Shetland Inter-Island Transport Connectivity Programme

Bressay Public Drop-In

25th May 2026

Shetland Inter-Island Transport Connectivity Programme (1)

The Shetland Inter-Island Transport Connectivity Programme (IITCP) will set out a programme for **enhancing the connectivity of eight of Shetland's island communities**. It will explore:

The case for fixed links

The future of ferry services

These elements will combine into a **Network Strategy and Implementation Route Map**, providing a sequenced and costed programme for inter-island transport investments. The Network Strategy is being developed in two stages:

1

Strategic Outline Case

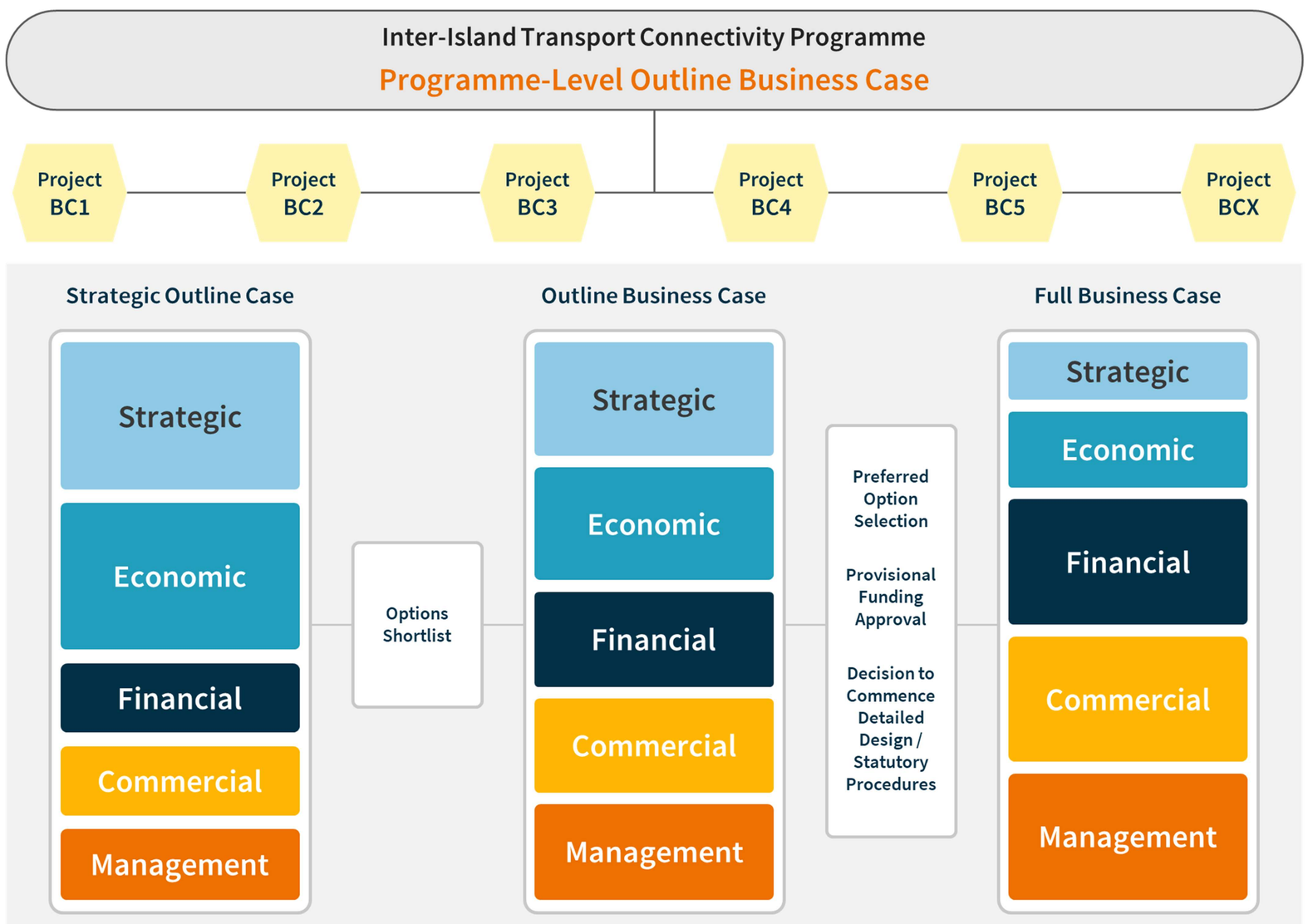
Approved in June 2025, the SOC established the case for investment, the spending objectives and the ferry, harbour and, where appropriate, fixed link options at an island level

2

Outline Business Case

Determines the preferred option for each island / route, providing a list of options for inclusion in the Implementation Route Map

- The IITCP study is a **programme-level business case** – i.e., it is focused on developing a network plan for the 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**
- A **programme-level business case** is higher-level and strategic, **setting out why coordinated change is needed**, providing the basis for a future project-level business case to work through how a specific solution is delivered



Shetland Inter-Island Transport Connectivity Programme (2)

The first set of IITCP public drop-in sessions took place in **March 2025**. At these events, we presented a **route and island profile for each community**, feedback from the **resident survey** and our understanding of the **transport problems faced on the route**.

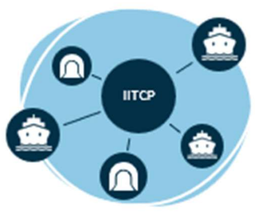
We used the information from this engagement to help inform:

1) The **'case for change'** (i.e., why investment is needed)
2) The **Transport Planning Objectives (TPOs) for the IITCP** – these are a statement of what the Council wants to achieve through any investment and reflect the problems identified by communities
3) The **generation of options** for each route

In the year since these events, the team has been **developing, appraising and costing the ferry and fixed link options**. The purpose of this set of drop-in sessions is to update communities on this work ahead of Shetland Islands Council Members being asked to select a preferred option for each route in June 2026. This will form the **Network Strategy Outline Business Case**

Members of the community are invited to view the material and discuss / ask questions of our team

Following the selection of a preferred option for each route, these options will be aggregated into a timed and prioritised **Implementation Route Map (IRM)**. The IRM will set out the sequencing of proposed investments over the short, medium and long-term



1

'Case for Change'

The first step in the process was to set out the 'Case for Change' (CfC). This established the rationale for intervention – i.e., **why is investment required?**

The CfC was **informed by extensive analytical work and engagement** with communities, businesses and other stakeholders.

2

Route-Level Option Generation and Development

Ferry, harbour and, where appropriate, fixed link options were developed for each island. At this stage, all potential options were included for consideration.

3

Preliminary Option Appraisal (POA)

POA is primarily a qualitative process designed to generate a shortlist of options for the Detailed Options Appraisal in the OBC.

This appraisal was **undertaken on a route-by-route basis.** A clear rationale for selection or rejection was provided for all options.

Fixed link proposals for Bressay, Fetlar, Unst, Whalsay and Yell were retained for SIC Decision Point 1.

4

Programme-Level Network Strategy SOC

Council Decision Point 1
25th June 2025

'Sign-off' of the options to be taken forward for Detailed Options Appraisal in the Programme-Level Network Strategy OBC.

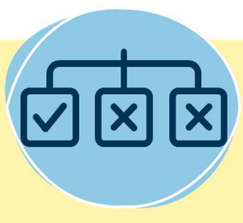
Fixed link proposals for Bressay, Unst, Whalsay and Yell were retained.

5

Detailed Options Appraisal

This part of the business case contains the key quantitative analysis and appraisal, undertaken in accordance with appraisal and business case guidance.

It includes (but is not limited to) the development of Benefit-to-Cost Ratios (BCRs), multi-criteria appraisal, affordability and consideration of public feedback.



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Programme-Level Network Strategy OBC

Council Decision Point 2
30th June 2026

Elected Members select the **preferred island option** to be progressed into the **Implementation Route Map**.

7

Implementation Route Map

The emerging preferred options from the Programme-Level Network Strategy OBC will be incorporated into a **phased Implementation Route Map for the network.**

8

Preferred Network Option

Council Decision Point 3

Elected Members' **'sign-off'** on the **Implementation Route Map for the network.**

Shetland Islands Council

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Strategic Outline Case

The Strategic Outline Case

Any appraisal or business case is founded on developing a **Case for Change** – i.e., what is the rationale for investment?

The Case for Change is focused on evidencing the transport problems that need to be resolved

What is a transport problem? Transport problems can be thought of as one or more of:

- Something that **negatively affects a journey which is still made**
- Something that **stops people or goods travelling by (generally) more sustainable and policy friendly modes**
- Something that **stops people making the journeys they would like to make or goods being moved**

There are two components to this:

1

Network / operational problems, which in this context are the problems that the Council experiences in delivering the ferry and wider public transport services – i.e., the **supply-side** problems which, as of June 2025, were:

Cost

Operating costs have increased significantly in the last decade (**£15m** in 2015/16 and increasing to **£25m** for 2024/25)

Fleet Age

Average vessel age **31.5** years, with **six** vessels over **30**

Crewing

Attraction and retention is a challenge, with growing requirement for agency crew

Succession Planning

Crew are ageing - **50%** aged 46+ and only **9%** aged 16-25 – long-term succession planning risk, particularly for **island-based vessels**

Fleet Resilience

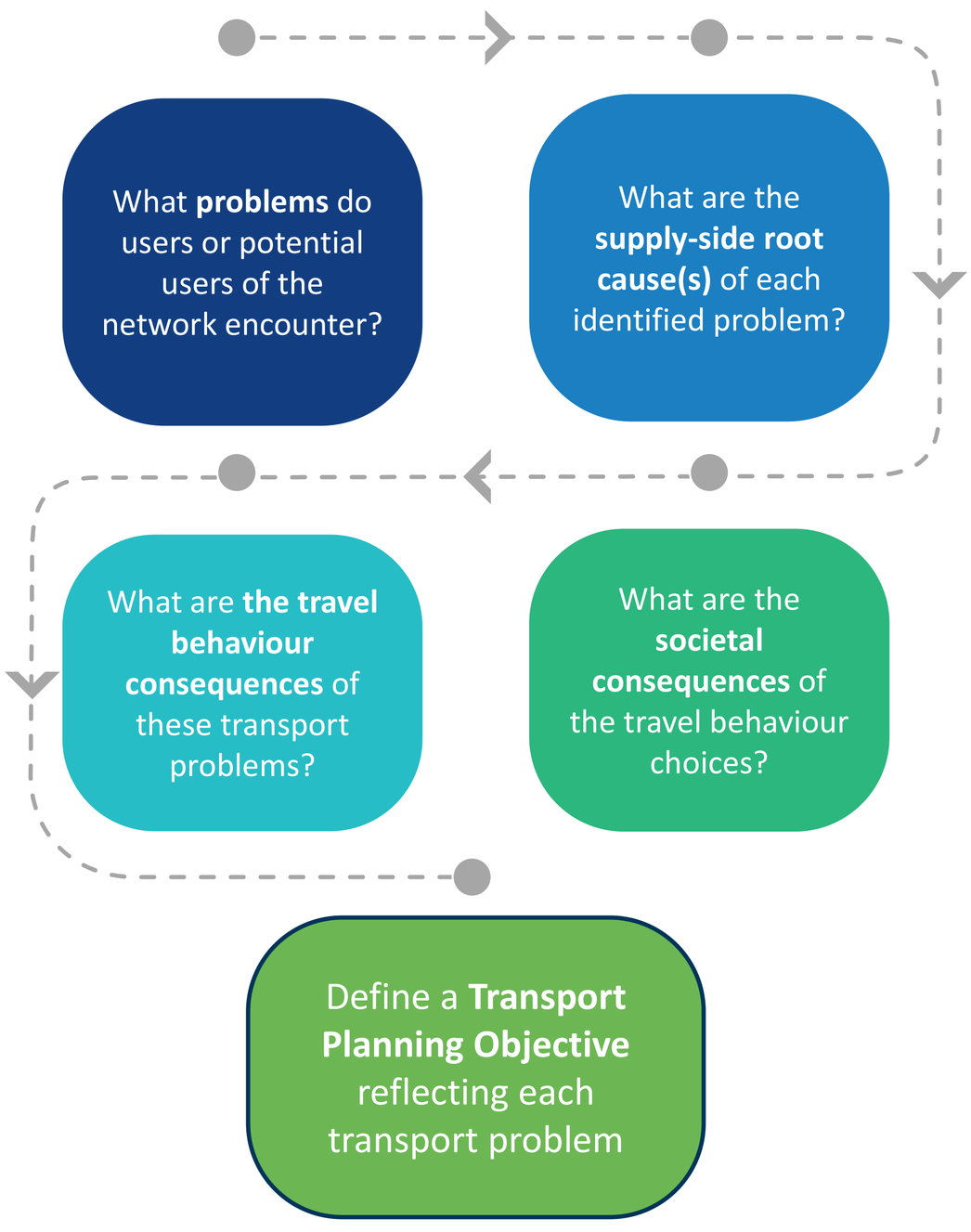
Ageing fleet with only one small spare vessel and certain vessels restricted to certain routes

Vehicle Deck Capacity

Problem on several routes, particularly Bluemull Sound and Whalsay

2

Problems experienced by a **user or potential user of the transport network** – i.e., the **demand side**. These were defined using a systematic **Transport Problems Framework** (and are presented in the next board for **Bressay**):



What are the transport problems in Bressay?

Problem Theme	Step 1: Problem(s)	Step 2: Supply-side cause(s)
Concern over environmental impact of travel	❖ Greenhouse gas emissions from vessels	❖ MV *Leirna* is a conventional diesel vessel
Cost of travel and affordability	❖ The level of fares was a major source of dissatisfaction in the resident survey	❖ Common fares across all Ro-Ro routes, making the cost per mile for Bressay comparatively high, particularly given the higher frequency of travel on the route and the lack of public services on the island
Integration of travel between modes – ferry-to-bus	❖ The bus network on Bressay is extremely limited, meaning many people drive and park at the ferry terminal and others take their car on the ferry ❖ It is understood that some Bressay residents also leave their main or a second car in Lerwick some or all of the time	❖ Limited and fragmented bus network ❖ High cost of bus service provision relative to demand
Capacity	❖ Capacity overall is not a major problem but between 10% and 20% of 08:30, 10:30 and 11:30 sailings from Bressay and the 15:30 and 17:15 sailings from Lerwick are routinely full or close to full	❖ Occasional insufficient vehicle deck capacity on these peak sailings
Connectivity and Network Coverage	❖ Bressay is generally very well connected for island of its population, with a relatively frequent service over a long operating day. However, its economic inter-dependence on Lerwick heightens the need for good transport connectivity	❖ There is no specific supply-side cause of this problem, rather it reflects the requirement to work around a ferry service to access employment, services etc which are only a very short distance away and on which Bressay wholly depends

Setting the Transport Planning Objectives

What is a Transport Planning Objective (TPO)?

» The Scottish Transport Appraisal Guidance (STAG) states that: *"The objective must express the change sought in the study area without indicating potential solutions"*

» The TPOs are focused on **addressing the transport problems identified in the Case for Change**

» Problems were identified at a route level and aggregated on the basis of setting network-wide TPOs

This was primarily done using the **resident survey**, supported by **wider community inputs and secondary data**

Survey respondents were asked about their **level of satisfaction / dissatisfaction with 38 aspects of the ferry service**

Around **one-third of island residents** and **38% of mainland residents** said ferry service issues limited their travel. They were then asked how much **20 specific aspects of the service** contributed to this barrier to travel

To provide some sense of scale, survey responses with respect to **dissatisfaction** and **barriers to travel** were **grouped into themes and ranked**, which is shown in the table below

The themes in the table below were used as the basis of setting the Transport Planning Objectives

TPO Theme	Dissatisfaction Rank		Barrier to Travel Rank	
	Rank (Island Residents)	Rank (Mainland Residents)	Rank (Island Residents)	Rank (Mainland Residents)
Accessibility	7	7	6	4
Capacity	3	3	1=	2
Cost	2	5	5	4
Journey times	9	9	NA	NA
Limited, fixed times of travel, within operating day	6	2	3	3
Operating day restriction	5	8	4	7
Other	8	6	8	8
Poor non-car travel options	4	4	7	6
Resilience	1	1	1=	1

A rank of 1 shows the highest level of dissatisfaction / barrier to travel against any given TPO theme

IITCP Transport Planning Objectives

The Transport Planning Objectives are ordered in terms of their significance as a barrier to travel and have been used to appraise the options

TPO1

Reduce or remove **variances from the regular published timetable**

TPO2

Reduce or remove the **capacity** barrier associated with ferry travel

TPO3

Improve the **flexibility of travel** within the operating day

TPO4

Reduce or remove the **cost** barrier associated with ferry travel

TPO5

Make inter-island travel fully **accessible** to all

TPO6

Improve travel options beyond the current **operating day**

TPO7

Improve provision for those **not** travelling or who would **prefer not to travel by car**

Option Development and Packaging

For each route, there are **multiple potential capital and revenue options**:

» The options are **intended to reflect the problems identified** and thus contribute towards delivering the TPOs

» As this is a **programme level business case** and, to ensure **a manageable and distinguishable set of options** for appraisal purposes, **individual options were combined into option packages in the Strategic Outline Case**. **It is these packages that have been developed and assessed in the Network Strategy OBC**

» Option packages provide increments in service **from the 'business-as-usual' through to a 'Ferry Do Max' and fixed link**, as defined in the table below

» Further **option development and disaggregation** will be required in any subsequent project level business case

» The SOC concluded that both enhanced ferry options and a potential **Bressay** fixed link should be progressed for further consideration

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.

Vessel Typologies

Typology	Class	Indicative Length Overall	Indicative Car Capacity	Single or Double-Ended
Bespoke	Workboat	Max. 24m	1	Not roll through
Fair Isle Class	Workboat	Max. 24m	4	Not roll through
Type 1	Euro B	33m	14-15	Single
Type 2	Euro B	45m	22-24	Double
Type 3	Euro B	65m	31	Double

While vessel design is only being considered at a high level in the IITCP, it is essential in network planning that there is **a clear strategy with respect to vessel replacement**

» IITCP supports **greater standardisation of the fleet**, while recognising that certain islands will always require bespoke solutions that meet their needs (or slight adaptations of standard vessel types)

» A working typology consisting of **five indicative vessel types** has been developed and applied in the option packages

Network Strategy Outline Business Case - Bressay

Outline Business Case: Approach to Option Development

What is the purpose of the Detailed Options Appraisal process in the Outline Business Case (OBC)?

» The purpose of this exercise is to take the options emerging from the SOC, develop them, appraise them and provide the evidence for Council Members to select **a preferred option package for each route / island**

» The options are a **proof of concept**, but have been subject to an **assessment of deliverability** with respect to e.g., crewing etc. Detailed work on this would be required in a **subsequent project-level business case**

» The **Ferry Do Something** and **Ferry Do Max** include options to **reduce fares for residents and make them free, respectively**. Fares are however a complex network-wide issue for which any significant change would merit a study in its own right, covering: the basis of the tariff; the level at which it is set; discounts; surcharges; and implications for capacity based on the demand response. **The reduction in fares is therefore treated as an in-principle option only and is not explicitly costed or modelled**

» The **Ferry Do Something, Ferry Do Max and Fixed Link** options all include proposed improvements to **bus services**. These options are described in narrative only at this stage. There are however a range of cost and deliverability considerations (e.g., vehicle and driver availability) which would need to be worked through in any project level business case

» The arrangements for booking sailings, including request sailings, as well as arrangements when services are cancelled was identified as a barrier to travel in the resident survey. **Whilst there was value in highlighting this, it is a network-wide operational matter and thus has not been considered in detail in this study**

» The Business-as-Usual harbour drawings are not shown in the following boards as it is a continuation of the present-day situation

Option Costing

Vessels

- Indicative costs have been developed for each vessel type based on **recent procurement experience and engagement with a naval architect**
- A relatively short-term replacement of the fleet is assumed
- Vessels are thereafter **assumed to be replaced every 30-years**
- Maintenance costs are assumed to be covered in day-to-day spending, but an allocation has been made for **major refit costs**, including **for conversion to zero emission fuels**

Ferry Terminals

- Assumed that **wholesale replacement of every terminal** will be **required at least once in a 60-year period**
- Costs included for **cyclical maintenance over terminal lifespan**
- Ferry Do Something and Ferry Do Max include incremental costs to reflect option requirements

Revenue Measures

- Based on increments in crew requirements and additional sailings in each of the Do Something and Do Max

Fixed Links

- **Capital costs** have been developed based on the **Fixed Link Model (described later in these boards) developed for Yell, pro rated for the other candidate islands**
- A **benchmark value for operations and maintenance** has been developed based on an indicative rate per metre and pro rated based on tunnel length
- **Cyclical maintenance** for tunnels **has not been included** as it is understood to be modest compared to ferry terminals

In accordance with H.M. Treasury and Transport Scotland guidance, a **60-year appraisal horizon** is being used – that is, the costs and benefits are considered over a 60-year period.

Recognising the long-life of tunnels, a sensitivity based on a **100-year appraisal horizon** has also been undertaken:

» This seeks to understand **whether considering costs and benefits over a longer period would change the respective value for money of options**

Outline Business Case: Bressay Options

Ferry Do Something

Vessels	One Type 2 vessel to replace MV *Leirna*
Required infrastructure	▪ Replacement of the berthing structure at Bressay – new structure built behind the existing to maintain the service during construction ▪ Pier extension and reconfiguration of the marshalling area in Lerwick – this is a working proposal which would need to be agreed with Lerwick Port Authority ▪ New waiting room in Lerwick
Service	Half hourly service, 20-minutes in peak, with slightly earlier start (05:30) **Monday to Saturday**

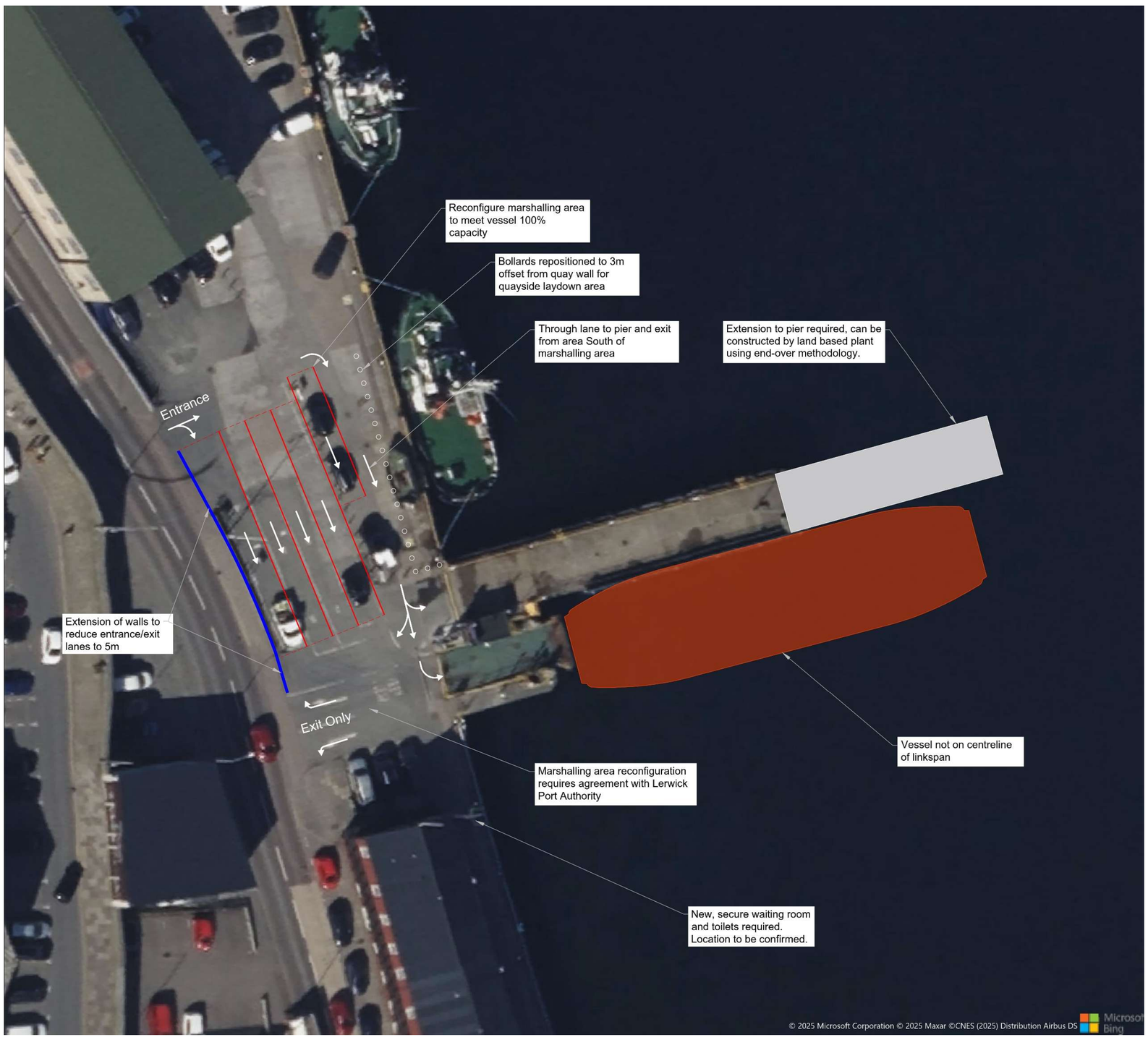
- Harbour works at **Bressay and Lerwick** to accommodate the **Type 2 vessel**
- Service would continue to operate its **current length of operating day**, but move towards a **half-hourly frequency**, and **20 minutes in peak**

The table below shows **indicative change in sailings in Ferry Do Something** relative to **Business-as-Usual**:

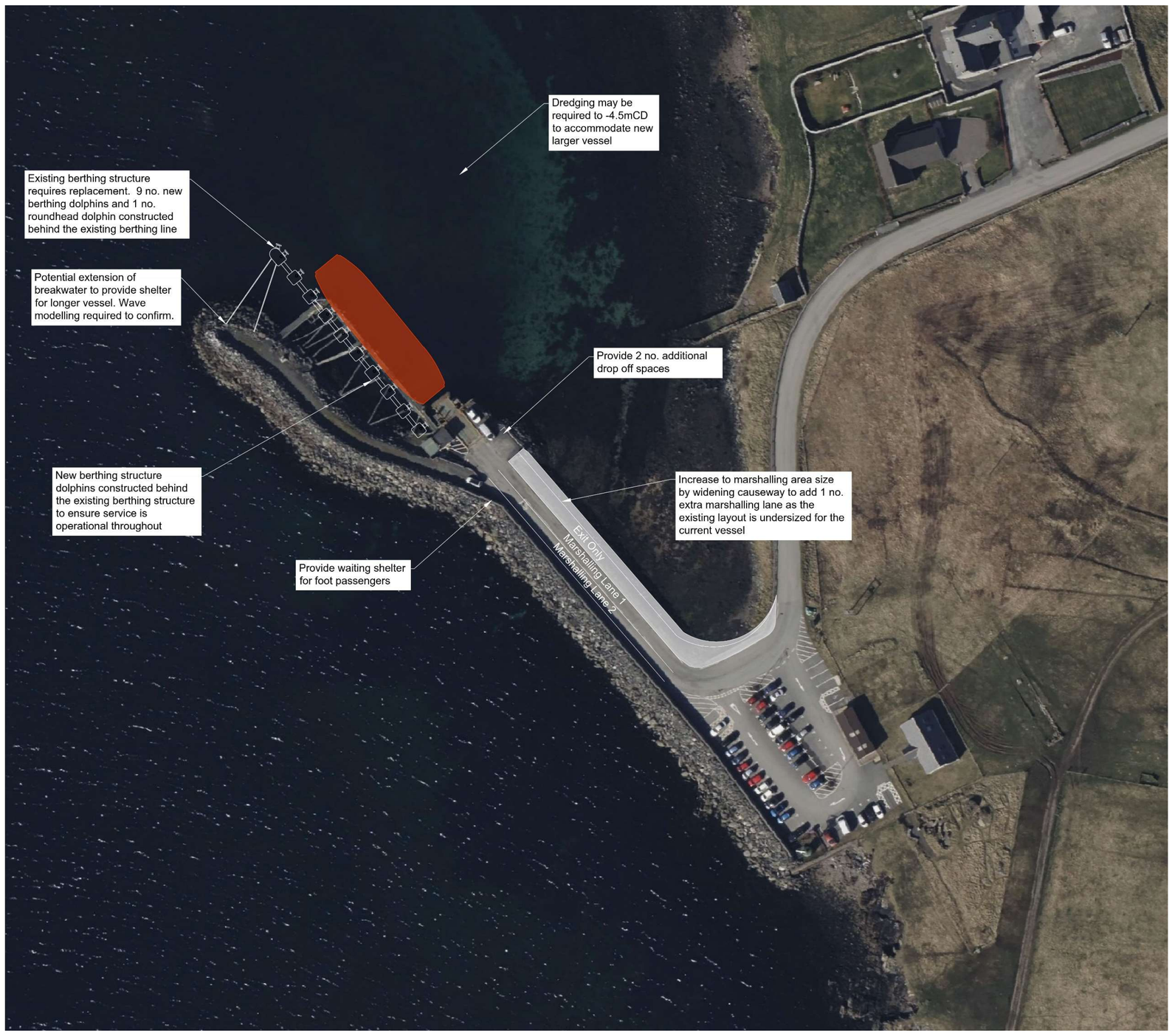
	Monday to Thursday	Friday	Saturday	Sunday
Business as Usual (BaU)	25	27	24	20
Ferry Do Something	44	44	44	34
Do Something v BaU	**+19**	**+17**	**+20**	**+14**

Outline Business Case: Bressay Options

Ferry Do Something: Lerwick



Ferry Do Something: Bressay



Outline Business Case: Bressay Options

Ferry Do Max

Vessels	One Type 2 vessel to replace MV *Leirna*
Required infrastructure	▪ The **Do Max at Bressay could be the same as the Do Something** except for some extra land reclamation to provide additional parking ▪ However, a **second Do Max option** has also been prepared for **Bressay** – this consists of a new sheet piled pier on the east side of the existing berth location to provide an option which would be less disruptive during construction ▪ The Do Max at **Lerwick** is the same as the Do Something
Service	20-minute frequency **Monday to Sunday**; hourly on-request service overnight

» Harbour works equivalent to Do Something, but there is a **requirement to consider whether an alternative Bressay location would be more suitable**, to minimise construction impacts on the service

» The 20-minute frequency has been shown indicatively, as an extension of the peak hour timetable. This may however be too intensive a level of service to be delivered continuously

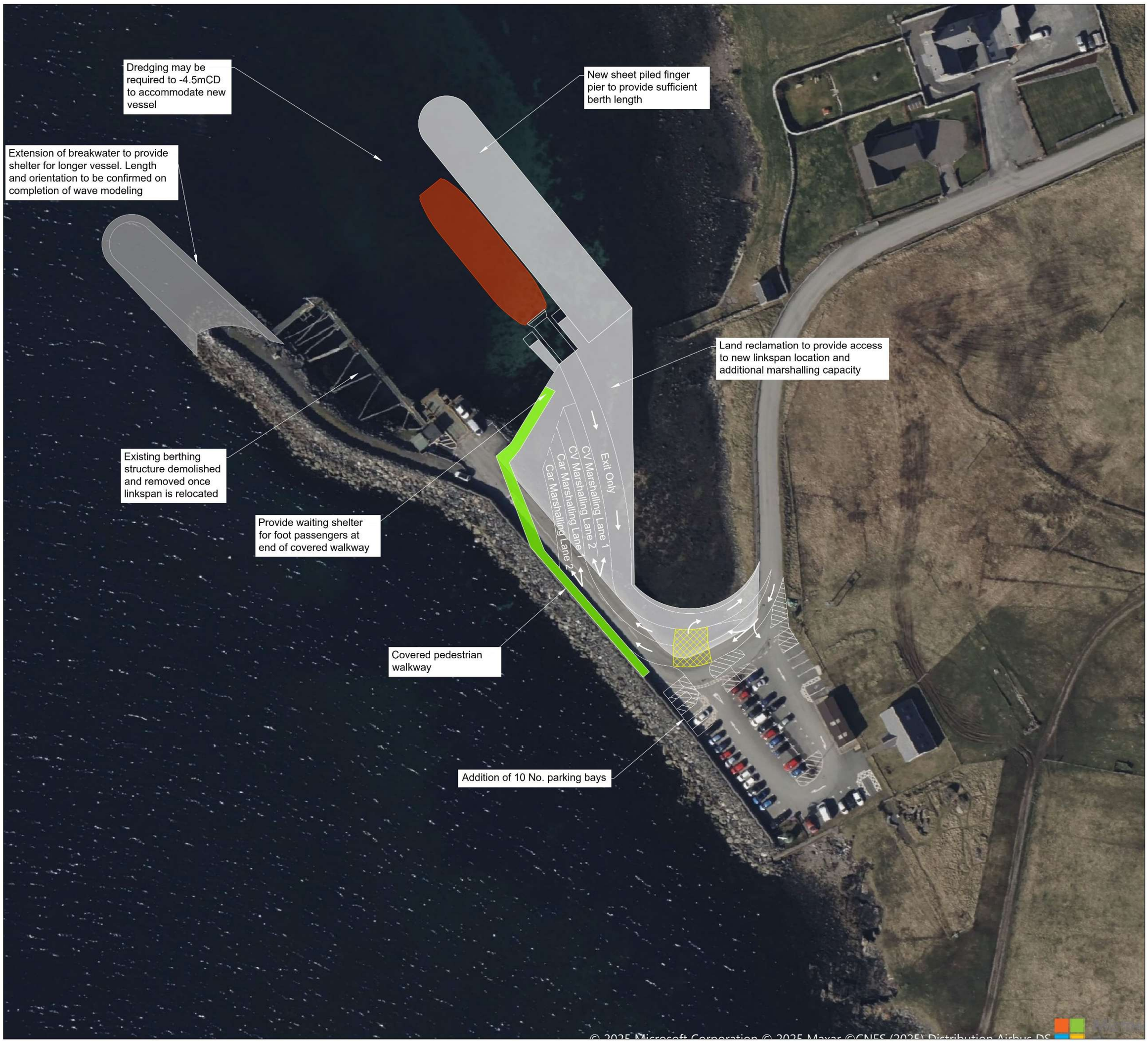
The table below shows **indicative change in sailings in Ferry 'Do Max'** relative to **Business as Usual**:

	Monday to Thursday	Friday	Saturday	Sunday
Business as Usual (BaU)	25	27	24	20
Ferry 'Do Max'	60	60	60	60
'Do Max' v BaU	**+35**	**+33**	**+36**	**+40**

Outline Business Case: Bressay Options

Ferry Do Max

Ferry ‘Do Max’: Bressay



Outline Business Case: Bressay Options

Fixed Link

Alignment

» On the Lerwick side, the route would begin near Gremista and would follow a curved shoreline alignment before descending beneath the Sound

» The tunnel would rise towards its landfall point on Bressay, connecting to the island's local road system on the western side

Technical Specification

» 3.3km long forming part of a 5.0km road corridor including the tunnel and its surface junctions

» Two-lane tunnel enabling safe bi-directional travel

» 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

Bressay Options: Potential Fixed Link Alignment

The FLM concluded that subsea tunnels across the Shetland islands are **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

How is a preferred option selected?

Transport appraisal is the process by which the best value for money option for society overall is defined. There is variant appraisal guidance throughout the world and indeed in the UK – e.g., **Scottish Transport Appraisal Guidance (STAG)**, UK Transport Analysis Guidance (TAG), Welsh Transport Appraisal Guidance (WelTAG) etc.

There are however several principles of appraisal that hold across most guidance documents:

» It is **multi-criteria** – i.e., it considers an option from a range of different perspectives – in **STAG**, these are:

Physical Environment

Climate Change

Health, Safety and Wellbeing

Economy

Equality and Accessibility

Fit with Policy

Feasibility, Affordability and Public Acceptability

» It should be **applied proportionately**, focusing on the main areas of differentiation between options

- ❖ No criterion is more important than another and scores should not be weighted

» It should combine **quantitative and qualitative approaches**

» Crucially, **appraisal is not intended to formulaically define the 'answer'**, rather its purpose is to objectively define the advantages and disadvantages of different options

- ❖ It is predicated on the maxim that *"Advisors advise, Ministers [Members] decide"*

The slides which follow show the **appraisal of the Bressay options** with respect to the **Transport Planning Objectives for the IITCP** and the **STAG criteria** listed above.

This is preceded by a description of the **option economics**, which are an H.M. Treasury and Transport Scotland **required standard part of any business case** and are presented as a cost-benefit analysis

Option economics – How are costs presented in a business case?

"Would it not be cheaper in the long-term to pay the upfront costs of a tunnel rather than the ongoing costs of ferry operations, including the replacement of vessels and infrastructure?"

This is the most frequently asked question when comparing ferries and fixed links:

» The underpinning logic is based on an **arithmetical approach of summing costs over time**, without adjusting for **when these costs occur**

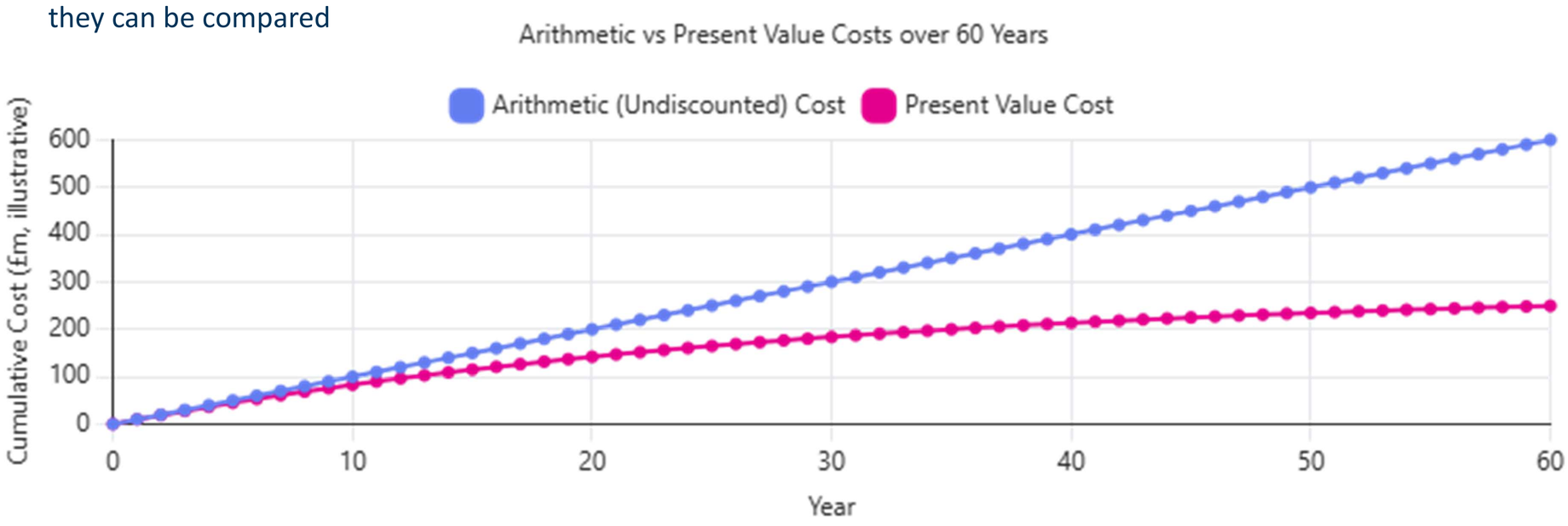
» However, in a business case, transport infrastructure schemes are **long-term and inter-generational investments** for which benefits and costs accrue over different time periods – for example, the **cost of a tunnel would be up-front** and, once spent, would not be required again whereas **ferries would need to be replaced every 30-years and harbour infrastructure every 60-years**

» Appraisal addresses this temporal issue through converting all future costs and benefits **into today's value (known as present value)** so that they can be compared

» The principle here is that **the further into the future a benefit or cost occurs, the less weight it carries today (i.e., the lower its present value)**. In the context of IITCP, the cost of future ferry replacements at e.g., year-30, year-60 etc will be progressively discounted as they are future costs – i.e., their present value will be less

» **The figure below provides an illustration of the difference between arithmetic (undiscounted) costs and present value (discounted) costs and why this matters.** Example is based on a spend of £10 million per annum over 60-years and a discount rate of 3.5%

» The adoption of this approach is **mandated in the guidance**



Arithmetic (undiscounted) cost = £600 million (i.e., £10 million x 60 years)

Present value (discounted) cost = £250 million

Ferry Option Costs

Mott MacDonald generated capital cost estimates for all ferry options for 2026 to 2095. These include refurbishment and replacement of infrastructure at end of life

Stantec estimated annual operating costs from SIC accounts

Fixed Link Costs

COWI provided an estimate of pre-construction and construction costs for in-scope fixed links, as well as an estimate of day-to-day operating and maintenance costs

Costs do not include major refurbishment and renewal of infrastructure

2025 Costs, summed over 60 years

Cash / arithmetic costs summed over 60 years for capital and Operations & Maintenance (O&M)

Option	Capital Costs	Gross Operating & Maintenance	Present Value of Costs (60 years)
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

Option Economics - Cost Benefit Analysis

Cost-Benefit Analysis (CBA) is a framework for assessing whether a public intervention delivers net benefits to society by comparing all monetisable costs and benefits over time

Origins of CBA

- Traditionally an important metric in decision making
- Origins in transport as it recognises that public investment in infrastructure can deliver a wide range of non-market benefits (i.e., economic and social benefits)

Uses of CBA

- Justifies public investment where there is a public good that the 'market' may not otherwise pursue
- Important in transport where benefits tend to be user-based (e.g., time, reliability, safety, comfort etc)
- Has formed the basis of large public works schemes

Key Output of CBA: Benefit-Cost Ratio – this is a single metric showing how benefits and costs compare, which can be used for transparent comparison and prioritisation between options.

CBA is a tool and a construct designed to support good decision making – it is only one metric and is categorically not a substitute for judgement and, when used in this way, can lead to wrong decisions being made

» The table below shows the **BCR** for the different **Yell** options. The BCR is the ratio of the **Present Value of Benefits (PVB) to the Present Value of Costs (PVC)**. **NPV** is the **Net Present** Value, i.e., the difference between the PVB and the PVC)

» The PVC shows: the PVC of the in-scope option (i.e., Do Something, Do Max, Fixed Link); minus the PVC of the Business as Usual, as this is spend which would be required regardless without an intervention

» To reflect uncertainty, appraisal **includes sensitivity tests to show how results are affected by different assumptions**. Four sensitivity tests in addition to the core scenario have been included:

ST1: Reduced **optimism bias** (an uplift to base costs included to account for uncertainty) for the tunnel option to **23%** for road upgrades (down from **46%**) and **32%** all other works (down from **55%)**

ST2: A different weighting has been applied to the value of the **time spent waiting in a car for a ferry**

ST3: Optimism bias of **38%** has been **applied to the cost of new ferries** (the guidance recommends it is not applied to ferries)

ST4: The options have been **appraised over 100-years rather than 60-years**, to reflect the long-life of a tunnel

Scenario	Scheme	PVB (£000s)	PVC (£000s)	NPV (£000s)	BCR
Core	Ferry Do Something	15,274	2,182	13,092	7.0
	Ferry Do Max	24,487	29,853	-5,366	0.8
	Fixed Link	44,553	185,880	-141,327	0.2
ST1	Ferry Do Something				
	Ferry Do Max				
	Fixed Link	44,553	134,338	-89,785	0.3
ST2	Ferry Do Something	8,652	2,232	6,420	3.9
	Ferry Do Max	16,431	29,890	-13,459	0.5
	Fixed Link	26,599	186,027	-159,428	0.1
ST3	Ferry Do Something	15,274	2,182	13,092	7.0
	Ferry Do Max	24,487	29,853	-5,366	0.8
	Fixed Link	44,553	166,120	-121,567	0.3
ST4	Ferry Do Something	20,880	2,468	18,412	8.5
	Ferry Do Max	33,482	31,055	2,427	1.1
	Fixed Link	61,300	157,010	-95,710	0.4

» The **Do Something** is a modest increase on the current day service, effectively intensifying the frequency during peak periods. It therefore has a very low PVC and, despite also having a relatively low PVB, it generates a **very high BCR across all scenarios**

» **Unlike the other fixed link islands**, the **Do Max** is competitive in value for money, even if the BCR is less than one in all but ST4 (100-year appraisal horizon). Again, the benefits are relatively small in absolute terms, but the cost increase is also modest as there is no major scaling up of the infrastructure of the number of vessels in the **Do Max**

» The **fixed link** delivers relatively poor value for money, with a BCR of less than 0.5 in all tests. This is a consequence of a **fixed link** being a high-cost solution for low volumes, particularly relative to the ferry options

Outline Business Case: Options Appraisal

Options Appraisal: Transport Planning Objectives

✓✓✓	Major positive	✓	Slight positive	XXX	Major negative	X	Slight negative
✓✓	Moderate positive	0	Neutral	XX	Moderate negative		

TPO	Description	Business as Usual	Ferry Do Something	Ferry Do Max	Fixed Link
1	Reduce of remove **variances from the regular published timetable**	0	0	✓	✓✓✓
2	Reduce or remove the **capacity** barrier associated with ferry travel	0	✓	✓✓	✓✓✓
3	Improve the **flexibility of travel** within the operating day	0	✓	✓✓	✓✓✓
4	Reduce of remove the **cost** barrier associated with ferry travel	0	✓	✓✓✓	✓✓
5	Make inter-island travel fully accessible to all	✓	✓	✓	✓
6	Improve travel options beyond the current **operating day**	0	✓	✓✓	✓✓✓
7	Improve provision for those **not travelling by car** / who would **prefer not to travel by car**	0	✓✓	✓✓✓	0

The nature of the option packages for Bressay generally means that **each increment will deliver progressively larger benefits against the TPOs**. This ultimately culminates in a **fixed link**, which would remove almost all of the identified barriers to travel, except from the cost of travel where tolls are levied. **Key points** are as follows:

- **Resilience** is not a major issue on the Bressay route at present, outwith the risks associated with a fleet-wide shortage of vessels caused by breakdowns and extended refits. A **fixed link** would however deliver a major resilience benefit by removing the reliance on sea-based travel altogether

- **Vehicle deck capacity** is not a major issue on this route, but each option increment would provide additional capacity across the day, with a fixed removing all capacity constraints for Bressay

- The **Do Something** and **Do Max** would progressively increase **frequency** and **the length of the operating day**. A **fixed link would** provide 24-hour access between Bressay and Lerwick

- The impact of the options on **cost to the user** would depend on **the balance between ferry fares and tunnel tolls**. This is perhaps a more material consideration for Bressay than any other island given its high fares per mile, strong commuter flows and very limited on-island services

- The impact on those **not travelling by car / who would prefer not to travel by car** for a **fixed link** would be dependent on providing a bus service through the tunnel that at least matches the frequency of the current ferry service (as pedestrians and cyclists could not use the tunnel). Journey times could though still be longer given the **fixed link** alignment. This is a more material issue in Bressay than other islands because it has a comparatively large number of ferry foot passengers, who could be disadvantaged by the loss of a ferry service to Lerwick town centre. The **Do Something** and **Do Max** would offer incremental benefits by expanding the number of sailings across the day

Outline Business Case: Options Appraisal

Options Appraisal: STAG Criteria

✓✓✓	Major positive	✓	Slight positive	XXX	Major negative	X	Slight negative
✓✓	Moderate positive	0	Neutral	XX	Moderate negative		

Description	Business as Usual	Ferry Do Something	Ferry Do Max	Fixed Link
(Physical) Environment	0	0	×	×××
Climate Change	0	×	×	××
Health, Safety and Wellbeing	0	✓	✓	✓✓
Economy	0	✓✓	✓	✓✓
Equality and Accessibility	0	✓	✓✓	✓✓

Environment

The **Do Something** would be neutral from a physical environmental perspective. Whilst the **Do Max** would be built within the existing ferry terminal bay, it would have a range of short-term environmental impacts associated with construction, including potential impacts on designated sites immediately adjacent to Bressay ferry terminal. A **fixed link** would evidently have the most significant impact given its scale relative to the other options, and a key consideration here would be the approach to the disposal of spoil

Climate Change

A **fixed link** would have significant embodied carbon, but its carbon intensity would reduce over time as the vehicle fleet became zero emission. The ferry options would have very low embodied carbon but a longer-term vessel emissions profile – **the whole life carbon comparison is therefore very sensitive to when the ferry fleet becomes decarbonised**.

A **fixed link** would significantly **reduce Bressay's vulnerability to climate change**, particularly rising sea levels and the ferry service being cancelled due to inclement weather, although the sheltered waters of Lerwick Harbour do make that a rarity

Health, Safety and Wellbeing

Bressay has no formal on-island health provision and thus **each option increment** would be positive in terms of improving access to health and wellbeing infrastructure and in delivering improved health outcomes. However, given the design of the current ferry service and its in-built flexibility, any improvements would likely be quite marginal across all options. A **fixed link** would have the most significant positive impact with regards to this criterion, subject to no reduction in accessibility for current foot passengers

Equality and Accessibility

The key equalities issue facing Bressay residents is cost – they pay the highest ferry fare per mile on Shetland Ro-Ro routes and also travel the most frequently. Whilst improved connectivity overall would be valuable in tackling inequalities, it is a reduction in the cost burden of travel that would be most meaningful

Outline Business Case: Options Appraisal

The Economic Criterion and the Strategic Narrative

The **Economy** criterion in STAG consists of two sub-criterion:

- **Transport Economic Efficiency (TEE)**: This is the conventional option economics culminating in the BCR (as previously described)

- **Wider Economic Impacts (WEI)**: Any economic impacts which are additional to the transport user benefits, primarily focused on business productivity and labour market impacts

  - WEI are only generally **experienced in the largest schemes** (e.g., HS2, A9 Dualling), so are **less material here**

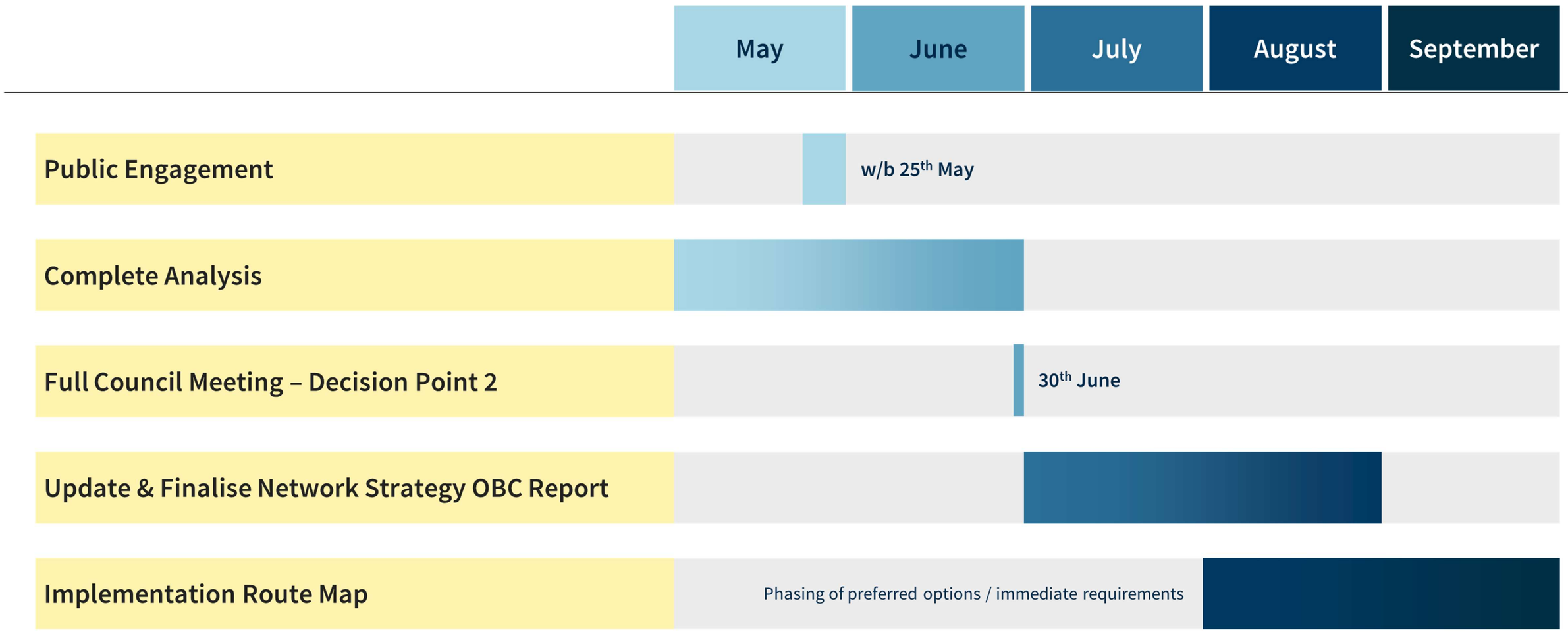
However, the guidance allows for a **strategic / economic** narrative, which is a qualitative description of economic benefits in addition to those quantified in the BCR. This is set out below in the context of improved connectivity generally, but it is important to recognise that a **fixed link <u>could</u>** 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 closet 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)

Next Steps



What To Do Next

Please take this opportunity to provide your thoughts to the team on the material presented and ask any questions you may have

The boards that you have just read provide some topics that you may wish to discuss, and we would be happy to hear any views that you may have

The display boards will also be published online at: www.shetland.gov.uk/IITCShetland

Please also take time to fill out the feedback form before you leave. Scan the QR code to link to the survey **or fill out one of the forms provided.**

Shetland Inter-Island Transport Connectivity Programme – Fill in form

Shetland Inter-Island Transport Connectivity Programme