

# Shetland Inter-Island Transport Study



Fair Isle Public Engagement Meeting  
Wednesday 31<sup>st</sup> August 2016 – 1700–2000  
Fair Isle Hall



# Shetland Inter-Island Transport Study

Welcome to the **Fair Isle Public Engagement Meeting** for the Shetland Inter-Island Transport Study (SIITS).

The Shetland inter-island transport network, which consists of a combination of ferry and air services, connects nine islands with Shetland mainland. These lifeline connections support the economies of Shetland's island communities as well as providing personal accessibility to employment opportunities and access to key services such as education, health and leisure opportunities.

The inter-island transport network has been supported in both capital and revenue terms by the Council over many years. Whilst this remains the case, ageing assets, escalating costs and a reduction in the funding available to local authorities has led to a need to consider the future of the inter-island transport network at the strategic level. To this end, the Council, in partnership with ZetTrans, Transport Scotland and Highlands & Islands Enterprise, commissioned the Shetland Inter-Island Transport Study (SIITS), with a view to developing and appraising options for the future of the inter-island transport services.

The purpose of this exercise is to determine the **appropriate level of service for each island / island group** and the **funding implications** of this. This will provide the Council and ZetTrans with an evidence base to inform discussions with Scottish Government. To this end, the study team, led by Peter Brett Associates LLP, has developed, appraised & costed a set of capital (e.g. vessels, harbours, fixed links, airfields and aircraft (where appropriate)) and revenue (i.e. additional sailings and / or flights) options. These options are based on identified transport problems within each island, which we have had initial confirmation of from each local Community Council.

Following the submission of the final report in October 2016, a subset of these options will be taken forward for further development and appraisal. **This is your chance to have your say on the options** – please speak to the team, provide your feedback and fill up the brief exit questionnaire which we have provided.



# How have we determined what level of service is needed by the community?

There are two elements used to inform this process:

- Transport Scotland's Routes & Services Methodology (RSM)
  - Provides an initial 'model' ferry service depending on a range of inputs
  - The RSM is one of a number of inputs used to inform the appraisal
- An appraisal based on the Scottish Transport Appraisal Guidance (STAG) and Business Case Guidance
  - provides a much more detailed analysis based on the local context and circumstances
- The study is joint-funded by Shetland Islands Council, Transport Scotland, and Highlands & Islands Enterprise
  - All stakeholders have had an input into the development of the study, ensuring consistency with other Scottish ferry-related studies



# Routes and Service Methodology

As part of the Scottish Ferries Review, Transport Scotland developed a 'Routes & Services Methodology' (RSM), which is designed to produce a consistent approach to ferry service transport provision across Scotland.

The RSM is a six-step, evidence-based process which:

- Identifies the current level of service to an island
- Establishes a 'model' level of service for an island in terms of the:
  - number of sailing days
  - number of connections per day
  - the length of the operating day
- Develops and appraises options to address any gaps between the 'current' and 'model' service provision

**The RSM does not imply an immediate or indeed any commitment to scale-up to the 'model' level of service**, but is a tool which is taken into account in the analysis, and potentially an outcome worked towards over time.



# Fair Isle – RSM Findings

- The RSM findings for Fair Isle are as follows:

	Sailing / Flight Days	Sailings / Flights Per Day	Operating Day
Current Service	6 days Summer, 5 days winter	1-3 connections per day	Varies by day
Model Service	7 Days	1 connection per day	No normal operating day
<i>RSM Outcome</i>	<i>Marginal under-provision</i>	<i>Acceptable</i>	<i>Acceptable</i>

- The lifeline service for Fair Isle is provided by air, with the ferry largely fulfilling a supply chain role.
- The air service operates 6 days a week in summer and 5 days a week in winter.
- The ferry service operates 3 days a week in the peak summer period, 1 day per week in winter.
- Fair Isle is under provided in terms of the number of days on which there is a connection. However, the number of connections per day and the length of the operating day are largely in line with the RSM.



# Current Ferry Service



**Vessel Issues:** Vessel is relatively old, single screwed and slow (8 knots).

**Access for Disabled:** Disabled access to the ferry is extremely limited.

**Accommodation Issues:** Passenger accommodation unsuitable for length of journey – seatbelts required when onboard.

Current Vessel:  
*MV Good Shepherd IV*

Vessel Age:  
*30 years*

Scheduled Replacement Date:  
*Required in short-term – 2017-2022*

Carrying Capacity:  
12 passengers  
1-2 cars  
54 tonnes

Ship-Shore interface:  
*Lo-Lo only*

*The vessel overnights at Fair Isle  
and is taken out of the water*



# Current Air Service



**Aircraft Issues:** Low carrying capacity;  
limited to operation during hours of daylight.

**Access for Disabled:** It can be challenging  
for people with mobility difficulties to access  
the aircraft.

## Current Aircraft

2 \* Britten-Norman Islanders

## Aircraft Age

10 & 25 years old

## Carrying Capacity

8-9 passengers and limited  
freight

Passenger numbers on G-  
SICB limited to 6

## Airfield Features

Holds CAA Ordinary Licence

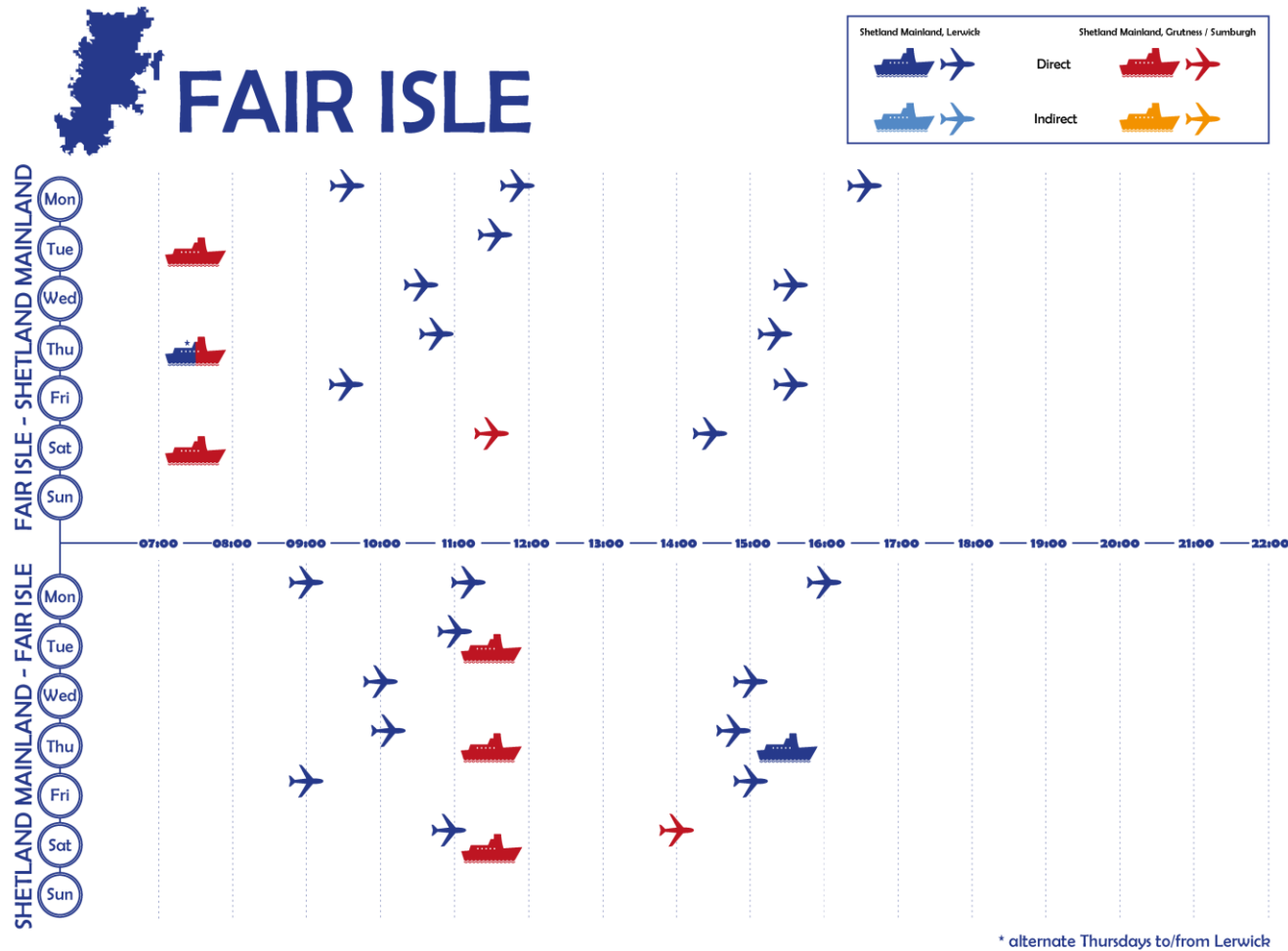
Operated by National Trust  
for Scotland

Airfield susceptible to fog



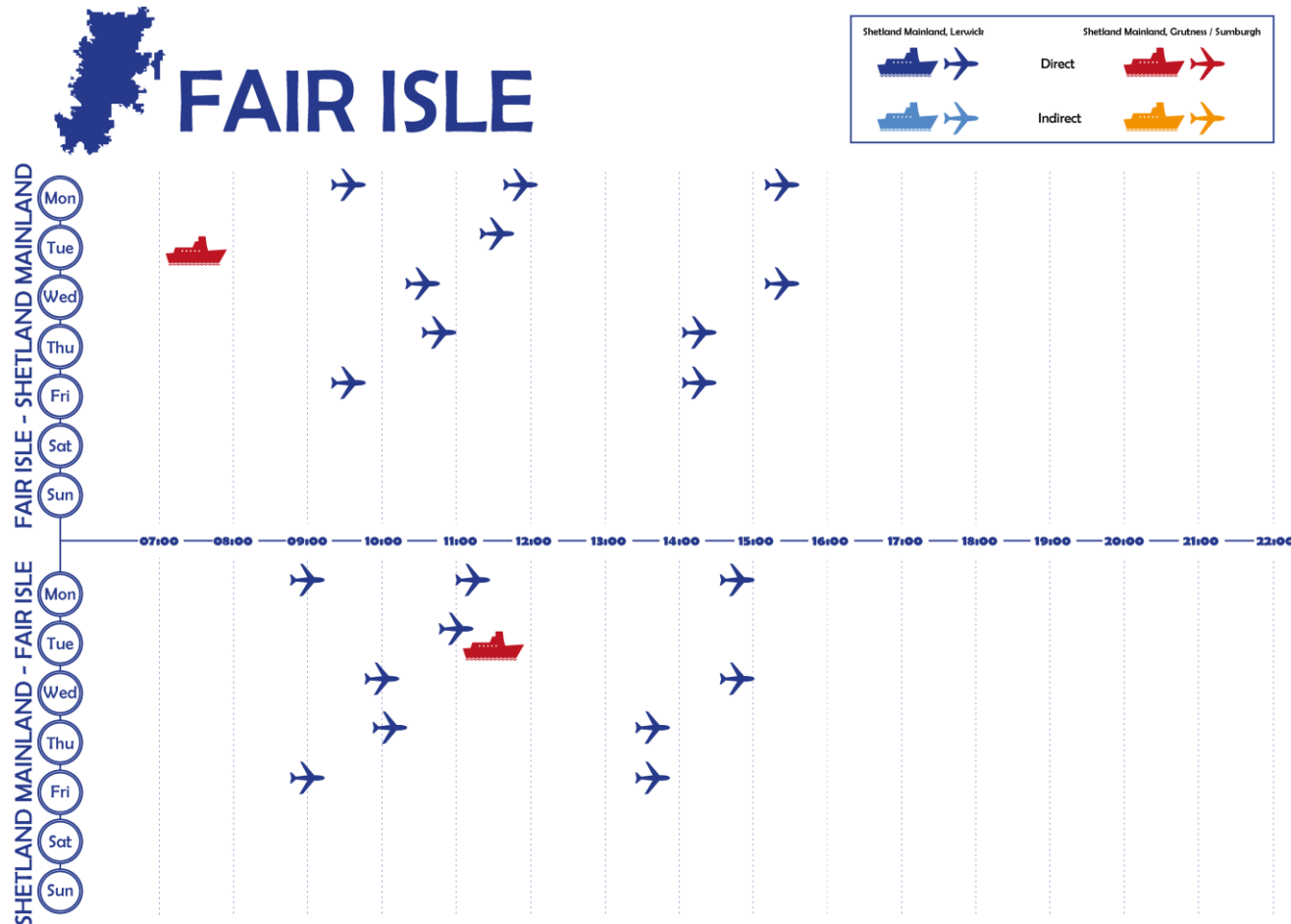


# Fair Isle - Current Summer Service – departures by day of week

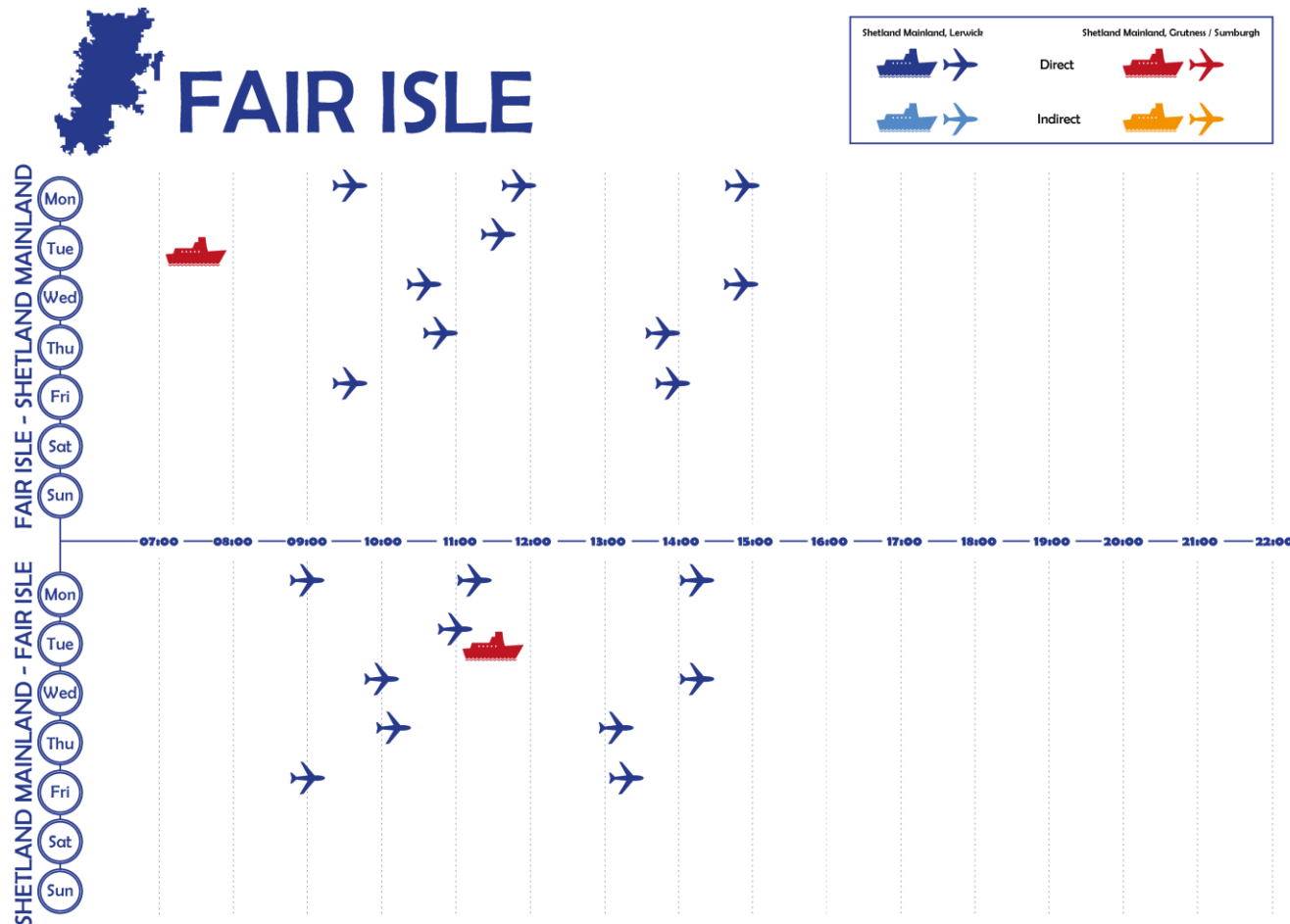




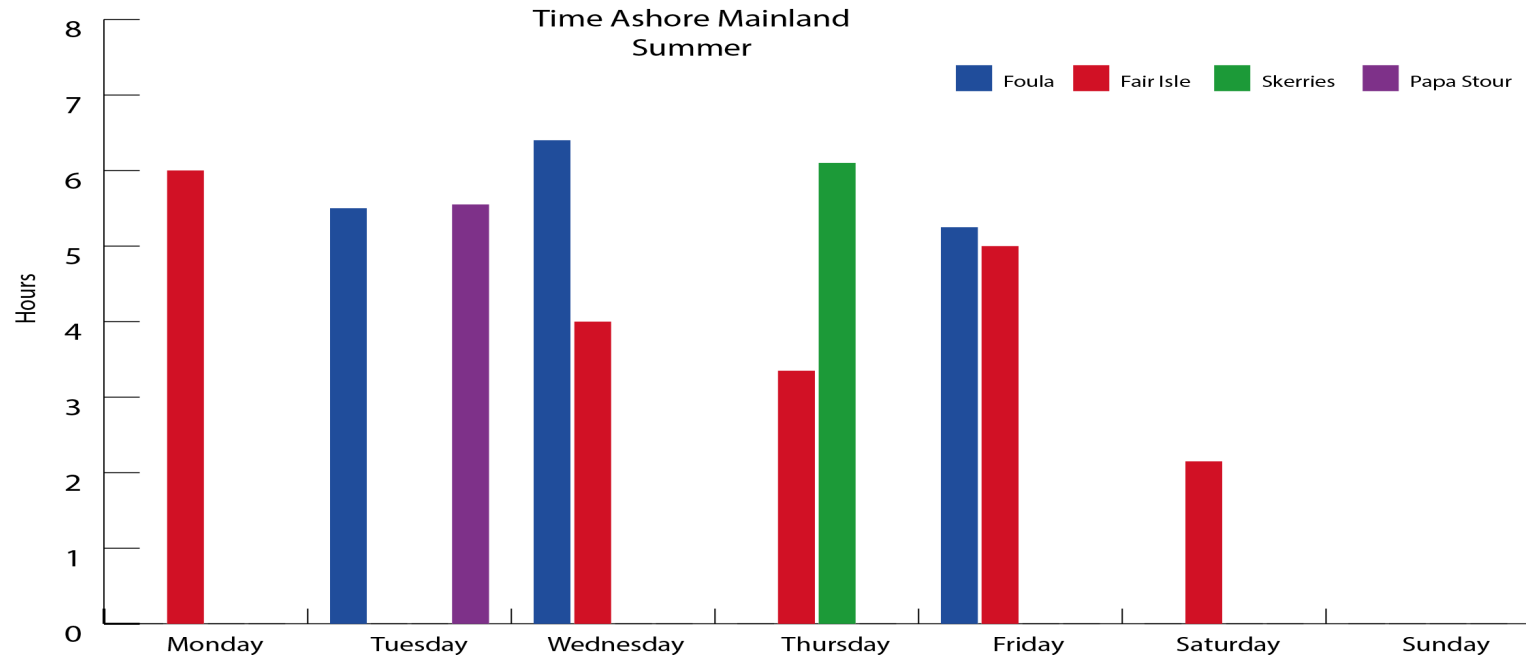
# Fair Isle - Current Shoulder Winter Service – departures by day of week



# Fair Isle - Current Winter Service – departures by day of week



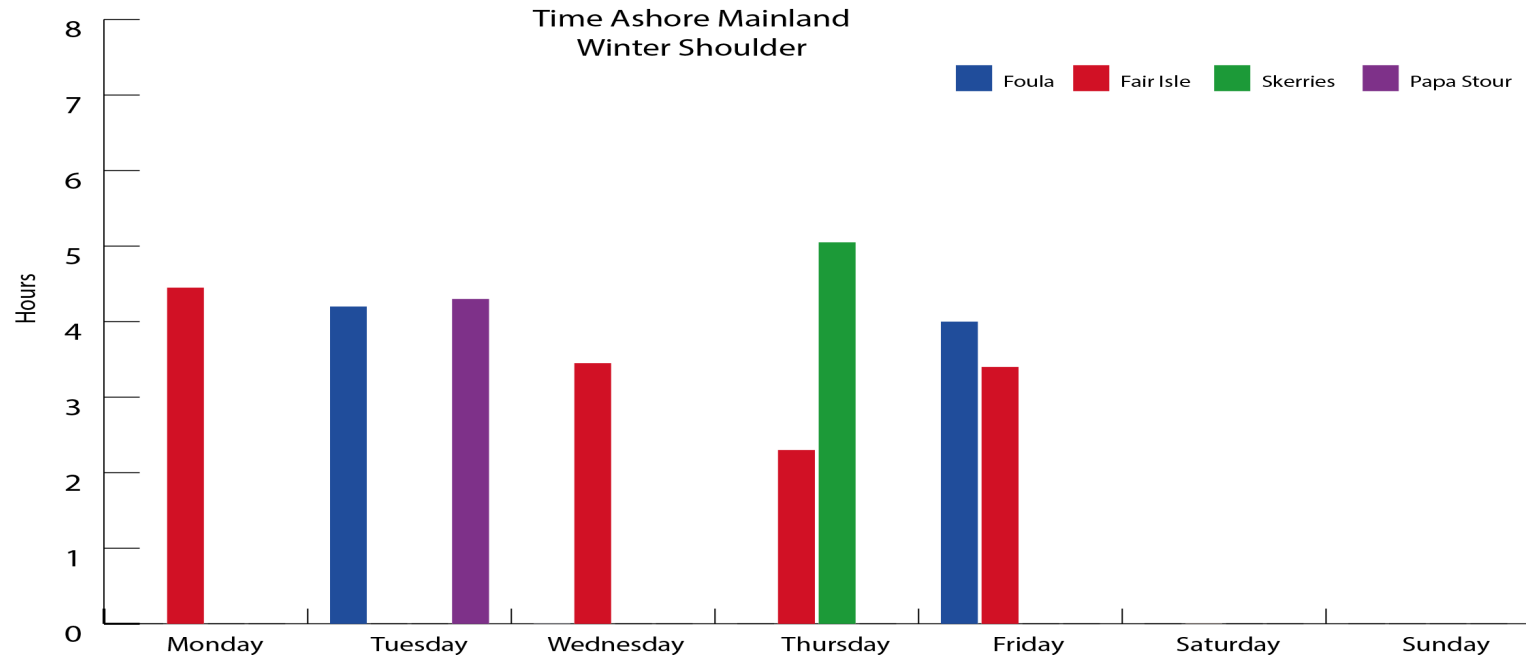
# Daily Time in Shetland Mainland – Air - Summer



- The ferry service offers limited amount of time on mainland and the long and uncomfortable journey means that air is the lifeline mode.
- The air service offers Fair Isle residents varied amount of time on Shetland mainland over the week.
- With only one rotation on a Tuesday, it is not possible to make a meaningful day return trip to Shetland mainland using the air service alone.



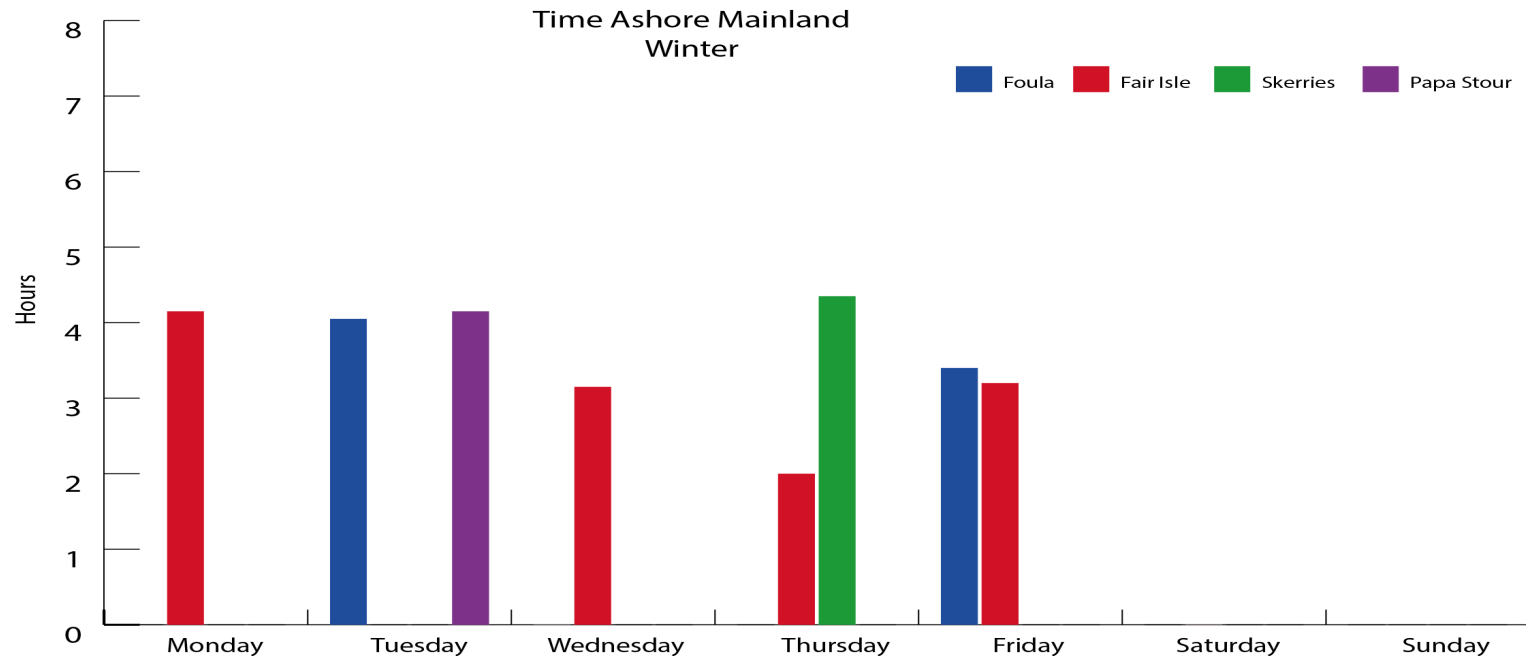
# Daily Time in Shetland Mainland – Air – Shoulder Winter



- The shoulder winter timetable reduces time on mainland across all operating days.
- The Saturday services do not operate in the shoulder winter timetable.



# Daily Time in Shetland Mainland – Air - Winter



- The winter timetable leads to a further reduction of around 30 minutes of time on mainland per day when compared with the shoulder winter timetable.
- The Saturday services do not operate in the winter timetable.



# Problems, Objectives & Options



Fair Isle Transport Problems			
	Service Characteristics	Rating	Why is this a problem or not?
1	Overall journey time to Lerwick	✖	<p>Fair Isle residents can reach Tingwall in 25 minutes by air, with a 15 minute connection to Lerwick by bus.</p> <p>However, ferry journey times are long, some 300 minutes direct to Lerwick and 160 minutes to Grutness, with a one hour bus connection or 30 minute drive. The long ferry journey times means that anyone who cannot travel by air (either because of physical accessibility issues, cost or weather) faces an unattractive and extended trip to the mainland.</p> <p><i>The community consultation response noted the Lerwick connection, whilst relatively long, is also the most affordable and provides the longest duration for a day-trip to the town.</i></p>
2	First sailing / flight	✓	<p>The issue for Fair Isle is related more to time on mainland / Lerwick / island.</p> <p><i>The community consultation response noted that the time of the first sailing / flight has an impact on onward travel.</i></p>
3	Last sailing / flight	✓	<p>The issue for Fair Isle is related more to time on mainland / Lerwick / island.</p> <p><i>The community consultation response noted that the time of the last sailing / flight has an impact on onward travel.</i></p>
4	Time on mainland	✖✖✖	<p>It is not possible to make a meaningful day return either to or from Fair Isle by ferry – day access is entirely dependent on the air service.</p> <p>The air service itself is of a reasonable level offering 13-21 hours weekly on the mainland, 11-18 hours in Lerwick and 18-26 hours on the island depending on season. However, this is still a relatively limited period of time ashore when comparing Fair Isle to other islands of a similar size (e.g. Fetlar, North Ronaldsay, Papa Westray etc).</p> <p>The limited time ashore can lead to a need for costly overnight stays when carrying out work-based or personal business which extend beyond the length of the operating day.</p> <p>Fair Isle has no link to the mainland on Sundays all year, or Saturdays and Sundays from October to April inclusive.</p>
5	Time in Lerwick	✖✖✖	See point 4 above
6	Time on island	✖	<p>See point 4 above</p> <p><i>The community consultation response noted that the time on the island varies greatly due to the timetable.</i></p>
7	Frequency / Sailings per Day / Timetable gaps	✓	<p>The community successfully work around the current frequency. The bigger question is the number of connections overall and effective time on the mainland / island.</p> <p><i>The community consultation suggested that this should be cited as a minor negative as the actual operation is harder for the community to manage.</i></p>
8	Capacity	✖✖✖	<p>The MV <i>Good Shepherd IV</i> is very limited in terms of vehicle and indeed passenger capacity. The vessel can only take one or two small cars and 12 passengers, whilst she cannot accommodate any heavy freight or plant.</p> <p>The air service is also limited to 6-7 passengers but can take 8-9 passengers depending on weight. This places a significant capacity constraint on the island, particularly when one or both modes are affected by bad weather. In addition, the deadweight limitation on the vessel means that bringing any larger vehicles or plant onto the island requires the use of a different vessel.</p> <p>The capacity issue impacts negatively both on the key tourist trade and access to the mainland for island residents.</p>
9	Reliability (weather / mechanical)	✖✖	<p>The ferry crossing to Fair Isle traverses rough and exposed seas. This, combined with the small vessel used, presents reliability challenges on the route, particularly during winter. In many cases, the ferry has to travel when there is a weather window, even if this is off-timetable.</p> <p>The air service is overall believed to be reliable but can be affected by the frequent fog and other weather conditions which are experienced in Fair Isle and on mainland Shetland. Reliability issues can lead to both islanders and visitors incurring costly overnight stays, whilst a sustained period of cancellations can have significant impacts on the inbound and outbound supply chain.</p>
10	Comfort	✖✖✖	<p>The MV <i>Good Shepherd IV</i> is a relatively uncomfortable vessel given the sea states in which she operates. Indeed, the vessel is fitted with seatbelts! The vessel is also single screwed, which means it is vulnerable in the event of an engine, drive chain component or propeller failure. The consultation suggests that these issues combine to deter tourists travelling by ferry (putting pressure on the low-capacity air services) and limiting the willingness of islanders to use the vessel.</p>
11	Physical access	✖✖	<p>As an older vessel operating out of a non Ro-Ro port, the MV <i>Good Shepherd IV</i> can present physical accessibility issues for older and disabled passengers, a key issue on Fair Isle.</p> <p>The Britten-Norman Islander aircraft are not well suited to those with any kind of mobility impairments either.</p> <p><i>The community consultation response noted that either of the existing modes of transport can involve undignified access and not meet anticipated levels in terms of ease of access or comfort.</i></p>
12	Integration with PT (local bus)	✓	<p>There is a bus service which meets the ferry at Grutness and a demand-responsive service to Lerwick from Tingwall Airport.</p> <p><i>The community consultation response noted that this should be a minor negative as the bus link at Grutness is reliant on the ferry running to timetable.</i></p>
13	Integration with PT (strategic)	✖✖	<p>Given the limited connections from Fair Isle, onward travel will always have to be well planned. However, there are a number of problems over and above this. Firstly, a high degree of reliability is required on both the connecting and onward service as any delay or cancellation can lead to the need for a costly overnight stay or a long layover on Shetland mainland. In addition, the air service from Fair Isle travels to Tingwall and requires a double-bus connection to get to Sumburgh.</p> <p><i>The community consultation response noted that extensive planning can be a barrier and there may be potential to explore improvements to booking processes and operational information.</i></p>
14	Crossing / flight times	✖	The ferry crossing is very long as the vessel is very slow.
15	Onboard facilities	✖✖	<p>As a small and relatively old vessel, the MV <i>Good Shepherd IV</i> has little in the way of onboard facilities. Of particular importance is the absence of a chilled compartment, which presents a challenge when moving perishable goods given the length of the crossing (even from Grutness). This is a problem both in terms of supplying the island and for any island business (current or prospective) moving either large or chilled goods.</p>
16	Weekday / weekend service variation	✖✖✖	<p>Fair Isle has a significant weekend connectivity gap. During the summer, there is a Saturday ferry return and two air rotations, although there are no services on a Sunday. There are no weekend services at all during the winter, which effectively cuts the island off on winter weekends. This suppresses both the key tourist market and the ability of islanders to take an overnight off-island trip at the weekend.</p>
17	Landside infrastructure issues	✖✖	<p>The ferry berth is constrained and exposed, with the vessel having to be hauled out of the water overnight. This limits the size of vessel which can serve Fair Isle and is the cause of a number of the problems outlined above.</p>
18	Landside human resources	✖	<p>There is an ongoing logistical challenge of providing fire cover at the airfield, which could have an impact on the long-term sustainability of the air service. This is currently managed well.</p> <p>The ferry crew is also island based, which could present an issue for crew resourcing in the medium to longer term.</p>



# Study Objectives

In the light of the problems identified across the Shetland Islands, the following objectives have been defined as the basis for the options appraisal:

- **Transport Planning Objective 1:** The capacity of the services should not act as a constraint to regular and essential personal, vehicular and freight travel between the island(s) and Shetland mainland.
- **Transport Planning Objective 2a:** Where an island has a 'commutable' combined ferry or air & drive / public transport / walk time to a main employment centre (e.g. 80 minutes), the connections provided should reliably facilitate commuting.
- **Transport Planning Objective 2b:** Where an island does not have a 'commutable' combined ferry or air & drive / public transport / walk time to a main employment centre (e.g. 80 minutes), the connections provided should reliably permit a half day (e.g. 4 hours) in Lerwick, 7 days a week, all year round.
- **Transport Planning Objective 3:** The scheduled time between connections should be minimised to increase flexibility for passengers and freight by maximising the number of island connections across the operating day.
- **Transport Planning Objective 4:** The level of connectivity provided should minimise the variation within and between weekdays, evenings, Saturdays and Sundays.
- **Transport Planning Objective 5:** Where practicable and realistic, islanders should be provided with links to strategic onward connections without the need for an overnight stay on Shetland mainland.



# Fair Isle – Capital Options

In light of the analysis of transport problems and objectives, the following **capital options** have been identified for Fair Isle:

- Option CO1a: Replace the MV *Good Shepherd IV* with a like-for-like vessel
- Option CO1b: Replace the MV *Good Shepherd IV* with a like-for-like but materially faster vessel
- Option CO2: Replace the MV *Good Shepherd IV* with a small Ro-Ro vessel (likely a car carrying catamaran)
- Option CO3: Replace the MV *Good Shepherd IV* with a Lo-Lo freight vessel shared with Foula
- Option CO4: Replace the MV *Good Shepherd IV* with a passenger vessel and a freight vessel shared with Foula
- Option CO5: Operate the service from Grutness using the equivalent to an MV *Filla*
  - It is questionable whether a vessel of the size of the MV *Filla* could be based at Grutness, even with significant remedial harbour works.
- Option CO6: Construct a replacement runway on Fair Isle
  - This would be located in the Rippack area of the island



# Fair Isle – Revenue Options

The current timetable is determined by the level of crewing resource and working hours legislation.

The funds generated through ticket sales do not cover the costs of running air and ferry services, and this deficit is funded through the Council's annual *revenue* budget.

The following **revenue options** have been identified for Fair Isle:

- Option RO1: Increase the service frequency of the current Fair Isle ferry
- Option RO2: Increase the frequency of the air service to three rotations per day, seven days a week in summer and two rotations per day, seven days a week in winter

*Note that in our exit questionnaire, we will ask you what your priorities for the service would be, were more operating hours to be available.*



# Rationale for Selection / Rejection

Option	Take Forward (✓) or Reject (✗)	Rationale for Selection / Rejection
Option CO1a: Replace the MV <i>Good Shepherd IV</i> with a like-for-like vessel	✗	Does not deliver objectives – would perpetuate problems with current service.
Option CO1b: Replace the MV <i>Good Shepherd IV</i> with a like-for-like but materially faster vessel	✗	A faster like-for-like vessel is not technically feasible.
Option CO2: Replace the MV <i>Good Shepherd IV</i> with a small Ro-Ro vessel (likely a car carrying catamaran)	✓	Could provide step-change in access to Fair Isle so further consideration merited.
Option CO3: Replace the MV <i>Good Shepherd IV</i> with a Lo-Lo freight vessel shared with Foula	✗	Would reduce flexibility of service and ability to take advantage of weather windows
Option CO4: Replace the MV <i>Good Shepherd IV</i> with a passenger vessel and a freight vessel shared with Foula	✓	Passenger vessel would broadly replicate current service with additional flexible freight capacity provided. May still have issues with weather windows
Option CO5: Operate the service from Grutness using the equivalent of an MV <i>Filla</i>	✓	Allows for an MV <i>Filla</i> size vessel, but implications for current island crew. Smaller vessel may be required to fit into Grutness.
Option CO6: Construct a replacement runway on Fair Isle	✗	Positive benefits likely to be minimal. Costly to develop & negative environmental impact
Option RO1: Increase the service frequency of the current Fair Isle ferry	✓	Merits further consideration through consultation with the community
Option RO2: Increase the frequency of the air service to three rotations per day, seven days a week in summer and two rotations per day, seven days a week in winter	✓	7 day air service disproportionately expensive but options should be considered for increasing the number of weekday flights to Fair Isle.

# Shetland Air Network – Capital Options

- The BN2 Islander remains the most appropriate aircraft in the medium-term.
- **Option CO1 – Maintain and continue with the current aircraft until life expiry (Do Minimum):**
  - This option would involve continuing with the current Britten-Norman Islanders over the length of the strategy period.
  - If it becomes clear during that period that one or both of the aircraft is nearing the end of its operational life, replacements should be considered at that stage.
- **Option CO2: Supplement the current aircraft with an additional Britten-Norman Islander:**
  - An additional Islander would be leased or purchased and added to the fleet. The timetable would be expanded to take account of this additional capacity.
  - It is likely that at least one more pilot would be required.
- **Option CO3: Install runway lighting at all four island airstrips**
  - This option would involve the installation of runway lighting at Fair Isle, Foula, Papa Stour and Skerries (and Unst / Fetlar if re-opened).
  - Further investigation into the type of lighting to be used is required – it is assumed for the purpose of this option that Precision Approach Path Indicator (PAPI) lights would be installed.
- **Option CO4: Install Global Navigation Satellite System on the current aircraft**
  - This option would involve the installation of GNSS and supporting equipment on the current Council Islander fleet.



# Rationale for Selection / Rejection – Air Capital Options

Option	Take Forward (✓) or Reject (✗)	Rationale for Selection / Rejection
Option CO1 (Do Minimum): Maintain and continue with the current aircraft over the strategy period / until life expiry	✓	This option is retained as the Do Minimum.
Option CO2: Supplement the current aircraft with an additional Britten-Norman Islander	✗	This option will not be considered further. There is at present insufficient demand for a third aircraft, whilst the current aircraft could be worked more intensively.
Option CO3: Install runway lighting at Tingwall and all four island airstrips	✗	This option will not be considered further, except potentially in tandem with GNSS. The experience of runway lighting in Orkney coupled with the safety risks and limited probability of obtaining CAA night flight permissions mean that this option is excluded from further consideration.
Option CO4: Install Global Navigation Satellite System on the current aircraft	✓	This option will not be considered further. It should be noted that the operator concerns about safety and implementability in the Shetland environment would need to be addressed in advance of progressing this option.
Review the case for relocating the inter-island air service to Sumburgh from Tingwall	✓	The study has set out the comparative costs, benefits and risks associated with operating the air service from both Tingwall and Sumburgh. The evidence presented will be considered in more detail by the Council following completion of the study.



# What to do Next?

- Thank you for taking the time to read through the above material – we would be grateful if you could now complete a short questionnaire in relation to the options presented
- Please follow this link to access the questionnaire:

<https://www.surveymonkey.co.uk/r/FI-Foula-PapaStour-Skerries-Aug2016>

