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Our Ref: EM/DP
Your Ref:

Date: 30 June 2026

Dear Willie,

Congratulations on your appointment as Convener of the Scottish Parliament's Transport Committee. I wish you every success in your new role, and look forward to engaging with the Committee during the parliamentary session ahead.

Thank you again for taking the time to meet with representatives from Shetland Islands Council on 11 June to discuss the Inter-island Transport Connectivity Programme (IITCP) and the opportunities and challenges facing connectivity across our island communities. We greatly appreciated your interest in the programme and the constructive discussion.

I am writing to update you following Shetland Islands Council's decision today (30 June) to approve the Outline Business Case for the Inter-island Transport Connectivity Programme, establishing a long-term strategy for improving connectivity across seven of Shetland's key inter-island routes.

As you will recall from our discussion, Shetland's current inter-island ferry network faces accepted operational problems, including significantly increased operating costs (rising to £25 million for 2024/25), an ageing fleet with an average vessel age of 31.5 years, difficulties in crew attraction and retention, and deck capacity issues on several key routes.

To address these challenges, Shetland Islands Council commissioned the Inter-island Transport Connectivity Programme in 2024. The programme has developed a network strategy for eight of our island communities, exploring a range of options from 'business as usual', to enhanced ferry services and the potential for subsea tunnels (fixed links).

As you are aware, a key component of the programme has been the Fixed Links Model (FLM) Study, undertaken by the global tunnelling experts COWI, which has established the feasibility of constructing and funding subsea tunnels in Shetland. Through engagement

with three international tunnel contractors and 17 financial organisations, the study has confirmed that tunnel projects are both buildable and investable.

Further to today's vote, the Council's preferred network comprises a combination of fixed links and enhanced ferry services:

- **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.
- **Yell:** Fixed link.
- **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.
- **Papa Stour:** Ferry 'Do Something'.
- **Skerries:** Ferry 'Do Something'.
- **Foula:** Business as Usual.

The Council's decision follows an extensive programme of technical appraisal and community engagement, including public events across the islands which gave communities the opportunity to consider all options and engage directly with the programme team from Shetland Islands Council and its consultants Stantec, Mott MacDonald and COWI.

The attached briefing paper summarises the approved Outline Business Case and the evidence which informed the Council's decision. It also includes information on the three principal funding routes identified through the Fixed Links Model Study, all of which are considered deliverable: (1) capital grant funding, typically from the Scottish and/or UK Government; (2) Shetland Islands Council borrowing, potentially through the Public Works Loan Board or National Wealth Fund; and (3) private finance, which could be supported by a revenue grant or toll revenue.

The next stage of the programme is the development of an Implementation Route Map, which will be presented to Shetland Islands Council in September. This will establish a phased 30-year investment programme and high-level cost profile for delivering the Council's preferred network.

Given the Committee's remit, I hope you might consider whether there is scope for the Transport Committee to undertake an inquiry into inter-island connectivity, including the role that fixed links could play in improving transport resilience, supporting sustainable island communities and enabling long-term economic growth. We believe the work undertaken in Shetland provides an important evidence base for a wider parliamentary scrutiny about how Scotland approaches connectivity for its island communities.

Such an inquiry would provide an opportunity to examine the long-term strategic case for investment in island transport infrastructure and the range of funding and financing models available. It might also help to inform future Scottish Government fiscal and policy decisions as we move into the vital implementation phase of this ambitious programme.

We would, of course, be delighted to provide evidence to the Committee and to discuss the programme further should that be of interest.

Yours sincerely

A handwritten signature in black ink, appearing to read 'EL Macdonald', written in a cursive style.

Cllr Emma Macdonald
Leader, Shetland Islands Council

Enc.



**Shetland
Islands
Council**

Shetland's Tunnels

**Connecting our
islands, securing
our future**



Illustration of Yell Sound reference tunnel design, developed by Stantec and COWI for the Fixed Link Model Study¹

Our challenge

The societies and economies of Shetland’s islands have evolved in the last half century around a model of car travel with frequent, short ferry crossings. However, as these ferries and their associated harbour infrastructure age and break down more often, communities are suffering the social and economic consequences of degrading infrastructure. We cannot stand still any longer.

Compounding these challenges are the changing requirements of Shetland’s society and economy - for which reliable connectivity is the backbone.

Population retention

Population retention is a major challenge facing Shetland’s island communities. Over the last four decades, the combined population of the islands that the Council has identified for connectivity upgrades has declined by almost a quarter, compared with a 5% increase on mainland Shetland and overall stability across the broader Shetland area. Reductions were particularly pronounced in the North Isles (Fetlar, Unst, and Yell), two of which are under consideration for tunnelling. Long-term population decline is being compounded by ageing. This demographic shift places additional pressure on the working-age population and highlights the islands’ less favourable demographic position.

Housing

House prices on the remote islands lag behind mainland Shetland, while construction costs are higher, making modern, affordable housing difficult to provide. In some cases, the value of a home is lower than its construction cost. Housing shortages are frequently cited as a major constraint on population growth, particularly in the islands. Higher transport costs and frequent disruptions exacerbate the expense of construction, further limiting the supply of suitable accommodation.

Freight and business movements

The inter-island transport network supports significant freight and business activity, including industries of strategic national importance such as space, located at SaxaVord on Unst, and seafood, much of which is located from a major aquaculture hub on Yell. These industries underpin employment on the islands and are also of high value to the broader UK economy. Fixed links would connect these industries to major transport and logistics hubs in Lerwick and Sumburgh - providing a major boost to their resilience, efficiency and productivity.



The ferry fleet currently comprises 12 vessels (11 in operation and one back-up covering scheduled maintenance and breakdowns), but they are old, averaging 31.5 years in age. Several of our vessels are in service beyond their lifespan, meaning that they no longer comply with modern accessibility standards and are carbon intensive to operate.

Possible subsea tunnel



1 in 3

islanders say ferry issues limit their travel



1 in 3

said they would consider moving back with improved connectivity

70%

of those who used to live on a remote island say they left because of the ferry service

Tunnels for others

Shetland watches the progress of our neighbours closely - Scotland to the south, Norway to the east and the Faroe Islands to the north-west. All three share geographic similarities, characterised by remote, rural and island communities whose populations and industries depend on fast, safe and reliable transport links.

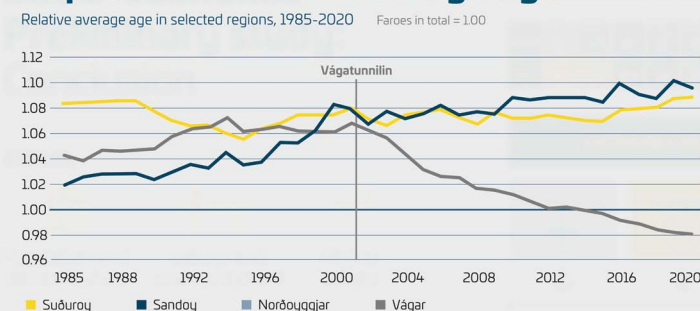
However, the similarities end there. Since the 1960s, the Faroe Islands have made tunnels the backbone of their transport network: they now have 19 road tunnels, with a further 16 planned. Norway has developed more than 900 tunnels.

In both countries, tunnel investment has been underpinned by significant support from central government, reflecting a shared understanding that such infrastructure is critical to enabling key industries such as fisheries, aquaculture and renewables - all of which are also key growth sectors in Shetland - the opportunity to reach their full potential.

Indeed, in the Faroe Islands, 75 years of investment in fixed links has helped create one of the world's highest-income economies and reversed population decline - reflecting a long-term vision of a 'One Island City' where all communities are connected to the capital within an hour. Projects have been funded through both government support and PPP models - both approaches which have been considered within the Fixed Links Model Study study.

Graphs taken from "Removing the Island Barrier: Socio-economic impacts of tunnels" by Landsverk, 2022

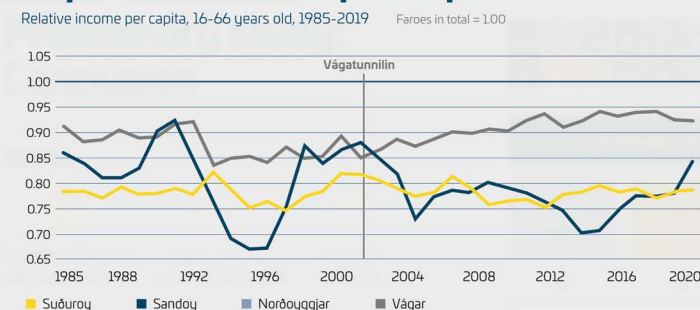
Impact on relative average age



- The average age of Vágur was also increasing until the tunnel connection. After the tunnel came the average age went from being 6% higher to 2% lower than the total population.

Islands with ferries have ageing populations; tunnelled islands encourage younger people to live on them

Impact on income per capita



- The relative income in Vágur was until 1992 around 90% of the national average, after which it fell to 85%. Since the tunnel opened it has steadily increased to around 93% of the national average.

Islands with tunnels have faster income growth (Norooyggjar drop in 2010 due to closure of large fish factory)



The 25.4-kilometre Rogfast tunnel in Norway. Image courtesy of COWI

Tunnels for us

Shetland Islands Council has commissioned Stantec UK Ltd to work alongside partners Mott MacDonald and COWI to complete an Inter-island Transport Connectivity Network Strategy Outline Business Case, together with an associated Implementation Route Map.

The Implementation Route Map will be prepared following approval of the Network Strategy Outline Business Case, and will present the preferred network option - the Shetland-wide package of measures that will set out the sequence of investments across the network.

COWI has developed a Fixed Links Model (FLM) Study, which has commissioned three internationally experienced contractors - Norway's Leonhard Nilsen & Sønner, and Bemo Tunnelling and Strabag (both Austrian firms) - to study and report on the proposals in detail. The Fixed Link Model findings are considered essential for providing increased parity of appraisal between ferries and tunnels in the Network Strategy Outline Business Case, which will, in turn, be significantly enhanced through the inclusion of new, Shetland-specific evidence on fixed link tunnel feasibility - ensuring that fixed link tunnel options can be assessed on a more comparable basis alongside ferry alternatives.

As has been demonstrated by international comparisons, fixed links could support nationally strategic industries such as space, aquaculture and energy in their delivery of major economic returns.

Not only that, fixed links could deliver significant environmental benefits too. With Shetland's ferries currently accounting for over half of local carbon emissions, the full life-cycle carbon impact of tunnels will be assessed against other options in the Network Strategy Outline Business Case.

Social benefits are equally significant, with safe and reliable crossings encouraging more people to live and work in Shetland.

This study represents a giant leap toward our first tunnel. But we cannot do it alone.



Stantec
Leading consultant on the Network Strategy

- What each community needs for resilience and sustainability
- The cost, carbon and operational implications of ferry renewal
- Where fixed links may deliver better long-term value than ferries



COWI
Leading consultant on the Fixed Link Model study (part of the Network Strategy)

- Analysing delivery, financing and contracting options
- Harnessing global tunnel expertise
- Establishing Shetland Islands Council as the 'informed client' to deliver a future tunnelling project



LNS, Bemo Tunnelling and Strabag
Commissioned as part of the Fixed Link Model study

- Undertook site visits and work to review and evaluate the reference design
- Provided additional information on cost, programme and construction
- Major step forward of a potentially game-changing infrastructure project in the UK

Learning from ourselves

Fixed links are not new in Shetland.

Shetland's bridges between the Mainland, Trondra, West Burra and East Burra were built over 50 years ago, in 1971. In the 40 years previous, the population of Trondra had collapsed from 91 to 17. In the 40 years after the bridge was built, it rose 8-fold from 17 to 135. In West and East Burra, the pre-bridge population fell by more than one quarter to 565, before rising post-bridge by over 50% to around 850 today.

TRONDRA POPULATION

Pre-bridge	Post-bridge	
17	135	↑ 700%

WEST AND EAST BURRA POPULATION

Pre-bridge	Post-bridge	
565	850	↑ 50%

In the past, we have gone over the sea. Now we must go under the sea.

- **Economic transformation** - tunnels enable labour and population mobility, boosting productivity across Shetland's economic growth sectors
- **National strategic value** - tunnels can enable Shetland to function as a reliable base for industries of UK-wide importance, including the space sector, energy security and defence capabilities.
- **Demographic revival** - evidence from Shetland's own Burra and Trondra bridges have demonstrated population increases of over 50% since their construction.
- **Fairer access to services** - unlike the ferry service which is vulnerable to inclement weather, tunnels guarantee access to a range of services including education and health services, as well as employment and onward travel.
- **Value for money** - following the initial upfront capital investment, tunnels deliver significant savings in the longer term versus repeated ferry replacement and rising operating costs.
- **Environmental benefit** - the Outline Business Case will compare tunnels to ferries in terms of whole-life carbon assessment.

Critical national infrastructure to seize economic opportunity

Reliable connectivity in Shetland is critical national infrastructure - underpinning energy security, defence interests, and the UK's emerging space capabilities too.

SaxaVord Spaceport, located on the island of Unst in Shetland, is a nationally strategic asset within the UK's space sector and one of the most significant emerging industries for Shetland. However, with no reliable transport links, the site's ability to operate as a competitive, scalable launch location is constrained - limiting its role in supporting the UK's sovereign launch capability.

Reaching the site from Shetland's mainland currently requires a multi-stage journey of drives and two weather-dependent ferry crossings, meaning a distance of under 100 miles can take up to four hours.

Fixed links in the form of tunnels between the mainland, Yell and Unst would transform connectivity - halving journey times and making the spaceport far more accessible to workers, investors and supply chains. As the UK's northernmost launch site and a cornerstone of a new high-value industry in Shetland, improving access through tunnel infrastructure would unlock the full economic potential of the space sector for both the islands and the UK as a whole.

"SaxaVord Spaceport has developed the UK's first fully-licensed vertical launch spaceport, and is very close to hosting the first test flights from the facility at Lamba Ness, in Unst. With planning permission for up to 30 launches per year, the Spaceport will be a major contributor to the economy of Unst, Shetland, Scotland, the UK and Europe in the years ahead.

We know at first-hand how outdated the inter-island ferries that serve the outer isles of Shetland now are. They are at the limits of their capacity, which has a negative impact on businesses on the islands that require modern and reliable goods and infrastructure transportation.

Fixed links are now a critical requirement for these islands as we and others strive to encourage the economic activity that will sustain the population for decades to come. To that end, such links should be given the fullest possible appraisal and both the Scottish and UK governments should help fund and support Shetland Islands Council's Fixed Link Model Study."

Scott Hammond, Saxavord Spaceport CEO

"Lerwick Port Authority is a fundamental part of Shetland's economy with significant growth opportunities. We're known for the cruise sector, of course, but we are also central to Shetland's fisheries and the energy transition which will power not just Shetland but Scotland and the UK. We're transitioning from the past and building for the future - decommissioning oil rigs and assembling wind turbines. However, we can't escape the fact that tunnelling between Shetland's islands would be transformational in terms of accessing our port efficiently and economically."

Captain Calum Grains, Chief Executive, Lerwick Port Authority



Next steps

Remainder of 2026

Outline Business Case (OBC)

- Detailed appraisal of ferry and tunnel options informed by Fixed Link Model study findings
- Impact assessments
- Second round of community engagement
- Identification of preferred options for each island
- Implementation Route Map



2026-28

Project-level business cases.



The SaxaVord Spaceport, with RFA launchpad, photographed in April 2026.



**Shetland
Islands
Council**



Inter-island Transport Connectivity: briefing for political stakeholders

June 2026

Overview

Shetland's inter-island transport network is fundamental to a nationally significant regional economy, but is now increasingly under strain, with services requiring substantial capital investment that is currently unfunded.

Shetland's island communities have largely evolved around the ability to make frequent and comparatively low-cost car-based ferry journeys to access employment, business, public services and leisure opportunities in Lerwick and elsewhere on mainland Shetland. This has created a highly integrated island economy, where high quality, reliable, resilient and frequent connectivity offered over a long operating day (or 24 hours) is essential to sustaining communities and enabling economic activity and growth. However, this ferry-based model developed in the 1970s and 1980s no longer meets modern economic and social demands.

Recent work commissioned by Shetland Islands Council – including Fixed Link Model (FLM) and Ferry 'Do Maximum' (Do Max) testing – provides the strongest evidence yet that ferry-based solutions have now reached their practical limits.

The FLM study, prepared by international tunnelling experts COWI (see appendix for overview), is the most detailed study undertaken to assess whether subsea tunnels can be delivered in Shetland, with important learnings for elsewhere in Scotland and the UK. No previous engineering study has developed a design to this level of detail for the delivery of Scandinavian-style subsea tunnels in Scotland. It concludes that such projects are deliverable and sets out a realistic pathway and timeframe for delivering the first intra-island subsea tunnels in Scotland, provided that funding and financing can be secured.

In parallel, the Ferry Do Max modelling tested a near-theoretical maximum ferry provision scenario (in terms of frequency, operating hours and vessel capacity) - effectively bringing the ferry service as close to a tunnel as possible. The findings from this modelling have demonstrated that on several routes expanding Shetland's ferry service to this extent would be impractical: it would be operationally challenging, with costs likely to escalate significantly beyond fixed link options, whilst still failing to deliver the required step-change in connectivity.

In summary, Shetland's transport infrastructure is no longer keeping pace with its economic potential.

Outline of the process

The Inter-island Transport Connectivity Programme (IITCP) has been commissioned by Shetland Islands Council and has been contracted to Stantec, in collaboration with COWI, Mott MacDonald and ProVersa.

The IITCP will set out a programme for enhancing the connectivity of eight of Shetland's island communities, exploring both the case for fixed links, and the future of ferry services.

The IITCP study is a **programme-level business case** - i.e. it is focused on developing a network plan for eight in-scope islands. Any individual project emerging from the study (for example, a fixed link) would then be subject to an **individual project-level business case**.

The IITCP's Strategic Outline Case (SOC) was approved by Shetland Islands Council in June 2025.

As part of the IITCP study, a Fixed Links Model (FLM) study has been completed by COWI using a test tunnel from the Mainland to Yell. The test tunnel was chosen because it contains the widest variety of features and issues to help inform the process. The Appendices that follow detail the findings from the FLM study across four key routes.

The Outline Business Case (OBC) for the Council's Inter-island Transport Connectivity Programme will be presented to Shetland Islands Council on 30 June 2026. Elected Members will select the preferred option for each island to be progressed into the Implementation Route Map, a timed and costed sequence of island connectivity investments which, taken together, will form an agreed network strategy to improve transport connectivity across Shetland.

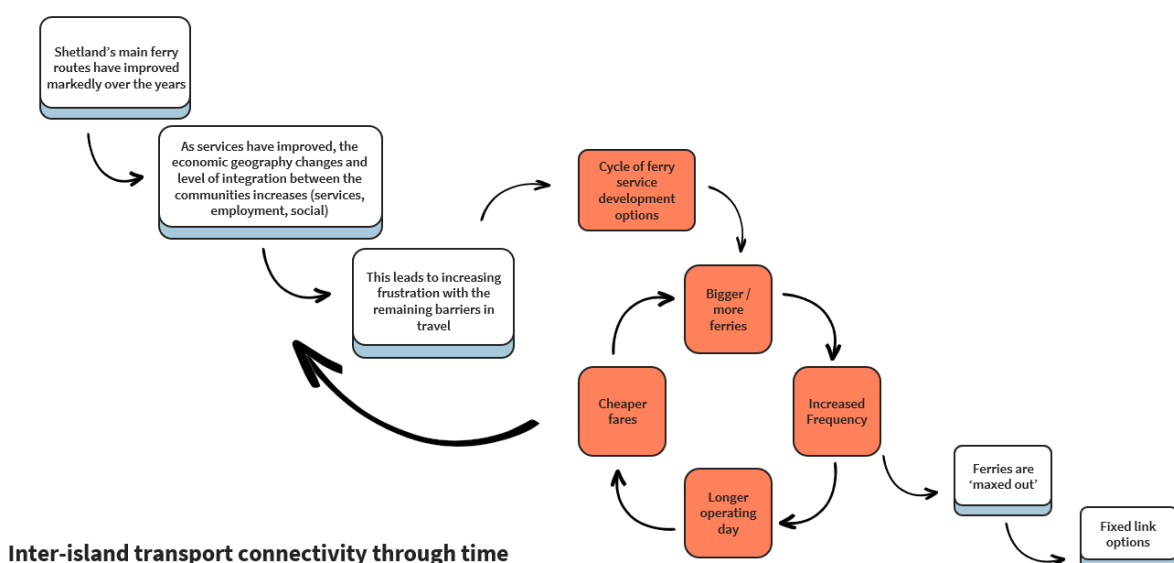
Why investment is needed

Shetland's connectivity is constrained to the point that it is structurally unsustainable.

Operating costs to maintain current ferry service levels have risen sharply, from £15m in 2015/16 to £25m annually in the most recent year. Despite a Scotland-wide position that vessels should be replaced after 30-years, Shetland's fleet averages 32.5 years old (seven vessels over 30 years old and two over 40), creating growing reliability and resilience issues.

Recent investment from both the UK and the Scottish government to upgrade Shetland's ferry network has been welcome. Notably, the UK Government's Levelling Up Fund is supporting the Fair Isle Ferry Replacement Project which will replace the ageing MV *Good Shepherd IV* and upgrade harbour infrastructure at Fair Isle and Grutness. Furthermore, the Scottish Government's capital investment of £10m in inter-island transport connectivity will contribute to the cost of acquiring a new-build relief ferry, which will provide extra resilience to the ageing fleet. However, these examples are just small steps in addressing a much larger and systemic challenge. Without significant further investment, services will deteriorate and our communities risk disconnection.

Shetland's internal transport system is fundamentally different from that of many other island groups, having consciously designed services in the 1970s and 1980s to replicate the Norwegian short sea crossing model, focused on short, high-frequency roll-on, roll-off services over a long operating day. This has fundamentally shaped the economic geography of the Shetland islands, with high levels of commuting, personal, freight and business travel reliant on frequent and comparatively low-cost car-based ferry journeys. Connectivity supports just-in-time seafood supply chains, industrial and strategic infrastructure and cross-island labour markets.



The maximum achievable ferry solution, the Ferry Do Max, has now been tested and has been found to deliver lower benefits for comparable or greater cost than a fixed link in most islands. The 'Ferry Do Something', which is primarily focused on asset replacement and revenue measures to intensify and extend the operating day, represents the practical operational limit of ferry provision, but falls far short of what is required to support a modern, high-performing economy.

What is so extraordinary about Shetland's economy?

Shetland is an advanced industrial economy which is an outsized contributor to the Scottish economy, playing host to nationally significant strategic and/or exporting industries such as fisheries, aquaculture, space and renewable energy. However, this economy depends on intensive internal connectivity, which is now acting as a constraint on further growth.

Key facts:

- £855m GVA; c. £37,000 per head (2023)
- Seafood = 35% of output
- 87.5% of Scottish farmed mussels and 22.2% of Scottish farmed salmon produced in Shetland (2024)
- £147m total value of fish and shellfish landed in Shetland, making it the second-highest port district for catch value in Scotland (c. 18% of Scotland by volume)
- Outside of Lerwick and Scalloway, Cullivoe Harbour in Yell accounts for around 14% of whitefish landings in Shetland, and is one of the top 15 UK ports by whitefish volume
- Rapid tourism growth to £50m+
- Major opportunities in SaxaVord Spaceport, on and offshore wind, developments at Sullom Voe and other energy transition projects
- **Shetland has a job density of 0.97, which is significantly higher than the national average. With a largely fixed labour market, good connectivity is essential in connecting people to jobs.**

Why the Council cannot fund future investment alone

The Scottish Government currently funds the operating costs of Shetland Islands Council's ferry fleet, meaning that they are a net cost to the public sector.

The Council is managing an ageing fleet that already requires wholesale replacement, coupled with rising labour and operating costs and increasing reliability and resilience challenges.

The scale and nature of future investment is beyond the capacity of a single local authority, with long-term infrastructure costs over 60 years amounting to hundreds of millions of pounds.

The studies the Council has undertaken in the last year have proven that even maintaining or trying to reasonably maximise ferry services requires very substantial long-term investment without delivering transformational outcomes.

Why governments should invest

Shetland is home to nationally important infrastructure and industries, including the SaxaVord Spaceport, onshore and offshore wind energy, fisheries and aquaculture. These sectors make an outsized contribution to the Scottish economy, but they cannot achieve their full potential without substantial improvements in the islands' transport connectivity.

Investment supports multiple Government objectives including economic growth and productivity, energy security and transition, and supporting sustainable populations in remote areas. Shetland is now in a strong position to progress investment.

Through its wider Inter-island Transport Connectivity Programme and Fixed Link Model study, Shetland Islands Council has evidenced how fixed links could transform the whole economy, expand labour markets and increase productivity across key sectors - positioning itself as an informed client for tunnel delivery.

Connectivity would improve population retention, workforce participation, demographics and resilience in our island communities: all outcomes which emerged from a Survey of Residents undertaken by Shetland Islands Council in 2024, where one third of island residents and almost two fifths of mainland residents said that issues with the current ferry service limit the amount of travel they wanted or were willing to do.

Sharing the costs of fixed-link tunnels would be supportive of the aspirations of Shetland and the country as a whole. Potential mechanisms could include loan guarantees, infrastructure finance support and/or partnership funding.

While private finance is an option, it is likely to be higher cost and more complex to deliver, requiring long-term revenue-backed payment structures and reducing public sector control.

The Council considers that the optimal model to deliver the first subsea tunnel in Scotland would combine local borrowing supported by existing revenue streams, national Government support to bridge the funding gap, and strong public sector leadership of design and delivery.

There are also opportunities to explore utility corridors within tunnels for high-voltage electricity transmission and fibre optic connectivity, with the potential to secure developer contributions.

It is important to emphasise that any fixed link option would still require continued interim ferry development during the transition period.

Investing in infrastructure and outcomes

Economic benefits

Improved transport connectivity has the potential to transform Shetland's whole economy. The introduction of some fixed-link tunnels could allow communities greater access to employment, services and healthcare, while businesses – both on the mainland and the islands – would benefit from a larger, more flexible labour market. Improved connectivity would also strengthen the tourism industry and drive productivity across major sectors including aquaculture, fisheries, space and energy, unlocking new opportunities for long-term growth.

Social and demographic impact

There is a known decline in the working age population across the islands and the birth rate is declining, with some communities facing increasing sustainability challenges.

Improved connectivity may help improve those demographics, particularly the working-age population of island communities, and help to encourage young people to stay on islands by improving access to jobs and services, thus improving community confidence.

There is previous evidence of post-fixed link repopulation on the islands of Burra and Trondra, in Shetland. Both populations were in rapid decline until the building of bridges in 1971. Over the next 40 years, the population of Trondra grew more than 12-fold, and the population of Burra rose by more than 50%.

The December 2024 resident survey was open to all Shetland residents. Mainland Shetland residents were asked about living in the isles and one third of respondents said they had previously lived on an island. 70% of those said that the ferry service was a factor in their decision to leave and one third said they would consider moving back, with improved connectivity a major factor in making that happen. 10% of respondents who have not lived in the isles before would consider doing so and 90% of those said improved connectivity would encourage them to do so.

Fixed links could improve access to public services currently on the Shetland or Scottish/UK mainland, and also provide an opportunity for the local Community Planning Partnership to explore future public service delivery and any efficiencies in public service delivery on-island or opportunities for further development.

Next steps

The Outline Business Case for the Council's Inter-island Transport Connectivity Programme will be presented to Shetland Islands Council on 30 June 2026. Elected Members will select the preferred option for each island to be progressed into the Implementation Route Map, a timed and costed sequence of island connectivity investments which, taken together, will form an agreed network strategy to improve transport connectivity across Shetland.

Shetland Islands Council welcomes the following commitments in party manifestos ahead of the May 2026 Scottish Parliament election:

The Scottish National Party:

"We recognise the transformative role that fixed links - tunnels, bridges and causeways - can play in improving island connectivity. By removing the constraints of weather, increasing capacity, and reducing travel times, fixed links can deliver lasting benefits for communities, businesses, and visitors alike. We will support Shetland Island's Council's exploration of financing models and promote investment opportunities in fixed links projects."

The Scottish Liberal Democrats:

"Working in partnership with Shetland Islands Council to progress investigations and groundwork for tunnels, and move this up the list of infrastructure priorities."

The Scottish Green Party:

"We will explore the feasibility of bridges, tunnels and causeways across the sounds of Harris and Barra, and in the Northern Isles to improve connectivity for islanders."

The Council has worked closely and collaboratively with both the UK and the Scottish Governments in recent years to progress incremental improvements to its connectivity and infrastructure. What is now required is a step change, and as councillors consider the Outline Business Case and Implementation Route Map, we invite close engagement from governments to explore means of financing and delivering these nationally critical connectivity and infrastructure projects in island communities.

APPENDIX – introduction to the Fixed Link Model Study

Overview

The knowledge on delivering tunnels in Scotland has, until now, been low. Recognising this, Shetland Islands Council commissioned the Fixed Link Model (FLM) study to increase the knowledge of tunnel delivery - including tunnel costs and a construction schedule - to allow meaningful comparison between tunnels and ferries in the IITCP.

The design of a tunnel to Yell (chosen because it contains the widest variety of features and issues to help inform the process), has been developed at reference level to establish what a connection would look like, how it would connect into existing roads, how a tunnel entrance could appear architecturally, what the road gradients and curvature in the tunnel would be and details of the mechanical, electrical and fire life safety provisions required. This allowed for a realistic assessment of construction costs and delivery schedule.

[Three experienced tunnel contractors](#) were appointed to provide construction cost and schedule estimates and to explore the logistics of tunnel construction in Shetland. Funding and financing options were explored with 17 financial organisations.

Subsea tunnelling using hard rock drill-and-blast methodology is a highly effective and common method of constructing tunnels in the rock conditions present in the Shetland Islands. Norway and the Faroe Islands pioneered subsea road tunnel construction, and while no subsea tunnels have been constructed in Scotland yet, there is experience of using this tunnelling technique in Scotland, most recently in the construction of advanced work tunnels and the Coire Glas Pumped Hydro Scheme northeast of Fort William.

Delivery timescale

The FLM study found that it would take three years from a project start date selected as September 2026, to the point where tunnelling is ready to commence, covering:

- Finance raised, consents awarded, contractors appointed
- Land bought, groundworks complete, and services laid

It would take a further three years to construct the tunnel, working from both ends to meet under Yell Sound.

It will then take two more years to complete the tunnel for handover, including:

- Concrete internal fitout of roads/kerbs/walkways/drainage
- Mechanical and electrical works, and testing.

The Yell test tunnel could be delivered in eight years, commencing in September 2026 and handed over to Shetland Islands Council in September 2034.

Funding

There are three main options for funding and financing a tunnel project of this scale. They differ in how capital costs are met and the extent to which costs are paid upfront or spread over time.

Option 1: capital grant funding

This option funds the project primarily through capital grant, typically from the Scottish Government and, in certain circumstances, the UK Government.

Key points:

- The most traditional and straightforward route
- Capital cost largely up front; reduced/removed need for borrowing
- Supports the potential to establish a unified operational model across multiple tunnels over time

Option 2: SIC borrowing

Under this option, SIC funds construction through borrowing and repays it over time. Local authorities traditionally borrow from the Public Works Loan Board, but the National Wealth Fund is now also a potential lender for long-term infrastructure finance.

Key points:

- Avoids reliance on a single large capital grant but introduces financing costs and long-term budget exposure
- Supports the potential to establish a unified operational model across multiple tunnels over time
- Lower cost to borrow when compared with private finance

Option 3: private finance

This option attracts private investment through a project finance structure. The private sector funds construction and is repaid over time through availability payments from SIC.

Key points:

- SIC would secure revenue grant from the Scottish Government and could potentially also be supported by toll revenue
- Greater risk to the private sector but typically comes at a higher overall cost of finance than public sector borrowing

In practice, options can be combined. Capital grant and SIC borrowing are readily blended. Private finance can also be blended, but to a more limited extent.

In summary, all of the options are deliverable in themselves, including a privately financed structure which the FLM shows is deliverable in market terms. The determining factors are the scale and certainty of available funding or revenue support, together with the Council's financial capacity and governance arrangements.

Investment need

For each route, there are multiple potential capital and revenue options. 'Options packages' were presented in the Strategic Outline Case (SOC), and have been developed and appraised in the Network Strategy Outline Business Case (OBC).



Outline Business Case: Yell Options

Fixed Link



Alignment

- » Connects Shetland Mainland (Toft) to Yell (Copister)
- » 6.5km subsea tunnel
- » Shortest feasible crossing avoiding steep gradients and sensitive areas



Technical Specification

- » Bidirectional, single-tube
- » Two-lane tunnel enabling safe bi-directional travel
- » Compact cross-section supporting efficient construction and operation
- » Design speed of 40 mph

What is the Fixed Link Model (FLM)?

An ongoing challenge in assessing the case for fixed links in Shetland has been a lack of knowledge around:

- What could the design for a subsea tunnel look like?
- Are there **contractors who would be interested** in building a tunnel in Shetland? If yes...
 - ✓ What **delivery models** could the Council adopt?
 - ✓ What is the **price and risk level**?
 - ✓ How would it be **paid for**?

This lack of knowledge has historically made it difficult to compare tunnels and ferries on a like-for-like basis in appraisal exercises

The FLM sought to answer these questions through contractor and financial market engagement, using a tunnel between **mainland Shetland and Yell** as a **test case**

This **does not imply that a tunnel to Yell should be the preferred option**, nor that it would be the first priority if multiple tunnel options are selected. However, the study provided essential insights into how one or more tunnels could be delivered in Shetland, and this knowledge has been applied across all candidate fixed link islands



Yell Options: Fixed Link Potential Alignment

The FLM concluded that a Mainland-Yell subsea tunnel is **technically feasible** using established drill-and-blast methods

Engineering feasibility is not the primary barrier to delivery. The **key constraint is funding**, not technical capability or contractors' interest

Extract from public information boards displayed at Shetland Islands Council IITCP engagement events, May 2026.

The full presentation for each island can be found at [Inter-Island Transport Connectivity Programme – Shetland Islands Council](#).

The draft Network Strategy OBC will be available online late June at [Shetland Islands Council Committee Information - Welcome](#).

Options summary

Option Package	In-Scope Islands	Description
Business-as-usual	All	The Business as Usual is focused on operating services as per the published timetable , addressing recent resilience issues and the disruption caused by refit periods . It assumes replacement of vessels at the point of life expiry with vessels of a broadly like-for-like vehicle carrying capacity (although such vessels will be physically larger, reflecting modern design requirements).
Ferry 'Do Something'	All	This option package involves addressing current route priorities using the current assets, supplemented by revenue measures . It does however include asset replacement ahead of life expiry where there is a clear justification for this, capacity problems for example.
Ferry 'Do Maximum' (Do Max)	Bressay, Fetlar, Unst, Whalsay and Yell	The 'Do Max' represents a realistic maximum level of connectivity that can be achieved through significant increases in revenue and capital funding . It expands the Ferry Do Something to deliver service levels broadly equivalent to Western Ferries in the Firth of Clyde and would reduce other barriers to travel (e.g., provision for 24-hour sailings, reduced fares etc). This has only been considered for a subset of islands, both as a comparator to a fixed link and also to reflect the high-volume and high-frequency routes on the network at present.
Fixed Link	Bressay, Unst, Whalsay and Yell	Fixed link options have been developed for the four listed islands. Within these options, there are potential variants around tolling and public transport provision through the fixed link.

Cost summaries (four tunnels)

Yell

Option	2025 Costs, summed over 60 years <i>Cash / arithmetic costs summed over 60 years for capital and Operations & Maintenance (O&M)</i>		Present Value of Costs (60 years)
	Capital Costs	Gross Operating & Maintenance	
Yell Business as Usual	£187.3m	£361.6m	£295.6m
Yell Ferry Do Something	£280.3m	£469.1m	£333.1m
Yell Ferry Do Max	£438.2m	£649.5m	£535.0m
Yell Fixed Link	£352.0m	£90.0m	£539.2m

Bluemull Sound

Option	2025 Costs, summed over 60 years <i>Cash / arithmetic costs summed over 60 years for capital and Operations & Maintenance (O&M)</i>		Present Value of Costs (60 years)
	Capital Costs	Gross Operating & Maintenance	
Bluemull Sound Business as Usual	£230.4m	£247.8m	£279.9m
Bluemull Sound Ferry Do Something	£291.5m	£291.7m	£347.7m
Bluemull Sound Ferry Do Max	£530.7m	£441.7m	£622.5m
Bluemull Sound Fixed Link	£303.0m	£72.0m	£484.5m

Bressay

Option	2025 Costs, summed over 60 years <i>Cash / arithmetic costs summed over 60 years for capital and Operations & Maintenance (O&M)</i>		Present Value of Costs (60 years)
	Capital Costs	Gross Operating & Maintenance	
Bressay Business as Usual	£135.1m	£155.9m	£157.1m
Bressay Ferry Do Something	£135.4m	£162.9m	£159.3m
Bressay Ferry Do Max	£157.3m	£175.6m	£186.9m
Bressay Fixed Link	£224.0m	£44.4m	£343.0m

Whalsay

Option	2025 Costs, summed over 60 years <i>Cash / arithmetic costs summed over 60 years for capital and Operations & Maintenance (O&M)</i>		Present Value of Costs (60 years)
	Capital Costs	Gross Operating & Maintenance	
Whalsay Business as Usual	£188.8m	£267.2m	£237.6m
Whalsay Ferry Do Something	£330.7m	£316.8m	£396.7m
Whalsay Ferry Do Max	£606.8m	£411.6m	£700.0m
Whalsay Fixed Link	£427.5m	£92.5m	£664.4m

Wider Economic Impacts

The draft Network Strategy OBC that will be considered by councillors on 30 June will consider in some detail how investment could support the economy and society of each island (titled “the economic narrative”).

The following pages provide some of the key points in summary form.

Bressay

The economic narrative undertaken for Bressay suggests that: “A fixed link could be the most economically transformative option for Bressay, subject to the balance in the cost of tolls relative to ferry fares and maintaining the same level of connectivity for current foot passengers.”

These benefits would include:

- In population terms, Bressay is by some distance the smallest of the candidate fixed link islands. However, it is also the closest and most connected of these islands to Lerwick – its economy and services are highly integrated with the island capital, and Bressay’s transport connectivity needs must therefore be viewed in the wider context of this economic connectedness with Lerwick.
- Expansion of the market for off-island commuting, providing enhanced access to employment. Improved connectivity, in its widest sense, could therefore support Bressay residents: (i) not in the labour market to enter employment; (ii) take-up a more productive job; and (iii) work more hours.
- The other key economic opportunity in Bressay is land-use development, which is specifically associated with a fixed link. Shetland has an under-supply of housing which in turn contributes to difficulties in attracting people to move to Shetland and the tight labour market of the archipelago. The geography and topography of Lerwick however means that developable land is at a premium, with the new Staney Hill and Knab developments the only significant expansions committed at present.
- A fixed link could open the east side of Lerwick Harbour (Bressay) to development, potentially facilitating the expansion of the settlement, with benefits for Shetland overall (although the impacts on Bressay and the desirability of this would need to be tested locally).

Unst

The economic narrative undertaken for the Bluemull Sound suggests that: “a fixed link would by some distance be the most economically transformative of the options for Unst, and indeed several of the benefits would only emerge with the provision of a fixed connection.”

The benefits of a fixed link for Unst would also be amplified by a fixed link across Yell Sound, and include:

- SaxaVord Spaceport: Direct economic activity and spin-off benefits (e.g., aerospace connected industrial development, tourism etc). While SaxaVord Spaceport is being developed in the context of the current transport provision, enhanced connectivity would improve its competitiveness, efficiency and scope for growth.
- Improved competitive positioning and investment confidence more generally.
- Widening and deepening of the labour market in Unst, improving access to labour and improved matching of labour to jobs, a key issue for Unst businesses at present.
- Reduced cost of doing business in Unst, both direct costs and uncertainty risk premiums:
 - Supporting the competitive positioning of existing businesses (e.g., aquaculture), and widens the scope for new businesses (e.g., tourism) to set-up
 - Making the refurbishment and development of housing and commercial property more affordable
 - More efficient and cost-effective public service delivery, for example reducing the cost of utilities firms like Scottish Water working in the islands.
- Improved community resilience.
- All of the above would contribute to supporting the demographic and economic sustainability of Unst.

Whalsay

The economic narrative undertaken for Whalsay suggests that: “a fixed link would by some distance be the most economically transformative of the options for Whalsay, and indeed several of the benefits would only emerge with the provision of a fixed connection.”

These benefits would include:

- Expansion of the market for off-island commuting, providing enhanced access to employment. Improved connectivity, in its widest sense, could therefore support Whalsay residents: (i) not in the labour market to enter employment; (ii) take-up a more productive job; and (iii) work more hours.
 - It is important to note with specific respect to a fixed link that the Council Ferry Service is a major employer in Whalsay, with the island providing the crews of MV Hendra, MV Linga and the Skerries vessel MV Filla. The discontinuation of the ferry service would lead to the loss or redeployment of a number of these jobs, with the potential for localised economic impacts on Whalsay.

- Reduced cost of doing business in Whalsay, both direct costs and uncertainty risk premiums:
 - Supporting the competitive positioning of existing businesses, and widens the scope for new businesses to set-up
 - Making the refurbishment and development of housing and commercial property more affordable
 - More efficient and cost-effective public service delivery, for example reducing the cost of utilities firms like Scottish Water working in the island.
- Improved community resilience.
- All of the above would contribute to supporting the demographic and economic sustainability of Whalsay.
- It should be noted that the Do Something would offer an ancillary economic benefit associated with developing additional space for the pelagic fleet.
- Both the Do Something and Do Max would also allow the current ferry berth to be developed for a different purpose, marine leisure for example.

Yell

The economic narrative undertaken for the Yell Sound suggests that: “A fixed link would by some distance be the most economically transformative of the options for Yell, and indeed several of the benefits would only emerge with the provision of a fixed connection. There would also be benefits for Fetlar and Unst, so a Yell fixed link could be transformative for the North Isles more generally”.

These benefits include:

- Significant productivity benefits, which could generate a £30 million to £60 million in additional output per annum by lifting production constraints, much of this driven by the aquaculture sector.
- Supporting the growth of the strategically important SaxaVord Spaceport.
- Improved competitive positioning and investment confidence more generally.
- Widening and deepening of the labour market in Yell, improving access to labour and improved matching of labour to jobs.
- Reduced cost of doing business in the North Isles, both direct costs and uncertainty risk premiums:
 - Supporting the competitive positioning of existing businesses, and widens the scope for new businesses (e.g., tourism) to set-up
 - Making the refurbishment and development of housing and commercial property more affordable
 - More efficient and cost-effective public service delivery, for example reducing the cost of utilities firms like Scottish Water working in the islands
- Improved community resilience.
- All of the above would contribute to supporting the demographic and economic sustainability of Yell and the North Isles more generally.