ability to maintain social networks, family relationships and caring responsibilities in the context of travel constraints. • The impact of affordability and reliability on participation in social, cultural and recreational activities. • Stress and uncertainty associated with disruption, adverse weather and connection risk. • The role of ferry services in supporting island identity, community cohesion and interaction between islands.
Physical Environment	• The role of connectivity in determining access to local amenities, services and recreational opportunities. • The influence of transport infrastructure design, including terminals and vessels, on safety, accessibility and travel experience. • Localised environmental effects such as emissions and noise from ferry operations. • Exposure to weather-related disruption and the importance of transport resilience in the context of climate change. • The extent to which connectivity options support or constrain opportunities for active travel.
Commercial Environment and Influences on Health	• The impact of transport reliability on the availability, affordability and quality of food and other essential goods, with implications for diet and nutrition. • The relationship between connectivity and tourism activity, including effects on employment and the viability of local services. • The dependence of supply chains on reliable transport, affecting pricing and availability of goods. • The role of visitor-related infrastructure in supporting services used by both residents and visitors.

Cross-cutting equity considerations

3.2.7 Across all determinants, impacts are not evenly distributed. The programme has the potential to both reduce and exacerbate existing inequalities depending on design and implementation.



3.2.8 Groups most affected include:

- Older people, particularly those requiring frequent access to healthcare;
- Disabled people and those requiring accessible transport environments;
- Carers and those undertaking accompanied travel;
- Low-income households experiencing cumulative cost pressures; and
- Residents of more remote islands with limited local service provision.

3.2.9 Equity considerations relate not only to access, but also to affordability, reliability and the quality of the travel experience. Ensuring that benefits are distributed fairly across these groups is a central consideration for the programme.

Population Groups and Inequalities

3.2.10 A central requirement of the HIA is to understand how the proposal may affect different population groups and whether it has the potential to reduce or widen health inequalities. Scoping therefore identifies groups that require focused consideration. This has taken consideration of Public Health Scotland HIA Guidance and the WHIASU Population Checklist, as well as the feedback received during scoping consultation. The key population groups to considered are:

- People in remote, rural and island communities;
- Low-income households;
- People experiencing fuel or transport poverty;
- Older people;
- Disabled people;
- People with pre-existing or long-term health conditions;
- Workers (including public health and National Health Service (NHS) workforce, the construction workforce and commuters);
- Children and young people;
- Groups with protected characteristics;
- Carers; and
- Care-experienced children and adults.



4 Baseline Data & Engagement Evidence

4.1 Overview

- 4.1.1 This section outlines the evidence based used to inform the HIA assessment for the IITCP, including the study area and key data sources used to establish baseline conditions and potential impacts.
- 4.1.2 The assessment is based primarily on local datasets and analysis prepared by the Shetland Partnership and its associated public and third sector bodies, providing context on inequality, socio-economic disadvantage and access to services within island communities.

4.2 Study Area

- 4.2.1 The study area comprises eight of Shetland's ferry served island communities: Bressay, Fetlar, Foula, Papa Stour, Skerries, Unst, Whalsay and Yell. These islands vary in population size, demographic profile, economic structure, service provision and connectivity to the Shetland Mainland.
- 4.2.2 The islands are characterised by small, dispersed populations, high reliance on ferry services and limited alternative transport options, with remoteness and weather exposure shaping access, affordability and resilience.
- 4.2.3 While sharing common island challenges, localities differ in demographic change, health outcomes, employment structure, income levels, housing and digital connectivity, and service provision; this influences how impacts are experienced.

4.3 Data Sources

- 4.3.1 The impact assessments draw on a wealth of available evidence including routine census data, public health data, and briefings prepared through the Shetland Partnership, including local organisations such as the SIC and NHS Shetland, including:
 - Shetland Partnership Plan Annual Reports⁹;
 - Shetland Partnership Plan Latest Indicator Data¹⁰;
 - Shetland Partnership Locality Profiles Locality Profiles¹¹;
 - NHS Shetland Population Health Survey (Nov21-Aug22)¹²;
 - Shetland Mainland and Island Resident Survey; and
 - Shetland Mainland and Island Business Survey.
- 4.3.2 A summary of key issues relevant to this HIA are provided below.

⁹ [Annual Reports – Shetland Partnership](#)

¹⁰ [Indicators – Shetland Partnership](#)

¹¹ [Locality Profiles – Shetland Partnership](#)

¹² [Population Health Survey - Healthy Shetland](#)



4.4 Baseline Data Summary

4.4.1 This summary provides an initial overview of key social, health and demographic characteristics across the island localities relevant to the IITCP. It identifies crosscutting issues that are likely to influence the scope of the impact assessment.

- **Population change and demographic pressures** are a significant issue in Shetland's localities. Yell, Unst and Fetlar, Whalsay and Skerries show patterns of rapidly ageing populations alongside small numbers of children and young people. Skerries, Papa Stour and Foula show even smaller and declining populations that are highly sensitive to even minor demographic changes. These trends include ageing populations, declining numbers of children and young people, and in some places schools have been mothballed due to no pupils on the school roll. These have implications for long-term service viability, community resilience and the ability of localities to sustain a labour supply.
- **Areas such as Yell, Unst and Fetlar also show high levels of chronic pain and poorer self-reported health**, combined with weaker early mortality performance. This suggests potential increased demand for essential health and social care services, labour force pressures and informal care responsibilities. Ageing populations and changing health needs also highlight the need for enhanced accessibility considerations within Shetland's transport network to meet the needs of individuals with disabilities, limited mobility and cognitive or sensory impairments.
- **Life expectancy at birth** for the period 2019 to 2021 was around 83.2 years for females and 79.6 years for males. Healthy life expectancy, measured between 2018 and 2020, was notably lower, at around 62.5 years for females and 63.5 years for males, indicating a substantial period of later life spent in poorer health.
- **Maternal smoking** at the first antenatal appointment has declined over the long term but shows recent variability, standing at around 9.6% in the most recent multi year reporting period. This indicates ongoing early-years health inequalities and the importance of accessible antenatal and family support services in island settings.
- **Key mortality indicators** show premature mortality (under 75) of around 3.7 deaths per 1,000 population in 2021 and avoidable mortality of around 2.2 deaths per 1,000 population over the period 2018 to 2020.
- **Limiting long-term illness** affects a significant proportion of residents, with around 34% reporting a limiting condition between 2017 and 2021.
- **Recorded prevalence of selected long-term conditions** per 1,000 population indicates a high burden of chronic disease, including hypertension, (173.9), depression, (117.7), asthma (83.4), and dementia (9.1). Higher recorded prevalence is also evident for atrial fibrillation, heart failure and chronic kidney disease, reflecting the older age profile of the population.
- **Mental wellbeing and loneliness:** Mental wellbeing scores are broadly close to the Shetland average across all islands, but tend to be slightly lower in Yell, Unst & Fetlar (43.4%) and Lerwick & Bressay (44.0%). Foula and Whalsay & Skerries report comparatively stronger wellbeing scores (~45.7–45.8). Loneliness shows a clear rural contrast: it is highest in Foula (19.6%) and Lerwick & Bressay (18.1%), indicating isolation challenges in both remote and more urbanised settings. In contrast, Whalsay & Skerries (4.2%) and Papa Stour (16.1%) report lower loneliness, suggesting stronger community cohesion in some smaller island populations.



- **Mental wellbeing and service demand:** Average population wellbeing scores are relatively positive overall. However, service demand indicators show increasing pressure over time. Dementia diagnoses increased by around 23% between 2017/18 and 2020/21. Referrals to psychological therapies rose substantially in the pre-pandemic period, particularly between 2014 and 2018, indicating growing mental health need prior to COVID-19 impacts.
- **Behavioural risk factors** differ significantly by island. Physical activity is highest in Yell, Unst & Fetlar (68.4%), Foula (63.9%), and Whalsay & Skerries (62.5%), but lowest in Lerwick & Bressay (52.5%). Harmful alcohol use is elevated in Lerwick & Bressay (18.6%) and Yell, Unst & Fetlar (18.4%), while lower in Foula (14.4%). Drug use is highest in Yell, Unst & Fetlar (10.5%) and relatively high in Whalsay & Skerries (8.3%) and Lerwick & Bressay (8.5%), but lowest in Papa Stour (3.6%) and Foula (4.1%). Smoking is most prevalent in Papa Stour and Whalsay & Skerries (both 12.5%), but lowest in Yell, Unst & Fetlar (5.3%). Food insecurity is particularly evident in Lerwick & Bressay (9%) and Foula (8.2%), whereas Whalsay & Skerries report none, highlighting stark differences in access, cost, and local food systems.
- **The total NHS Shetland workforce** has grown from 24.3 WTE (Whole Time equivalent) per 1,000 population (2015/16) to 30.6 WTE per 1,000 population (2021/22), outpacing the national growth rate over the same period. Despite higher staffing levels, NHS Shetland continues to experience higher workforce turnover than the Scottish average, indicating retention challenges. However, the gap between local and national turnover rates has narrowed, suggesting recent improvement in retention.
- **GP provision in Shetland** is slightly stronger than the national average, with around 1 GP per 1,000 population, supporting comparatively good access to primary care.
- **Social care services** in Shetland are predominantly delivered by the public sector, contrasting with the private-sector-led model across much of mainland Scotland. This indicates a structural reliance on public provision in island and remote settings.
- **Inequalities and vulnerability:** Clear inequality patterns are evident across health outcomes and service use. A pronounced deprivation gradient is seen in alcohol-related hospital admissions, with rates of around 10.1 per 1,000 population in more deprived areas compared to around 4.7 per 1,000 in less deprived areas. In island settings, inequalities can be intensified by structural and geographic factors, including:
 - Longer travel times and higher travel costs;
 - Fixed transport timetables that limit flexibility; and
 - Disruption risk linked to weather and operational constraints.
- **Older people, care and caring:** Indicators point to increasing demand among older age groups. The 2020/21 level of hospital admissions for falls in Shetland reported a rate 14% higher than the five-year average of 19.2 (2015/16 – 2019/20). End of life care patterns show a strong emphasis on community-based care, with around 93.6% of people spending their last six months of life at home or in community settings in 2020/21.
- **Social care provision has shifted** in recent years:
 - Direct payments increased by around 175% between 2017/18 and 2020/21, to approximately 110 payments or 4.8 per 1,000 population;



- Registered care home places for people aged 65 and over reduced by around 28% since 2013;
- Use of telecare and community alarms increased over time;
- Overall, the number of clients receiving home care from 2017 onwards indicates higher levels of home care provision, with consistently high proportions of those with intensive care needs (at between 70-80% of adults receiving homebased care); and
- Unpaid care remains significant, with around 17.3% of residents reporting that they provide care on a weekly basis, including a smaller group providing 50 or more hours of care per week.

4.4.2 Overall, the baseline indicates significant, interconnected health and demographic pressures across Shetland's islands, including ageing and in some cases declining populations, high levels of chronic illness, and increasing demand for health and social care. While life expectancy is relatively high, years lived in poor health remain substantial. Variations in wellbeing, loneliness and risk behaviours highlight uneven outcomes between islands, alongside clear inequalities linked to remoteness and access constraints. Ongoing shifts towards community-based care, reliance on unpaid carers and workforce challenges further shape service delivery. These factors are likely to influence how different localities experience connectivity changes and their implications for access, resilience and wellbeing.

4.5 May 2026 Engagement Summary

- 4.5.1 The Council and consultant team undertook a series of engagement activities in May and June 2026. This comprised in-person public drop-in sessions in the candidate fixed link islands of Bressay, Unst, Whalsay and Yell, as well as Fetlar, which forms an integral part of the overall Bluemull Sound solution. In addition, a MS Teams discussion was held with the Papa Stour community.
- 4.5.2 The purpose of the engagement was to update communities on progress since the previous round of engagement in March 2025, including presentation of the Transport Planning Objectives (TPO), the approach to option development, headline appraisal findings, and next steps. The sessions also provided an opportunity for attendees to ask questions and provide feedback on the emerging options. It is important to note that this programme was not intended to provide a representative sample of public opinion, but rather to inform communities and capture a range of views.
- 4.5.3 Feedback received through the engagement indicated a generally positive view of fixed link options across several communities, reflecting perceived benefits in terms of improved accessibility, connectivity, and resilience of transport links. Across locations, key issues raised included the affordability of options, the potential need for phased delivery, and the implications of reduced reliance on ferry services. Engagement materials were generally well received, although some participants noted a degree of technical complexity.
- 4.5.4 Further information from the public engagement sessions are presented within the island-specific Scottish Transport Appraisal Guidance (STAG) appraisal sections of the Network Strategy OBC Report where this has been considered under the criterion of Public Acceptability.



5 Bluemull Sound: Health Impact Assessment

5.1 Overview

- 5.1.1 The Bluemull Sound route provides the core connection between Yell, Unst and Fetlar and plays a critical role in enabling access to essential services, including healthcare, employment, education and retail. For many residents, journeys on this route form part of a multi-leg trip to reach services on the Shetland Mainland, increasing journey length, complexity and exposure to disruption. This creates a strong pathway to health impacts through access, affordability, stress, and social participation.
- 5.1.2 The route serves communities with ageing population profiles, particularly Unst and Fetlar, where higher proportions of older residents increase reliance on predictable, accessible and time-sensitive travel for health and care needs. Fetlar in particular has very limited on-island health provision and remains highly dependent on ferry services for routine and urgent care. These baseline characteristics heighten the sensitivity of the Bluemull Sound route to changes in connectivity.

5.2 Baseline Evidence

- 5.2.1 Baseline evidence indicates that both Unst and Fetlar have rapidly ageing populations, and that this demographic profile increases reliance on predictable and accessible connectivity for health and care needs. Residents aged over 65 have increased to around 31% in Unst and 35% in Fetlar, while Fetlar has seen a decline in children under 16 to around 4.5%. This demographic structure is relevant to health impacts because it increases the prevalence of long-term conditions, mobility limitations, caring responsibilities and demand for mainland-based services.
- 5.2.2 Service provision differs between the islands. Unst benefits from a local health centre, while Fetlar is supported by a Healthcare Support Worker service with visiting nurse and GP provision, and relies on ferry connectivity for a wider range of care needs.
- 5.2.3 Engagement and survey evidence highlights suppressed travel and missed opportunities. Around 45% of Fetlar residents and 38% of Unst residents reported travelling off-island less often than they would like. Missed opportunities include attending health appointments, alongside shopping and social participation. This indicates that the route already influences health through reduced access to services and reduced wellbeing-related activity. Affordability and the cumulative burden of longer multi-leg travel are also relevant drivers of unequal outcomes, particularly for lower-income households and people requiring escorted travel.



Health Impact Assessment

Shetland Inter-Island Transport Connectivity Programme

Table 5.1 Bluemull Sound: Health Impact Assessment

Health determinant	Likely health impact pathway	Affected populations	Likelihood	Importance to health	Direction and scale of impact (by option)		Equity considerations
Access to and quality of services	Reliability, frequency and timetable flexibility affect access to GP services, hospital appointments, emergency transfers and social care. Multi-leg journeys increase risk of missed appointments and stress.	All residents; particularly older people, disabled people, carers, people with long-term conditions, Fetlar residents	Definite	Major	Business as Usual	-	Strong differential impacts for those requiring frequent or time-critical travel. Risk of uneven benefit under Fixed Link if Fetlar remains ferry dependent or non-car access is not protected.
					Ferry Do Something	+	
					Ferry Do Max	++	
					Fixed Link (variable)	++	
Economic environment	Connectivity affects employment access, income stability and exposure to indirect costs from disruption (missed work, overnight stays).	Working-age residents; low-income households; carers; shift workers	Probable	Moderate to major	Business as Usual	-	Cumulative travel costs disproportionately affect low-income households. Fare or toll policy is critical to equity outcomes.
					Ferry Do Something	+	
					Ferry Do Max	++	
					Fixed Link	++	
Social environment	Ability to participate in social, cultural and preventative activities affects mental wellbeing and isolation. Suppressed travel reduces participation.	Older people; carers; young people; people living alone	Probable	Moderate	Business as Usual	-	Higher loneliness risk among older people and carers means benefits are not evenly distributed. Improved affordability and flexibility reduce inequality.
					Ferry Do Something	+	
					Ferry Do Max	++	
					Fixed Link	++	
Physical environment	Terminal layouts, marshalling, boarding conditions and exposure to weather affect safety, comfort and independent travel.	Disabled people; older people; families with children; foot passengers	Possible	Moderate	Business as Usual	0	Accessibility gains depend on inclusive design of terminals and onward connections, particularly for non-car users.
					Ferry Do Something	+	
					Ferry Do Max	+	



Health Impact Assessment

Shetland Inter-Island Transport Connectivity Programme

Health determinant	Likely health impact pathway	Affected populations	Likelihood	Importance to health	Direction and scale of impact (by option)			Equity considerations
					Fixed Link	0	+	
Commercial Environment influences on health	Emissions, noise, construction impacts and longer-term travel patterns affect environmental determinants of health.	All residents	Possible	Minor to moderate	Business as Usual	0		Environmental effects are unlikely to be the primary driver of health outcomes at OBC stage but require monitoring and mitigation at later stages.
					Ferry Do Something	0		
					Ferry Do Max	0	?	
					Fixed Link	0	?	



5.3 Bluemull Sound: Option Level HIA Summary

5.3.1 The HIA for Bluemull Sound is presented above in **Table 5.1**.

Option Bluemull 1: Business as Usual

- 5.3.2 Under Business as Usual, access and reliability remain broadly unchanged, with vessel replacement maintaining current capacity and service patterns. This option maintains timetable dependency, exposure to weather-related disruption, and the need to coordinate multi-leg journeys to access services on the Shetland Mainland.
- 5.3.3 For health and wellbeing, the most important pathway is the ongoing risk of missed connections and the stress associated with uncertainty for time-critical travel, including planned hospital appointments and urgent care journeys. The route is also used for ambulance transfer in some circumstances, while recognising that life-threatening situations are supported by air ambulance.
- 5.3.4 Physical accessibility conditions are expected to remain broadly similar, meaning that challenges associated with adverse weather boarding, information provision during disruption, and comfort on older vessels remain relevant to health and equality outcomes. Overall, Business as Usual is likely to maintain existing health vulnerabilities and inequalities rather than mitigate them.

Option Bluemull 2: Ferry Do Something

- 5.3.5 Ferry Do Something introduces modernised vessels with improved reliability and operational performance. The primary health benefit pathway is a reduction in cancellations and improved journey time consistency, which supports attendance at scheduled healthcare appointments and reduces the stress and uncertainty associated with multi-leg travel from the North Isles.
- 5.3.6 This option includes expansion and formalisation of marshalling areas at Belmont and Gutcher to accommodate a larger vessel type. Improved marshalling design and circulation can reduce pedestrian and vehicle issues, supporting safer and more manageable interchange for people with mobility impairments and for families with young children.
- 5.3.7 However, the route remains ferry-based and timetable-dependent, meaning that some structural vulnerabilities remain, particularly for time-critical travel and for residents who experience recurrent health needs requiring repeated trips.

Option Bluemull 3: Ferry Do Max

- 5.3.8 Ferry Do Max delivers the most accessible ferry-based solution through increased frequency, extended operating hours and, in some scenarios, free or reduced fares for residents. This can significantly improve access to healthcare by providing more opportunities to align travel with appointment times and by reducing the consequences of disruption through more same-day rebooking opportunities.
- 5.3.9 This option also reduces booking anxiety and capacity pressure, which can be a key stressor for households managing time-critical travel. Harbour works that address ageing infrastructure can improve resilience and reduce disruption driven by berthing constraints, supporting more predictable travel for those who rely on scheduled connections.
- 5.3.10 Affordability benefits are particularly relevant to health inequalities. If free or reduced fares for residents are introduced, this could reduce a recurring barrier to travel for health visits, caring



responsibilities and social participation, with disproportionate benefits for lower-income households and those needing frequent travel.

Option Bluemull 4: Fixed Link

- 5.3.11 The Fixed Link option offers the most transformative change in access and reliability by removing ferry dependence between Unst and Yell, providing continuous access. Fetlar would continue to be served by ferry, meaning some timetable dependency remains for Fetlar residents and distributional effects must be carefully considered.
- 5.3.12 For health, the most significant benefits relate to reliable, 24-hour access for urgent and unscheduled care journeys, including reduced ambulance response and transit times for travel towards Gilbert Bain Hospital in Lerwick for Unst residents.
- 5.3.13 Equity outcomes depend strongly on complementary measures. To avoid creating new barriers for non-car users, public transport services through the fixed link would need to be frequent, affordable and accessible. Cycling access is not possible by tunnel design, increasing the importance of cycle-capable public transport to avoid disadvantaging active travellers.

5.4 Conclusion for Bluemull Sound

- 5.4.1 Health impacts on the Bluemull Sound route are driven primarily by access to healthcare, reliability of multi-leg journeys and affordability for frequent travellers. Business as Usual maintains existing vulnerabilities. Ferry Do Something provides modest improvements. Ferry Do Max delivers the strongest ferry-based health and equity outcomes. A Fixed Link offers transformational benefits for Unst but requires careful design and mitigation to ensure equitable outcomes for Fetlar residents and non-car users.



6 Bressay: Health Impact Assessment

6.1 Overview

- 6.1.1 Bressay lies immediately east of Lerwick and is connected to the Shetland Mainland by a short ferry crossing. Despite the short distance, the ferry functions as an essential part of daily life and enables access to healthcare, employment, education, retail and social networks in Lerwick. There is no resident GP provision on the island, and residents therefore depend on cross-water travel for routine appointments and access to secondary care at Gilbert Bain Hospital.
- 6.1.2 The route is characterised by high-frequency, non-discretionary travel, including commuting, education-related trips and regular health visits. This makes Bressay particularly sensitive to affordability, reliability and terminal environment quality. The population profile shows an ageing community, rising child poverty in the wider Lerwick and Bressay locality, higher than average chronic pain, and slightly elevated loneliness, all of which increase vulnerability to transport-related health impacts.
- 6.1.3 The Outline Business Case identifies four options for the Bressay route:
- Business as Usual (BaU): like-for-like continuation of ferry service patterns and fare structures, with vessel replacement and some terminal and marshalling reconfiguration.
 - Ferry Do Something: modern replacement vessel to improve reliability and resilience, with limited timetable change, plus terminal and passenger security enhancements.
 - Ferry Do Maximum: enhanced ferry service with increased frequency and extended operating hours, improved terminal environments and potential resident fare reductions.
 - Fixed Link: permanent crossing (i.e. a tunnel), providing continuous access; health outcomes depend strongly on toll policy, landing location and onward public transport provision, particularly given the high share of foot passengers on this route.

6.2 Baseline Evidence

- 6.2.1 Baseline evidence indicates that the Bressay community has characteristics that heighten sensitivity to connectivity-related health impacts. The population is 349 (2022) with an ageing profile (30.3% aged 65+), and the proportion of children has fallen to 9.5% (2022). This increases the importance of reliable access to health and support services and increases the likelihood of accompanied travel needs.
- 6.2.2 The health profile for the combined Lerwick and Bressay locality includes:
- Higher chronic or persistent pain (27.1%) than the Shetland average (21.9%), increasing the importance of predictability, comfort and step-free travel environments
 - Slightly lower mental wellbeing (44.0) and slightly higher loneliness (18.1%) than the Shetland average, which increases the plausibility that affordability barriers and constrained social travel can affect wellbeing over time
 - Markers of socio-economic vulnerability, including rising child poverty (15.1% in 2021/22) and food insecurity (9%), both of which can interact with transport costs and access to affordable goods and services.



- 6.2.3 Engagement and survey evidence indicates that, despite relatively good service availability, 29% of respondents report travelling off-island less than they would like and 19% report that day-to-day activities are negatively affected by the current service. Affordability is reported as a principal driver of suppressed travel: among those travelling less often than desired, 100% cite vehicle fares as a barrier (95% as a major factor), and 80% cite passenger fares (25% major, 55% minor). These baseline and equality findings inform the assessment below.

Health Impact Assessment

Shetland Inter-Island Transport Connectivity Programme

Table 6.1: Bressay Health Impact Assessment

Health determinant	Likely health impact pathway	Affected populations	Likelihood	Importance to health	Direction and scale of impact (by option)			Equity considerations
Access to and quality of services	Timetable dependency, reliability and frequency affect access to GP services, hospital appointments, education and other essential services in Lerwick. Missed sailings increase stress and risk of missed appointments. No resident GP on Bressay increases sensitivity to service disruption, even on a short crossing	All residents; particularly older people, disabled people, carers, children and those with long-term conditions	Definite	Major	Business as Usual	-		Disproportionate impacts for older people, disabled people and carers who rely on frequent, predictable travel and escorted journeys.
					Ferry Do Something	+		
					Ferry Do Max	++		
					Fixed Link	++		
Economic environment	Ongoing cumulative cost burden for frequent travel to Lerwick for work, education, childcare, health care and shopping. Fare levels contribute to suppressed travel and can amplify financial strain, particularly where trips are frequent or accompanied. Disruption can generate additional indirect costs such as lost income and childcare rearrangement.	Working-age residents; low-income households; families; carers	Probable	Moderate to major	Business as Usual	-		Strong equity sensitivity due to cumulative costs for frequent travel and larger or escorted households.
					Ferry Do Something	0	+	
					Ferry Do Max	++		
					Fixed Link (policy-dependent)	++		
Social environment	Affordability and flexibility influence participation in social, cultural and	Older people; carers; young	Probable	Moderate	Business as Usual	0	-	Elevated loneliness and lower mental wellbeing mean benefits are not evenly distributed without



Health Impact Assessment

Shetland Inter-Island Transport Connectivity Programme

Health determinant	Likely health impact pathway	Affected populations	Likelihood	Importance to health	Direction and scale of impact (by option)			Equity considerations
	preventative wellbeing activities in Lerwick. This can contribute to isolation and reduced wellbeing, particularly given slightly higher loneliness and slightly lower mental wellbeing in the Lerwick and Bressay locality profile.	people; people living alone			Ferry Do Something	+		affordability and non-car access measures.
					Ferry Do Max	++		
					Fixed Link	++		
Physical environment	Terminal layouts, marshalling, waiting environments and boarding conditions affect safety, comfort and independent travel.	Foot passengers; disabled people; older people; families with children	Possible	Moderate	Business as Usual	0		Non-car users and people with mobility or sensory impairments are most sensitive to design quality and safety.
					Ferry Do Something	+		
					Ferry Do Max	+		
					Fixed Link	0	+	
Commercial Environment influences on health	Emissions, noise, construction impacts and changes in travel patterns affect environmental determinants of health.	All residents	Possible	Minor to moderate	Business as Usual	0		Environmental effects are secondary at OBC stage but require mitigation and monitoring as designs develop.
					Ferry Do Something	0		
					Ferry Do Max	0	?	
					Fixed Link	0	?	



6.3 Bressay: Option Level HIA Summary

6.3.1 The HIA for Bressay is presented above in **Table 6.1**.

Option Bressay 1: Business as Usual

6.3.2 Business as Usual maintains current service patterns and fare structures. Health impacts arise through continued dependence on ferry timetables and operational reliability for access to healthcare and other essentials. Even on a short crossing, missed or delayed sailings can disrupt appointments and increase stress, particularly for older people, disabled people, carers and those managing chronic pain or long-term conditions.

6.3.3 Economic and social impacts remain constrained by fare structures that generate cumulative costs for frequent travel. The evidence indicates that affordability is a decisive barrier for a proportion of households, suppressing discretionary trips and potentially limiting participation in social, cultural and preventative activities that support wellbeing. Overall, Business as Usual is most likely to maintain existing health inequalities rather than alleviate them.

Option Bressay 2: Ferry Do Something

6.3.4 The Ferry Do Something option focuses on improving vessel reliability and operational resilience while maintaining broadly similar service levels. It also includes targeted terminal and user-environment improvements, notably a new secure waiting room in Lerwick, alongside marshalling enhancements at Bressay and Lerwick.

6.3.5 Health benefits are expected to arise through two main pathways:

- **Improved access reliability for essential travel:** More consistent operations reduce the likelihood of missed health appointments and reduce day-to-day anxiety for frequent travellers, including older people and people with chronic pain who may find rescheduling difficult. Given that 15% of survey respondents selected “Health Visit” as a reason for off-island travel in a given month, reliability improvements are particularly relevant to healthcare access in Lerwick.
- **Improved safety, comfort and perceived security at terminals:** The secure waiting room and marshalling changes are likely to improve perceived safety for foot passengers and those travelling at quieter times, which can support wellbeing and confidence to travel, particularly for women, older people, disabled people, and young people travelling independently.

6.3.6 However, affordability is unlikely to change under this option unless fares are addressed. While reliability and terminal improvements can reduce stress and improve travel conditions, cost barriers may continue to limit access to healthcare, particularly for lower-income groups and those with ongoing health needs. As a result, health benefits are likely to be uneven and constrained by persistent affordability issues.

Option Bressay 3: Ferry Do Maximum

6.3.7 The Ferry Do Maximum option provides a more comprehensive enhancement of ferry provision, including increased frequency and extended operating hours to reflect the route’s role as a daily commuter link. It also includes terminal upgrades and potential fare reductions for residents, as well as improved integration with public transport networks in Lerwick. In addition to a secure waiting room, the option includes expanded parking and marshalling on Bressay and a covered pedestrian walkway designed to fully segregate pedestrians and vehicles during boarding.



- 6.3.8 This option has a stronger health pathway than Ferry Do Something because it addresses both flexibility and, potentially, affordability, which are central to the baseline pattern of suppressed travel. Increased frequency reduces the consequences of a missed sailing and supports better alignment with appointment times, shift work, caring responsibilities and education-related travel. This is particularly relevant given the permanent closure of the school on Bressay (2014), which increases reliance on off-island travel for education access.
- 6.3.9 Where resident fare reductions are implemented, this option directly targets the dominant barrier identified in the equality and socio-economic evidence (fares), and therefore has the potential to reduce inequalities linked to transport costs for low-income households and frequent travellers.

Option Bressay 4: Fixed Link

- 6.3.10 A Fixed Link (i.e., a tunnel) would remove timetable dependency and provide continuous access between Bressay and the Shetland Mainland. This offers the most substantial potential benefit for access to healthcare and other essential services, including reduced journey planning stress and improved access for urgent and unscheduled travel. For an ageing community with higher rates of chronic pain, a step-change in reliability may support ageing in place and reduce stress associated with time-critical travel.
- 6.3.11 However, the distribution of benefits is highly sensitive to design and supporting measures. Bressay has a comparatively high share of foot passengers because the current berth is central in Lerwick. Under a Fixed Link, the landing location may be further from the town centre, which could create a new barrier for non-car users if bus services are not frequent, affordable and accessible. In addition, affordability outcomes depend on toll policy and how that is designed.
- 6.3.12 From a safety perspective, a Fixed Link removes ferry-related risks but may increase road traffic and vehicle kilometres. The OBC evidence indicates only a small predicted net road safety disbenefit because overall traffic volumes are modest. Environmental impacts are also mixed: construction would create substantial embodied carbon, while annual operational emissions may reduce relative to ferry operations, and local air quality at Lerwick Harbour could improve if ferry emissions are reduced.

6.4 Conclusion for Bressay

- 6.4.1 Health impacts on the Bressay route are driven primarily by access to healthcare and essential services in Lerwick, affordability for frequent travellers and the quality and safety of the travel environment. Business as Usual maintains existing vulnerabilities. Ferry Do Something provides modest improvements in reliability and safety but does not address affordability. Ferry Do Maximum offers the strongest ferry-based health and equity benefits by improving frequency, flexibility and affordability. A Fixed Link provides transformational access benefits but requires careful design, toll policy and public transport provision to ensure equitable outcomes for non-car users and lower-income households.



7 Whalsay: Health Impact Assessment

7.1 Overview

- 7.1.1 The Whalsay route provides a core connection between Whalsay and Mainland Shetland, enabling access to essential services in Lerwick and across the mainland. The route supports a combination of commuting, health-related travel, education and business activity, particularly linked to fisheries and aquaculture. For many residents, travel via the route forms part of regular daily or weekly activity, embedding transport connectivity as a key determinant of health through access, reliability, affordability and social participation.
- 7.1.2 Whalsay differs from smaller island localities in that it retains a relatively high level of on-island service provision, including a health centre, dental services and residential care facilities. However, more specialised healthcare remains concentrated in Lerwick, requiring regular off-island travel. As a result, the route plays a critical role in enabling access to secondary care, diagnostics and some aspects of mental health and social care provision.
- 7.1.3 Baseline characteristics indicate a relatively large and economically active population, but with structural vulnerabilities. These factors create distinct health impact pathways, including occupational health risks, financial stress and the need for reliable and flexible connectivity to maintain access to services and employment.

7.2 Baseline Evidence

- 7.2.1 Whalsay's population is gradually ageing, with a rising share of residents over 65. Although less pronounced than in smaller islands, this trend points to increasing long-term conditions and greater demand for health and care services. At the same time, a declining working-age population places added pressure on service delivery and informal care.
- 7.2.2 The island benefits from relatively strong local healthcare and social care provision, but access to specialist services requires travel to Lerwick. This creates a dual dependency: routine needs are met locally, while more complex or urgent care relies on dependable ferry links, especially for time-critical appointments.
- 7.2.3 Socio-economic factors, such as structural vulnerabilities, also shape health outcomes. High car dependence supports mobility for many but risks excluding those without access to a vehicle, including some older residents, younger people and lower-income households.
- 7.2.4 Mental wellbeing is generally in line with or slightly better than the Shetland average, with low reported loneliness. However, strong social networks may mask underlying vulnerabilities, making continued connectivity vital for preventative health and community resilience.



Health Impact Assessment

Shetland Inter-Island Transport Connectivity Programme

Table 7.1: Whalsay Health Impact Assessment

Health determinant	Likely health impact pathway	Affected populations	Likelihood	Importance to health	Direction and scale of impact (by option)			Equity considerations
Access to and quality of services	Reliability, frequency and journey time affect access to specialist healthcare, hospital appointments and emergency care. Car-based travel dominates access patterns.	All residents; particularly older people, disabled people, carers, those requiring specialist care	Definite	Major	Business as Usual	-		Non-car users and those reliant on others for travel are more vulnerable. Benefits depend on inclusive access under all options.
					Ferry Do Something	+		
					Ferry Do Max	++		
					Fixed Link	++		
Economic environment	Connectivity supports employment in fisheries, aquaculture and services. Disruption affects income, shift work and physical health through stress and instability.	Working-age residents; low-income households; shift workers; carers	Probable	Moderate to major	Business as Usual	-		Lower incomes increase sensitivity to transport costs. Economic disruption may disproportionately affect health outcomes for vulnerable groups.
					Ferry Do Something	+		
					Ferry Do Max	++		
					Fixed Link	++		
Social environment	Participation in social, cultural and preventative health activities depends on reliable transport to mainland services and wider networks.	Older people; carers; young people; people without cars	Probable	Moderate	Business as Usual	0	-	Strong existing social networks mitigate impacts but may mask inequality for more isolated groups.
					Ferry Do Something	+		
					Ferry Do Max	++		
					Fixed Link	++		
Physical environment	Ferry operations, marshalling, vessel design and exposure to weather affect comfort, safety and accessibility.	Disabled people; older people; families; foot passengers	Possible	Moderate	Business as Usual	0	-	Accessibility improvements depend on infrastructure design and public transport integration.
					Ferry Do Something	+		



Health Impact Assessment

Shetland Inter-Island Transport Connectivity Programme

Health determinant	Likely health impact pathway	Affected populations	Likelihood	Importance to health	Direction and scale of impact (by option)			Equity considerations
					Ferry Do Max	+		
					Fixed Link	0	+	
Commercial Environment influences on health	Emissions, noise and construction effects influence environmental determinants of health over time.	All residents	Possible	Minor to moderate	Business as Usual	0		Environmental effects are secondary to access and affordability but remain relevant to longer-term health outcomes.
					Ferry Do Something	0		
					Ferry Do Max	?		
					Fixed Link	?		



7.3 Whalsay: Option Level HIA Summary

7.3.1 The HIA for Whalsay is presented above in **Table 7.1**.

Option Whalsay 1: Business as Usual

- 7.3.2 Under Business as Usual, ferry services maintain current operating patterns, with vessel replacement ensuring continuity but no significant change to reliability, flexibility or affordability. This option maintains existing dependencies on timetable-based travel and exposure to disruption.
- 7.3.3 The most significant health impact pathway relates to access to specialist healthcare. While primary care is available locally, reliance on ferry travel introduces ongoing risks of delay or disruption when accessing hospital services. This can affect attendance, continuity of care and patient stress, particularly for those with long-term or complex conditions.
- 7.3.4 Economic and health impacts are also interlinked. Disruption to ferry services may affect shift workers and those employed in fisheries and related sectors, contributing to financial instability and associated mental and physical stress. Overall, this option maintains existing health vulnerabilities and inequalities.

Option Whalsay 2: Ferry Do Something

- 7.3.5 Ferry Do Something improves service reliability and operational performance through modernised vessels and incremental enhancements. The main health benefit pathway is increased confidence in reaching essential services, particularly healthcare and employment.
- 7.3.6 Reduced disruption supports more consistent access to healthcare appointments and helps reduce stress associated with travel uncertainty. Improvements to vessels and related infrastructure also enhance safety and comfort, supporting better access for older people, disabled users and families.
- 7.3.7 However, structural issues remain. Timetable dependency and high levels of car reliance continue to limit accessibility for some groups. Affordability is also largely unchanged, meaning that cost-related barriers to travel persist.

Option Whalsay 3: Ferry Do Max

- 7.3.8 Ferry Do Max delivers a substantial improvement in connectivity through increased frequency, extended operating hours and potential fare reductions. This significantly enhances access to healthcare by enabling better alignment with appointment schedules and providing flexibility when disruption occurs.
- 7.3.9 Increased frequency reduces the consequences of missed sailings and allows for same-day rebooking, which is particularly important for residents with ongoing healthcare needs or complex travel requirements.
- 7.3.10 Affordability improvements are a key driver of positive health outcomes. Reduced fares help address financial barriers to travel, particularly in a context of relatively low incomes and high cost of living. This can support more regular attendance at healthcare services and greater participation in social and preventative activities, contributing to improved physical and mental wellbeing.



Option Whalsay 4: Fixed Link

- 7.3.11 The Fixed Link option represents a transformational change by removing ferry dependence and providing continuous access between Whalsay and the mainland. This eliminates timetable constraints and provides 24-hour connectivity, significantly improving access to healthcare and enabling more responsive travel for both routine and emergency needs.
- 7.3.12 The most significant health benefits relate to reliability and flexibility. Residents are no longer required to plan around ferry schedules, which reduces stress and improves access to time-sensitive services. Emergency access is also improved, reducing potential delays associated with ferry availability.
- 7.3.13 However, the distribution of benefits depends on supporting measures. Given existing car dependence, benefits may be uneven if non-car users are not adequately supported. The design of any tolling arrangements also has implications for affordability and equity, particularly for lower-income households.

7.4 Conclusion for Whalsay

- 7.4.1 Health impacts on the Whalsay route are shaped by the interplay between relatively strong local service provision and continued reliance on mainland services for specialist care. Connectivity therefore remains a key determinant of access to healthcare, economic stability and overall wellbeing.
- 7.4.2 Business as Usual maintains existing vulnerabilities and inequalities, particularly those linked to affordability and disruption risk. Ferry Do Something provides incremental improvements in reliability, while Ferry Do Max delivers more substantial benefits through enhanced flexibility and reduced cost barriers.
- 7.4.3 The Fixed Link option offers the greatest potential improvement in health outcomes by removing timetable dependency and improving reliability and access. However, achieving equitable outcomes requires careful attention to affordability, public transport provision and inclusive access to ensure that benefits are shared across all population groups.

8 Yell Sound: Health Impact Assessment

8.1 Overview

- 8.1.1 The Yell route between Toft and Ulsta, is one of the most strategically important inter-island connections in Shetland because it provides the main link between Yell and mainland Shetland and also acts as the gateway for onward access to Unst and Fetlar. This gives the route a health significance that extends beyond Yell itself, because disruption, limited flexibility or affordability pressures on Yell Sound can affect access to healthcare and other essential services across the wider North Isles.
- 8.1.2 Yell retains more local service provision than some of the smaller island communities, but residents still depend on Lerwick and mainland Shetland for hospital care, diagnostics, specialist treatment and a range of public services. The route therefore has a clear influence on health through access to services, reliability of routine and urgent journeys, affordability for frequent travellers, and the stress associated with planning essential travel around a ferry timetable.
- 8.1.3 The baseline evidence also points to wider North Isles vulnerabilities which are relevant to Yell. These include demographic ageing, relatively high living costs, strong dependence on car-based travel and evidence of poorer health outcomes in parts of the North Isles compared with Shetland overall. Taken together, these characteristics increase the sensitivity of the route to changes in connectivity and strengthen the case for considering health impacts alongside transport performance.

8.2 Baseline Evidence

- 8.2.1 Yell sits within a North Isles context of ageing populations, increasing prevalence of long-term conditions and growing reliance on reliable access to mainland-based services. While Yell has a broader local service base than the smaller North Isles communities, travel to Lerwick remains necessary for specialist healthcare and a range of time-sensitive appointments.
- 8.2.2 The route is also important in socio-economic terms. Yell is associated with relatively high living costs, and repeated ferry travel can create a cumulative burden for households travelling regularly for healthcare, work, education or caring responsibilities. Car dependence is high, which supports mobility for many, but also creates exclusion risks for people without access to a private vehicle. These factors mean that the health implications of the route are shaped not only by service reliability and journey time, but also by affordability and inclusive access.



Health Impact Assessment

Shetland Inter-Island Transport Connectivity Programme

Table 8.1: Yell Sound Health Impact Assessment

Health determinant	Likely health impact pathway	Affected populations	Likelihood	Importance to health	Direction and scale of impact (by option)		Equity considerations
Access to and quality of services	Reliability, frequency, journey time and timetable flexibility affect access to hospital appointments, specialist care, emergency travel and wider social care provision on the mainland. As the main North Isles gateway, Yell Sound also affects onward access for wider communities.	All residents, particularly older people, disabled people, carers, people with long-term conditions, and people requiring frequent or time-critical travel	Definite	Major	Business as Usual	-	Strong differential impacts for those needing frequent and time-sensitive travel. Equity outcomes under a Fixed Link depend on affordable and accessible provision for non-car users.
					Ferry Do Something	+	
					Ferry Do Max	++	
					Fixed Link	++	
Economic environment	Connectivity affects employment access, household income stability and exposure to indirect costs from disruption such as missed work, additional childcare, rescheduling and lost productivity. These factors influence stress and wider health determinants.	Working-age residents, low-income households, carers, shift workers, and people in insecure or travel-dependent employment	Probable	Moderate to major	Business as Usual	-	High living costs and travel dependency intensify unequal outcomes for lower-income households. Affordability policy is important to ensure that benefits are distributed fairly.
					Ferry Do Something	+	
					Ferry Do Max	++	
					Fixed Link	++	
Social environment	Ability to participate in social, cultural, community and preventative health-related activity affects mental wellbeing and isolation. Reduced flexibility and suppressed travel can limit	Older people, carers, young people, people living alone, and non-car users	Probable	Moderate	Business as Usual	-	Improved flexibility and lower travel stress can reduce inequality, but benefits are not evenly distributed if non-car access is weakened or affordability barriers remain.
					Ferry Do Something	+	
					Ferry Do Max	++	



Health Impact Assessment

Shetland Inter-Island Transport Connectivity Programme

Health determinant	Likely health impact pathway	Affected populations	Likelihood	Importance to health	Direction and scale of impact (by option)			Equity considerations
	participation and place pressure on informal support networks.				Fixed Link	++		
Physical environment	Terminal layout, marshalling, boarding conditions, vessel accessibility and exposure to weather affect safety, comfort and independent travel, especially for frequent users.	Disabled people, older people, families with children, and foot passengers	Possible	Moderate	Business as Usual	0	-	Accessibility gains depend on inclusive design of terminals, vessels and onward transport, especially where options alter the balance between ferry and road-based travel.
					Ferry Do Something	+		
					Ferry Do Max	+		
					Fixed Link	0	+	
Commercial Environment influences on health	Emissions, noise, construction effects and longer-term travel patterns influence environmental determinants of health and local amenity.	All residents	Possible	Minor to moderate	Business as Usual	0		Environmental effects are unlikely to be the main health driver at OBC stage, but they remain relevant to longer-term wellbeing and should be addressed through later-stage mitigation.
					Ferry Do Something	0		
					Ferry Do Max	?		
					Fixed Link	?		



8.3 Yell: Option Level HIA Summary

8.3.1 The HIA for Yell Sound is presented above in **Table 8.1**.

Option Yell 1: Business as Usual

8.3.2 Under Business as Usual, the Toft to Ullsta crossing would continue to provide the essential mainland connection for Yell, but without changing the route's underlying dependence on fixed sailing times, disruption risk and capacity pressure. For Yell, the principal health issue is not lack of a service but the continued need to organise hospital appointments, caring journeys and everyday access to Lerwick around a ferry timetable which also carries wider North Isles traffic. In practice, this means that delay or disruption can affect both Yell residents and those making onward journeys to and from Unst and Fetlar.

8.3.3 The main health effect is therefore the continuation of stress, uncertainty and unequal access for people who need frequent or time-sensitive travel, particularly older people, disabled people, carers and those with long-term conditions. Accessibility conditions would remain broadly similar, with the experience of waiting, boarding and travelling still shaped by ferry operations and weather exposure. Overall, this option is likely to maintain current health inequalities associated with reliability, cost and travel dependency rather than materially reducing them.

Option Yell 2: Ferry Do Something

8.3.4 Ferry Do Something would improve the dependability of the Toft to Ullsta crossing through more modern vessels and better operational performance. For health, the main benefit is a more reliable mainland connection for routine hospital travel, visiting, employment and day-to-day service access, with fewer of the uncertainties that currently shape travel from Yell. Because this route underpins a large volume of essential journeys and acts as the main mainland gateway for the wider North Isles, even incremental reliability gains are likely to have practical wellbeing benefits.

8.3.5 This option would also support a more predictable travel experience for onward North Isles journeys, reducing some of the pressure associated with making connections. However, the crossing would still be constrained by the structure of a ferry timetable, so the improvement is best understood as moderating existing health risks rather than removing them.

Option Yell 3: Ferry Do Max

8.3.6 Ferry Do Max would provide the strongest ferry-based health benefit for Yell by increasing frequency, extending the operating day and potentially reducing fares for residents. This is particularly important on Yell Sound because the route functions as a daily lifeline rather than an occasional connection. More sailings and a longer operating window would make it easier to fit hospital appointments, work patterns and caring responsibilities into the day, while also reducing the consequences of missed sailings or delay.

8.3.7 For health and wellbeing, the greatest gain is likely to be reduced travel stress and greater confidence in being able to reach services when needed. Where resident fare reductions are included, the option would also address a recurring equity issue by lowering the cost of repeated travel for healthcare and other essential purposes. Although ferry dependency would remain, this option would materially reduce the health disadvantages currently associated with inflexibility and cumulative travel burden.



Option Yell 4: Fixed Link

- 8.3.8 A Fixed Link would change the health profile of the route more fundamentally than any ferry option by replacing the timetable-based Toft to Ulsta crossing with continuous access. For Yell residents, this would improve access to mainland healthcare, including urgent and unscheduled travel towards Lerwick and Gilbert Bain Hospital, while also removing the uncertainty associated with sailing availability. This benefit would extend beyond Yell itself through a more resilient onward connection.
- 8.3.9 The main health advantage is therefore reliability at all times of day, including for urgent care, repeat appointments and travel linked to caring or support. However, the distribution of these benefits would depend on how well non-car users are served. Public transport through the link, and any toll arrangement, would be important in determining whether lower-income households and people without access to a private vehicle benefit to the same extent as regular car users.

8.4 Conclusion for Yell

- 8.4.1 Health impacts on the Yell route are shaped by its dual role as Yell's connection to Mainland Shetland and the principal mainland gateway for the wider North Isles. This makes access to healthcare, reliability and travel flexibility particularly important, as route disruption can affect both local journeys and onward travel from and to Unst and Fetlar.
- 8.4.2 Business as Usual would maintain the current pattern of travel stress, timetable dependency and unequal impacts for people who need frequent or time-critical journeys. Ferry Do Something would provide a useful but limited improvement through better reliability. Ferry Do Max would offer the strongest ferry-based health outcome by improving flexibility and, where included, affordability. A Fixed Link would provide the greatest overall health benefit through continuous access, but equitable outcomes would depend on affordable charging and strong public transport provision for non-car users.



9 Foula: Health Impact Assessment

9.1 Overview

- 9.1.1 Foula is one of Shetland's most remote and smaller island communities, and the ferry connection forms part of a wider resilience system rather than simply a routine commuter route. The island lies around 20 miles west of the mainland, has a small resident population, limited local services, and remains dependent on off-island access for a wide range of healthcare, supplies and day-to-day needs. In this context, transport has a strong influence on health through access to treatment, continuity of medication, emergency response, household resilience and social connection.
- 9.1.2 Foula's health pathways are shaped not only by travel time and reliability, but also by the consequences of isolation when disruption occurs. The baseline evidence shows that primary care access already relies on visiting provision, with branch surgery and nurse visits dependent on weather, while prescriptions are routed through delivery systems that can also be affected by delay. This means the ferry has an important role in maintaining access to care, supporting supplies and reducing the health effects of remoteness, even where air access also forms part of the island's wider connectivity picture.
- 9.1.3 The key question for Foula is whether the ferry-based option can improve resilience and reduce the health consequences of disruption for this small island population.

9.2 Baseline Evidence

- 9.2.1 The island records relatively good self-reported health overall, but loneliness is slightly higher than the Shetland average and emergency hospital admissions have increased over time, indicating continued dependence on reliable access to acute and mainland-based services.
- 9.2.2 Local resilience evidence is particularly important for Foula. There is no shop on the island. Repeat prescriptions are advised well in advance because weather-related disruption can delay delivery. A visiting nurse service is normally provided on Wednesdays, weather permitting, and GP access is by branch surgery arrangement through Walls Health Centre. In a medical emergency, the nurse may be involved in transfer to Foula Airstrip for onward travel to hospital. These arrangements show how closely health outcomes are tied to transport reliability and weather resilience.
- 9.2.3 Foula also experiences some structural pressures that are relevant to health inequality. It has strong labour participation, very high reliance on private vehicles, no access to superfast broadband and food insecurity. These factors reinforce the importance of dependable physical connectivity for health, wellbeing and access to essentials.
- 9.2.4 The table below summarises the likely health effects of the Foula options, drawing on the route option structure in the OBC and the evidence on equality, socio-economic vulnerability and island resilience.



Health Impact Assessment

Shetland Inter-Island Transport Connectivity Programme

Table 9.1: Foula Health Impact Assessment

Health determinant	Likely health impact pathway	Affected populations	Likelihood	Importance to health	Direction and scale of impact (by option)			Equity considerations
Access to and quality of services	Ferry reliability and resilience affect access to mainland healthcare, visiting care, medication supply, emergency transfer arrangements and wider essential services.	All residents, particularly older people, people with long-term conditions, carers, disabled people and families with children	Definite	Major	Business as Usual	0		Health impacts are amplified by the absence of local alternatives. Small changes in reliability can have disproportionate effects in a remote setting.
					Ferry Do Something	+		
Economic environment	Connectivity affects work patterns, income stability, access to mainland jobs and services, and exposure to indirect costs when journeys are delayed or cancelled.	Working-age residents, lower-income households, carers and those with travel-dependent employment	Probable	Moderate	Business as Usual	0		Strong labour participation and limited local fallback options mean disruption can quickly translate into financial stress, with knock-on effects for wellbeing.
					Ferry Do Something	+		
Social environment	The ability to maintain family, community and social connections affects loneliness, resilience and mental wellbeing.	Older people, people living alone, carers, younger residents and households affected by isolation during disruption	Probable	Moderate	Business as Usual	0		Strong community resilience can mask vulnerability. Benefits are important for those most exposed to isolation during periods of poor weather or cancelled travel.
					Ferry Do Something	+		
Physical environment	Vessel condition, harbour environment, boarding experience and exposure to weather affect safety, comfort and confidence in travelling.	Disabled people, older people, families with children and foot passengers	Possible	Moderate	Business as Usual	0	0	Accessibility improvements depend on vessel and terminal design and on how effectively operations reduce the burden of travelling in exposed conditions.
					Ferry Do Something	+		



Health Impact Assessment

Shetland Inter-Island Transport Connectivity Programme

Health determinant	Likely health impact pathway	Affected populations	Likelihood	Importance to health	Direction and scale of impact (by option)		Equity considerations
Commercial Environment influences on health	Construction effects, emissions and operational change can influence local amenity and environmental determinants of health.	All residents	Possible	Minor to moderate	Business as Usual	0	Environmental effects are not the main health driver at this stage, but they remain relevant in a small and remote island setting.
					Ferry Do Something	?	



9.3 Foula: Option Level HIA Summary

9.3.1 The HIA for Foula is presented above in **Table 9.1**.

Option Foula 1: Business as Usual

9.3.2 Under Business as Usual, the ferry service continues to provide an essential link to the mainland, but without materially altering existing patterns of disruption and weather-related uncertainty. Given that almost all passenger travel is by air, the ferry's primary health relevance is through the reliability of freight and supply chains rather than routine access to off-island services.

9.3.3 Health effects are therefore expected to remain broadly unchanged. Occasional disruption may continue to affect the timely delivery of supplies, including medication and essential goods, with associated low-level stress for households. These effects are most relevant for residents with ongoing health needs or caring responsibilities. Overall, this option maintains the current baseline.

Option Foula: Ferry Do Something

9.3.4 Ferry Do Something may deliver a very small improvement in reliability, primarily affecting the consistency of freight and supply chains. In practice, any health effect is likely to be marginal, reflecting the limited role of the ferry in passenger movements.

9.3.5 Community feedback indicates general satisfaction with the current service. The route would remain inherently constrained by weather and distance, and therefore any improvement in resilience is expected to be slight. As a result, the overall health effect of this option is also assessed as broadly neutral.

9.4 Conclusion for Foula

9.4.1 Health impacts on the Foula route are driven principally by remoteness, limited on-island provision and reliance on external supply chains. Within this context, both options result in broadly neutral outcomes.

9.4.2 Business as Usual maintains existing conditions. Ferry Do Something may offer a very slight improvement in reliability at the margins, primarily benefiting the functioning of the supply chain. However, this does not materially change underlying constraints or the island's reliance on weather-sensitive connections.



10 Papa Stour: Health Impact Assessment

10.1 Overview

- 10.1.1 Papa Stour is a small island community where the ferry provides the island's only regular physical link to the mainland and is therefore fundamental to access to healthcare, prescriptions, food and household supplies, social contact and emergency support. In health terms, the route functions less as a routine transport service and more as a resilience lifeline for a small and ageing population.
- 10.1.2 The island's remoteness is compounded by minimal local service provision. There is no shop on Papa Stour, the school has been mothballed for a number of years, and no permanent on-island health facility. Residents rely on Walls Health Centre and mainland services for most healthcare needs, while repeat prescriptions are posted out and can be affected by disruption. This means the health impacts of the route are closely tied to reliability, weather resilience and the practical consequences of delay in a setting with very limited fallback options.
- 10.1.3 This health appraisal focuses on the extent to which the ferry service can reduce the health consequences of isolation and improve resilience for a small island population.

10.2 Baseline Evidence

- 10.2.1 Papa Stour has a small population, which declined from 15 residents in 2011 to 7 in 2022, and the proportion of older residents has increased over the same period. The island has limited local services, so residents rely on off-island travel for healthcare, supplies and a range of everyday needs. GP access is through Walls Health Centre, with branch visits by appointment, and prescriptions are posted from Lerwick, meaning disruption can affect access to medication and appointments. Although some health indicators are relatively positive, the combination of a small population, an ageing profile and reliance on a single ferry connection means that access to services remains an important consideration for health and wellbeing on Papa Stour.

Health Impact Assessment

Shetland Inter-Island Transport Connectivity Programme

Table 10.1: Papa Stour Health Impact Assessment

Health determinant	Likely health impact pathway	Affected populations	Likelihood	Importance to health	Direction and scale of impact (by option)		Equity considerations
Access to and quality of services	Ferry reliability and resilience affect access to mainland healthcare, prescriptions, essential goods and emergency support arrangements.	All residents, particularly older people, people with long-term conditions, carers and disabled people	Definite	Major	Business as Usual	-	Effects are intensified by minimal local service provision and the small population size. Delays can have immediate consequences for a small number of residents with high dependence on support.
					Ferry Do Something	+	
Economic environment	Connectivity affects access to income, supplies and indirect costs associated with delayed or cancelled travel, with knock-on effects for stress and wellbeing.	Working-age residents, lower-income households, carers and those with travel-dependent activities	Probable	Moderate	Business as Usual	-	Limited local economic base and small population reduce flexibility and make households more exposed to disruption costs.
					Ferry Do Something	+	
Social environment	The ability to maintain family, social and community links affects loneliness, mental wellbeing and overall resilience in a small island setting.	Older people, people living alone, carers and households vulnerable to isolation	Probable	Moderate	Business as Usual	-	Tight-knit community support is important but may mask vulnerability, especially where bad weather or cancellations increase isolation.
					Ferry Do Something	+	
Physical environment	Vessel condition, waiting facilities, boarding arrangements and exposure to weather affect safety, comfort and confidence in travelling.	Disabled people, older people and foot passengers	Possible	Moderate	Business as Usual	0 -	Accessibility improvements depend on vessel and terminal conditions and on how well exposed travel conditions are managed.
					Ferry Do Something	+	



Health Impact Assessment

Shetland Inter-Island Transport Connectivity Programme

Health determinant	Likely health impact pathway	Affected populations	Likelihood	Importance to health	Direction and scale of impact (by option)		Equity considerations
Commercial Environment influences on health	Operational change, emissions and local environmental effects influence amenity and longer-term environmental health conditions.	All residents	Possible	Minor to moderate	Business as Usual	0	These effects are secondary to access and resilience, but remain relevant in a small island setting.
					Ferry Do Something	?	



10.3 Papa Stour: Option Level HIA Summary

10.3.1 The HIA for Papa Stour is presented above in **Table 10.1**.

Option Papa Stour 1: Business as Usual

10.3.2 Under Business as Usual, the ferry would continue to provide the island's essential connection to mainland Shetland, but without materially changing the underlying exposure to disruption, weather sensitivity and limited flexibility. In health terms, this means that the current pattern of dependence would remain. Residents would still rely on a single ferry-based access arrangement for healthcare, prescriptions, supplies and wider support, with limited ability to absorb delay or cancellation.

10.3.3 The main adverse health effect under this option is the continuation of uncertainty for residents who require dependable off-island access, particularly older people and those with ongoing health needs. In a community like Papa Stour, even occasional disruption can have disproportionate consequences because there are minimal local alternatives. Business as Usual is therefore likely to maintain existing health inequalities associated with such service access.

Option Papa Stour 2: Ferry Do Something

10.3.4 Ferry Do Something provides the enhancement option for Papa Stour and therefore the main opportunity to improve health outcomes. The principal benefit is improved reliability and resilience, which is particularly important where the baseline level of remoteness is high and where access to healthcare and prescriptions is already closely tied to service continuity.

10.3.5 For Papa Stour, the health value of this option lies in reducing the practical and emotional effects of isolation. A more dependable ferry service would improve confidence in being able to reach Walls Health Centre and mainland services when needed, reduce the likelihood of disruption to deliveries and prescriptions, and strengthen wider household resilience. The route would still remain inherently remote and weather-sensitive, so the option should be understood as reducing risk rather than removing any structural disadvantages.

10.4 Conclusion for Papa Stour

10.4.1 Health impacts on the Papa Stour route are shaped mainly by ageing, minimal local services and the central role of the ferry in maintaining access to healthcare, medication, supplies and social support. In this context, even relatively small changes in reliability can have meaningful consequences for wellbeing and resilience.

10.4.2 Business as Usual would maintain existing vulnerabilities, including the stress and practical risk associated with delay, weather disruption and reliance on a narrow access arrangement. Ferry Do Something offers a modest but important health benefit by improving reliability and reducing the immediate health effects of isolation. For Papa Stour, this improvement is significant because it supports continuity of care and everyday resilience.



11 Skerries: Health Impact Assessment

11.1 Overview

- 11.1.1 Skerries is a small and relatively remote island community within the Shetland inter-island network. The route provides the island's main connection to Mainland Shetland and is therefore essential for healthcare access, everyday supplies, education, employment-related travel and social participation. Skerries has a limited local service base and a small population, which means the health consequences of disruption can be more acute.
- 11.1.2 The route also has a distinctive operational context. Sailings run six days a week and journey times are relatively long at around 90 minutes or up to 2.5 hours depending on departure point. This creates a strong health pathway through time, reliability and exposure to missed or delayed journeys. For residents needing routine or urgent travel for healthcare, the route can shape whether mainland-based services are practically accessible on the day and whether journeys can be completed without added stress, overnight stays or further cost.
- 11.1.3 While Skerries benefits from some local health resilience, including a resident Community Healthcare Assistant and limited visiting provision linked to Whalsay Health Centre, the island remains highly dependent on the ferry for a wider range of healthcare needs and for onward transfer in some emergency situations. Health impacts are therefore closely tied to the route's reliability, affordability and ability to support planned and unplanned travel in a small island setting.

11.2 Baseline Evidence

- 11.2.1 Skerries has experienced population decline in recent years. This is relevant to local health outcomes because it reduces local resilience, narrows informal support networks and increases the significance of transport in maintaining access to care and essential services.
- 11.2.2 The island has some limited health provision in the form of a resident Community Healthcare Assistant, a clinic operating from Wednesday to Friday, and visiting nursing support coordinated through Whalsay Health Centre. GP provision is by appointment through Whalsay, and emergency transfers may involve the Skerries airstrip or ferry. Prescriptions are normally delivered on Tuesdays, meaning disruption can affect continuity of medication. These arrangements demonstrate that the ferry is not only a travel service but part of the island's wider health support system.
- 11.2.3 Skerries also experiences a combination of high living costs, relatively low incomes, high car ownership and limited alternatives to ferry travel. Although baseline health outcomes are generally positive in some respects, the island's small population, long journey times and dependence on off-island provision increase sensitivity to disruption, missed connections and cumulative travel costs.



Health Impact Assessment

Shetland Inter-Island Transport Connectivity Programme

Table 11.1: Skerries Health Impact Assessment

Health determinant	Likely health impact pathway	Affected populations	Likelihood	Importance to health	Direction and scale of impact (by option)		Equity considerations
Access to and quality of services	Ferry reliability, journey time and resilience affect access to mainland healthcare, visiting services, prescriptions and emergency transfer arrangements.	All residents, particularly older people, disabled people, carers, people with long-term conditions and those requiring regular treatment	Definite	Major	Business as Usual	-	Effects are amplified by the island's small size and limited local alternatives. Delays can have disproportionate consequences for a small number of frequent users.
					Ferry Do Something	+	
Economic environment	Connectivity affects access to jobs, income stability and indirect costs linked to delay, cancellation or long travel times, with knock-on effects for stress and wellbeing.	Working-age residents, lower-income households, carers and people in travel-dependent employment	Probable	Moderate	Business as Usual	-	Low incomes and high living costs increase the health significance of transport costs and disrupted travel.
					Ferry Do Something	+	
Social environment	Ability to maintain family, social and community links affects mental wellbeing, isolation and resilience in a small island population.	Older people, people living alone, carers, young people and households vulnerable to isolation	Probable	Moderate	Business as Usual	-	Strong community ties may mask vulnerability. Benefits are important for residents most affected by isolation during periods of poor weather or reduced connectivity.
					Ferry Do Something	+	
Physical environment	Vessel condition, boarding arrangements, waiting conditions and exposure to weather affect safety, comfort and confidence in travelling.	Disabled people, older people, families with children and foot passengers	Possible	Moderate	Business as Usual	0	Accessibility gains depend on vessel and terminal design and on reducing the burden of travel in exposed conditions.
					Ferry Do Something	+	



Health Impact Assessment

Shetland Inter-Island Transport Connectivity Programme

Health determinant	Likely health impact pathway	Affected populations	Likelihood	Importance to health	Direction and scale of impact (by option)		Equity considerations
Commercial Environment influences on health	Emissions, construction effects and operational change influence local amenity and environmental determinants of health.	All residents	Possible	Minor to moderate	Business as Usual	0	Environmental effects are secondary to access and resilience, but remain relevant in a small and sensitive island setting.
					Ferry Do Something	?	



11.3 Skerries: Option Level HIA Summary

11.3.1 The HIA for Skerries is presented above in **Table 11.1**.

Option Skerries 1: Business as Usual

11.3.2 Under Business as Usual, the route would continue to provide the essential ferry link for Skerries, but without materially changing the island's exposure to long journey times, limited service flexibility and disruption risk. In health terms, this means the current pattern of vulnerability would remain. Residents would continue to rely on a transport connection that underpins access not only to hospital and GP care beyond the island, but also to prescriptions, wider services and some emergency transfer arrangements.

11.3.3 The main adverse pathway under this option is the continuation of delay, uncertainty and practical difficulty for residents who need dependable off-island access. For a small island such as Skerries, this is particularly significant because there are few local alternatives to absorb disruption. Business as Usual is therefore likely to maintain existing health inequalities associated with remoteness, cost and dependence on weather-sensitive connectivity.

Option Skerries 2: Ferry Do Something

11.3.4 Ferry Do Something represents the main opportunity to improve health outcomes for Skerries. The key benefit is improved reliability and resilience, which can have a disproportionate effect in a route where journey times are long and service frequency is limited. Better operational performance would support more dependable access to mainland healthcare, improve confidence in attending appointments and reduce the stress associated with organising essential travel.

11.3.5 For Skerries, the value of this option lies in reducing the health consequences of isolation rather than transforming the route fundamentally. Even moderate improvements in vessel performance and service resilience can strengthen continuity of care, reduce the likelihood of disrupted access to prescriptions and improve wider household resilience. However, the route would remain ferry-based and relatively long-distance, so the option should be understood as reducing existing health risks rather than removing the structural effects of remoteness.

11.4 Conclusion for Skerries

11.4.1 Health impacts on the Skerries route are shaped by small population size, long travel times, limited local fallback provision and the close relationship between ferry reliability and access to healthcare, medication, supplies and social connection. In this context, the health consequences of disruption are particularly pronounced.

11.4.2 Business as Usual would maintain existing vulnerabilities, including the stress and practical risk associated with delay, limited flexibility and dependence on a narrow range of access arrangements. Ferry Do Something offers a modest but important health benefit by improving reliability and resilience. For Skerries, that improvement is significant because it helps reduce the health effects of isolation, even though it does not alter the island's underlying remoteness or dependence on ferry-based connectivity.



12 Mitigation and Enhancement Measures

- 12.1.1 This HIA identifies a consistent set of health priorities across the Shetland Inter-Island Transport Connectivity Programme. Across the network, the most important health pathways relate to access to healthcare and other essential services, the affordability and reliability of repeated travel, the implications of disruption for household resilience and financial stress, the experience of travelling as a non-car user, and the wider role of connectivity in sustaining social participation, local economies and access to essential goods. These pathways are not evenly distributed and are likely to be most important for older people, disabled people, carers, low-income households, people with long-term conditions, and residents of remote islands.
- 12.1.2 The mitigation and enhancement measures identify programme-level principles to inform implementation. They should not be treated as confirmed project-specific commitments. Their relevance, feasibility and effectiveness should be tested through project-level assessment and design as each preferred intervention is progressed.

12.1 Cross-cutting mitigation and enhancement measures by health determinant

Access to and quality of services

- 12.1.1 Future option development should ensure timetable design, service frequency and contingency arrangements support reliable access to primary, secondary and community healthcare, particularly where journeys depend on connections, mainland treatment, or where disruption risks missed or delayed care. Timetables should be tested against key health journeys, including:
- Outpatient and repeated treatments;
 - Hospital visiting and accompanied travel; and
 - Visiting clinician schedules and social care trips.
- 12.1.2 Measures should also address the cost burden associated with frequent, escorted or time-critical travel. Fare or toll policy should be developed to reduce barriers to accessing healthcare and to avoid repeated essential travel contributing to poorer health outcomes through financial strain or delayed treatment. On routes where fixed links are taken forward, equity outcomes will depend in part on ensuring that charging structures do not disadvantage lower-income households, carers or people making repeated healthcare journeys.
- 12.1.3 Operational planning should consider impacts on health and social care delivery, including:
- Outreach services and visiting clinicians;
 - Movement of equipment and supplies; and
 - Workforce recruitment and retention.
- 12.1.4 Particular attention should be given to routes sensitive to missed connections or disruption. Emergency response pathways should also be reviewed, including links between ferry, ambulance and air ambulance services.



Economic environment

- 12.1.5 Mitigation should recognise that transport affects health not only through access to care, but also through employment, training and income. Future option development should seek to improve reliable access to employment, education and training opportunities and reduce the practical and psychological burden associated with travel uncertainty, especially for shift workers, people in insecure employment and households balancing work and caring responsibilities.
- 12.1.6 Measures to improve affordability are particularly important because transport costs can affect disposable income, financial resilience and the ability to meet essential household costs. This includes both direct travel costs and indirect costs associated with disruption, such as lost earnings, childcare rearrangements, additional accommodation and missed commercial activity.
- 12.1.7 Connectivity measures at the project level should also be developed with regard to commercial reliability. Reliable access for contractors, freight and service providers can support local job stability, reduce the cost and variability of goods and services, and strengthen wider determinants of health through household and community resilience.

Social environment

- 12.1.8 Mitigation and enhancement should support the ability of island residents to maintain social networks, family relationships and caring roles. This means improving not only essential travel but also the affordability and predictability of journeys that enable visiting, social participation, recreation and attendance at cultural or community events. These aspects are important to mental wellbeing and may be particularly significant for older people, carers, young people and those living alone.
- 12.1.9 Reducing stress and uncertainty should be treated as an explicit health objective. Improved real-time information, transparent disruption protocols, sheltered and accessible waiting environments, and better same-day recovery options can all reduce anxiety associated with poor weather, missed connections and time-critical travel. This is relevant across the network but especially important on routes with long journey times, onward dependencies or limited alternative services.
- 12.1.10 As options are developed at the project-level, care should be taken to understand how changes in connectivity may affect island identity, community cohesion and inter-island relationships. Future engagement and option design should therefore consider how improved connectivity can support wellbeing without eroding valued aspects of island life or creating perceptions of unequal treatment between communities.

Physical environment

- 12.1.11 The physical design of vessels, terminals, marshalling areas, interchanges and onward transport connections should be developed in accordance with inclusive design principles. This includes step-free access, lighting, shelter, wayfinding, safe segregation of pedestrians and vehicles, accessible toilets and waiting space, and good-quality information for disabled people, older people, families and people travelling without a car. These measures influence not only accessibility but also confidence, independence and the overall travel experience.
- 12.1.12 Connectivity options should also be assessed in terms of how they affect access to local amenities, services and opportunities for recreation and active living. Measures that improve walking and cycling access to terminals, provide cycle-carrying or cycle-compatible public transport where needed, and strengthen onward public transport integration can enhance the



health value of connectivity improvements. This will be particularly important where fixed links alter travel patterns or where transport changes risk reducing opportunities for active travel among non-car users.

- 12.1.13 Environmental health effects should continue to be addressed proportionately as route options progress. This includes localised emissions and noise from ferry operations, the potential for changes in local amenity, and the need to strengthen resilience to weather-related disruption and climate change. At later stages, mitigation should be refined in response to route-specific environmental assessment and design development.

Commercial environment and influences on health

- 12.1.14 Future option development should recognise that transport reliability affects the availability, affordability and quality of food and other essential goods, with implications for diet, medication continuity and wider household wellbeing. This is particularly important on the more remote routes where delayed or infrequent deliveries can have direct consequences for residents' ability to access essentials.
- 12.1.15 Connectivity also affects tourism, the viability of local businesses and the sustainability of services used by both visitors and residents. Measures that support reliable supply chains and visitor access can strengthen local employment and service viability, but should be designed so that resident access to services and affordable travel is not undermined. In some locations, shared infrastructure may contribute positively to the viability of services; in others, visitor demand may create pressure if not managed carefully. These interactions should be considered in the next stage of option refinement.

12.2 Implementation Route Map, Investment and Project Development

- 12.2.1 The Implementation Route Map provides the anticipated sequencing of preferred interventions and therefore the temporal expression of potential health impacts across the Programme. The route-level assessments identify cross-cutting considerations that should inform implementation, investment and later project-specific assessment. Health assessment, engagement and mitigation should be aligned with the period and geography in which each intervention is developed, constructed or transitioned, and operated:
- **Prioritise health equity in project development**, with particular regard to communities with limited local services, dependence on multi-leg journeys, higher exposure to isolation or disruption, and population groups experiencing poorer health or socio-economic disadvantage.
 - **Test interventions against essential health and care journeys**, including outpatient appointments, repeated treatment, escorted travel, visiting clinician access, social care delivery, prescription and equipment supply, and emergency transfer arrangements.
 - **Treat affordability as a health determinant**, ensuring that fares, tolls, concessions and indirect travel costs are assessed for frequent, essential and accompanied journeys.
 - **Protect access for non-car users**, including through accessible public transport, appropriate service frequency and span, step-free design, safe interchange, clear information and provision for cycles where direct active travel through a fixed link is not feasible.



- **Consider implications for health and social care delivery**, including outreach provision, workforce recruitment and retention, service scheduling and contingency arrangements.
- **Assess construction and transition effects**, particularly where temporary disruption could affect healthcare access, prescription continuity, emergency arrangements or lifeline supply chains.
- **Monitor cumulative and distributional effects**, recognising that improvements will arise at different times and may change relative accessibility between island communities.
- **Develop proportionate health monitoring indicators** linked to the matters most relevant to each intervention and the data that can realistically be collected. The monitoring framework should be proportionate to the intervention and developed with relevant service providers, taking account of data availability, confidentiality and the ability to distinguish transport-related effects from wider changes in health and service use.

12.2.2 Taken together, these measures would help ensure that health outcomes are embedded within programme development and project delivery, and that future connectivity improvements support both overall wellbeing and the reduction of health inequalities across Shetland's island communities.



13 Conclusions and Next Steps

13.1 Conclusions

- 13.1.1 This final programme-level HIA concludes that inter-island connectivity is an important determinant of health and wellbeing across Shetland's island communities. The principal impact pathways arise through access to healthcare and other essential services, exposure to disruption and journey complexity, the cumulative cost of repeated travel, economic participation, social connection, access to essential goods, and the resilience of households and services.
- 13.1.2 These impacts are not evenly distributed. Older people, disabled people, carers, lower-income households, people with long-term health conditions and residents of more remote islands are more exposed where services are unreliable, costly, inaccessible or dependent on complex connections. Differences in local service provision and journey requirements also mean that similar interventions may produce different health outcomes across island geographies.
- 13.1.3 Business as Usual options are generally unlikely to reduce existing health inequalities and often maintain vulnerabilities associated with timetable dependency, disruption, travel stress and cumulative cost. Ferry Do Something options provide modest but potentially important benefits through improved reliability, resilience and travel conditions. Ferry Do Max options offer the strongest ferry-based health benefits where increased flexibility and affordability materially improve access to services and opportunities. Fixed Link options have the potential to provide substantial health benefits through continuous access, but outcomes depend on inclusive design, affordable charging, suitable public transport provision and the management of distributional effects for communities that remain ferry-dependent.
- 13.1.4 The health implications extend beyond access to medical care. Connectivity affects health and social care delivery, employment and income, household resilience, social participation, access to food and medicines, and the practical experience of living in remote island communities. Connectivity improvements should therefore be understood as contributing to wider population health and health equity, rather than solely as transport interventions.
- 13.1.5 The Implementation Route Map provides the anticipated sequencing of preferred interventions and therefore the temporal expression of potential health impacts. Effects will arise at different times across different geographies and stages of development. Project-level assessment, engagement, mitigation and monitoring should be aligned with the periods and communities in which those effects may occur.

13.2 Next Steps

- 13.2.1 The findings of this final programme-level HIA should be applied through implementation of the Network Strategy and Implementation Route Map. Each preferred intervention should be subject to proportionate project-level impact assessment as it is developed, building on the findings and health impact pathways identified in this report.
- 13.2.2 The following actions should inform future project development:
- Test developing interventions against key health and care journeys, including outpatient travel, repeated treatment, accompanied journeys, visiting clinician access, social care provision, prescription and equipment supply, and emergency transfer scenarios.



- Engage health and social care stakeholders to understand implications for workforce mobility, outreach, service scheduling, contingency planning and delivery models.
- Assess affordability early, including fares, tolls, concessions and the indirect costs of essential and accompanied travel.
- Define inclusive access requirements, including public transport frequency and span, accessibility, non-car provision, active travel connections, interchange arrangements and accessible information.
- Assess construction and transition effects, including temporary disruption to healthcare access, emergency arrangements, supply chains and community services.
- Undertake proportionate engagement with communities and population groups, particularly where existing health inequalities or dependence on transport are greatest.
- Develop a proportionate monitoring and evaluation framework, aligned with the design and intended benefits of each intervention and informed by realistic data availability.

13.2.3 Overall, this final HIA supports implementation of the IITCP Network Strategy by identifying where health and wellbeing impacts are likely to be greatest, where existing inequalities could persist or widen without appropriate mitigation, and the measures required to support equitable health outcomes. Its findings should inform the sequencing and development of preferred interventions through the Implementation Route Map and provide the basis for proportionate project-level health assessment as individual interventions are progressed.



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