

# Orkney Inter-Island Transport Study



Hoy & South Walls Public Engagement Meeting  
Tuesday 28<sup>th</sup> June 2016 – 1715-2015  
Hoy Community School Hall

# Orkney Inter-Island Transport Study

Welcome to the **Hoy & South Walls Public Engagement Meeting** for the Orkney Inter-Island Transport Study (OIITS). This meeting will consider both Hoy routes – Lyness–Flotta–Houton and Moaness–Graemsay–Stromness

The Orkney inter-island transport network, which consists of a combination of ferry and air services, connects 13 islands with Orkney mainland. These lifeline connections support the economies of Orkney’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 commissioned the Orkney Inter-Island Transport Study (OIITS), 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 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 August 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.

# What are we presenting today?

- The following boards show:
  - How an island's level of service is determined
  - Some facts about the current service (e.g. vessels, timetable, hours on mainland etc)
  - The transport problems identified for the island
  - The objectives for future island transport provision
  - The options for infrastructure & crewing we have considered and whether they should be taken forward for further consideration
- At this stage, we are **not** recommending a 'preferred option' for each island
- We are seeking your feedback on the options put forward, which will help inform the further refinement of options

# 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 Orkney Islands Council, Transport Scotland, the Highlands & Islands Transport Partnership 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.

# Hoy & South Walls – RSM Findings

- The RSM findings for Hoy & South Walls are as follows:

	Sailing Days	Sailings Per Day	Operating Day
Current Service – Lyness-Flotta-Houton	7 days (Summer), 6 days (Winter)	5-6 p/d on weekdays	Around 12 hours on weekdays
Current Service – Moaness-Graemsay-Stromness	7 Days	4-6 on weekdays	Around 10.5 hours on weekdays, 14.5 on Friday
Model Service	7 Days	20 p/d Mon-Sat	14+ hours Mon-Sat
<i>RSM Outcome</i>	<i>No winter Sunday vehicle service</i>	<i>Substantial Under-Provision</i>	<i>Marginal Under-Provision</i>

- Hoy & South Walls have 7-day sailings in the summer on both routes, but no winter Sunday service on the vehicle carrying Lyness route – this is a key issue for islanders
- The majority of connections to the mainland are direct
- The number of sailings per day, even combining the routes, and the length of the operating day are both ‘under-provided’ by the RSM measure.
- Stepping up to the ‘RSM service’ would require significant additional funding

# Current Service – Lyness-Flotta-Houton



**Current Vessel**  
*MV Hoy Head*

**Vessel Age**  
22 years

**Scheduled Replacement Date**  
Estimated 2024-2029

**Carrying Capacity**  
24 cars  
150 tonnes

**Overnight Location**  
Longhope

**Ship-Shore interface**  
Linkspan Ro-Ro  
Double-ended Ro-Ro

**Vessel Issues:** Capacity insufficient at peak times

**Access for Disabled:** Access to passenger lounge not step free – disabled facilities on main deck

**Accommodation Issues:** Passenger accommodation below the waterline



# Current Service – Moaness-Graemsay-Stromness



**Current Vessel**  
*MV Graemsay*

**Vessel Age**  
22 years

**Scheduled Replacement Date**  
Estimated 2025-2030

**Carrying Capacity**  
2 cars  
24 tonnes

**Overnight Location**  
Stromness

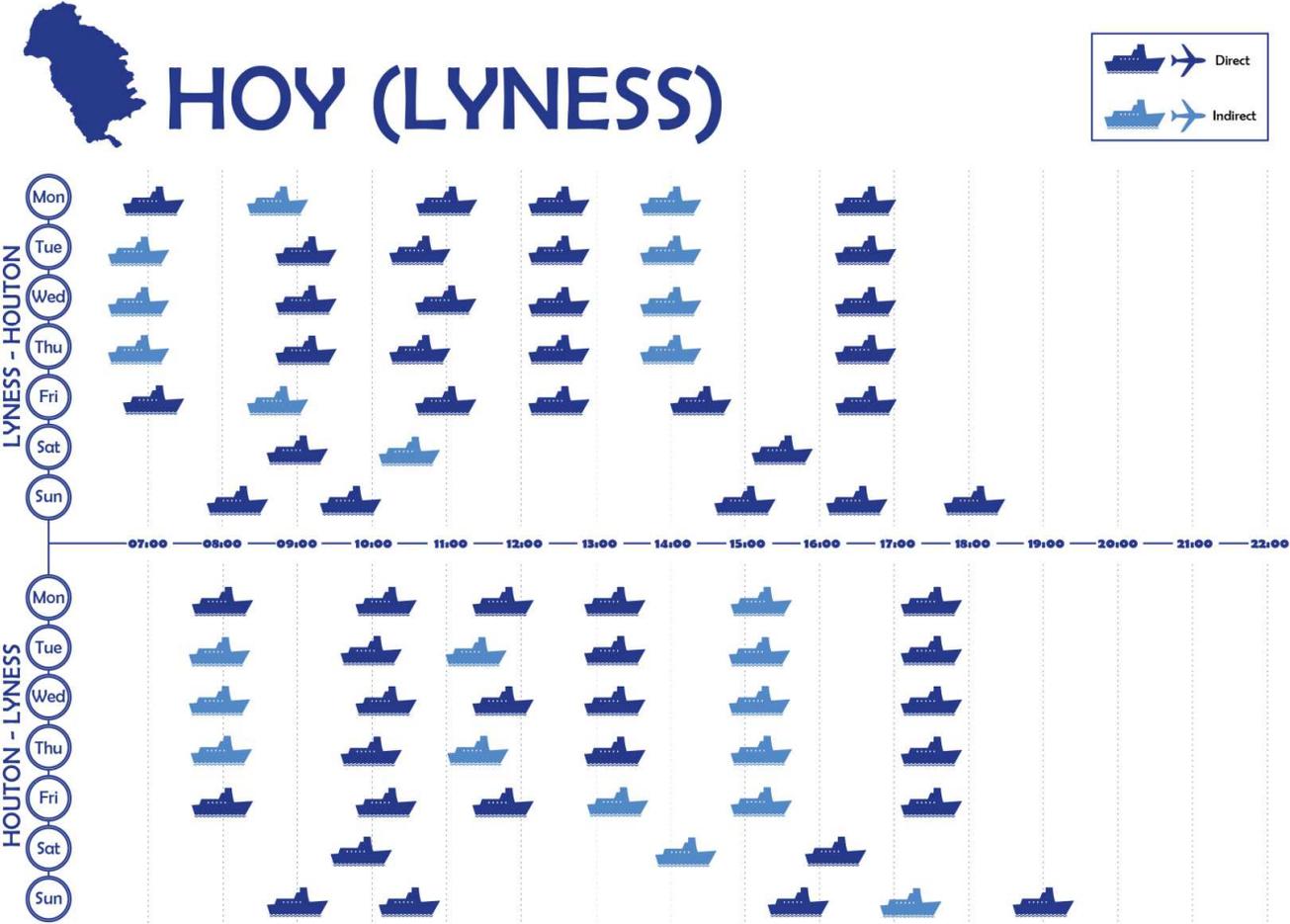
**Ship-Shore interface**  
Lo-Lo but has stern ramp

**Vessel Issues:** Deadweight constrained; berths at Graemsay & Moaness challenging.

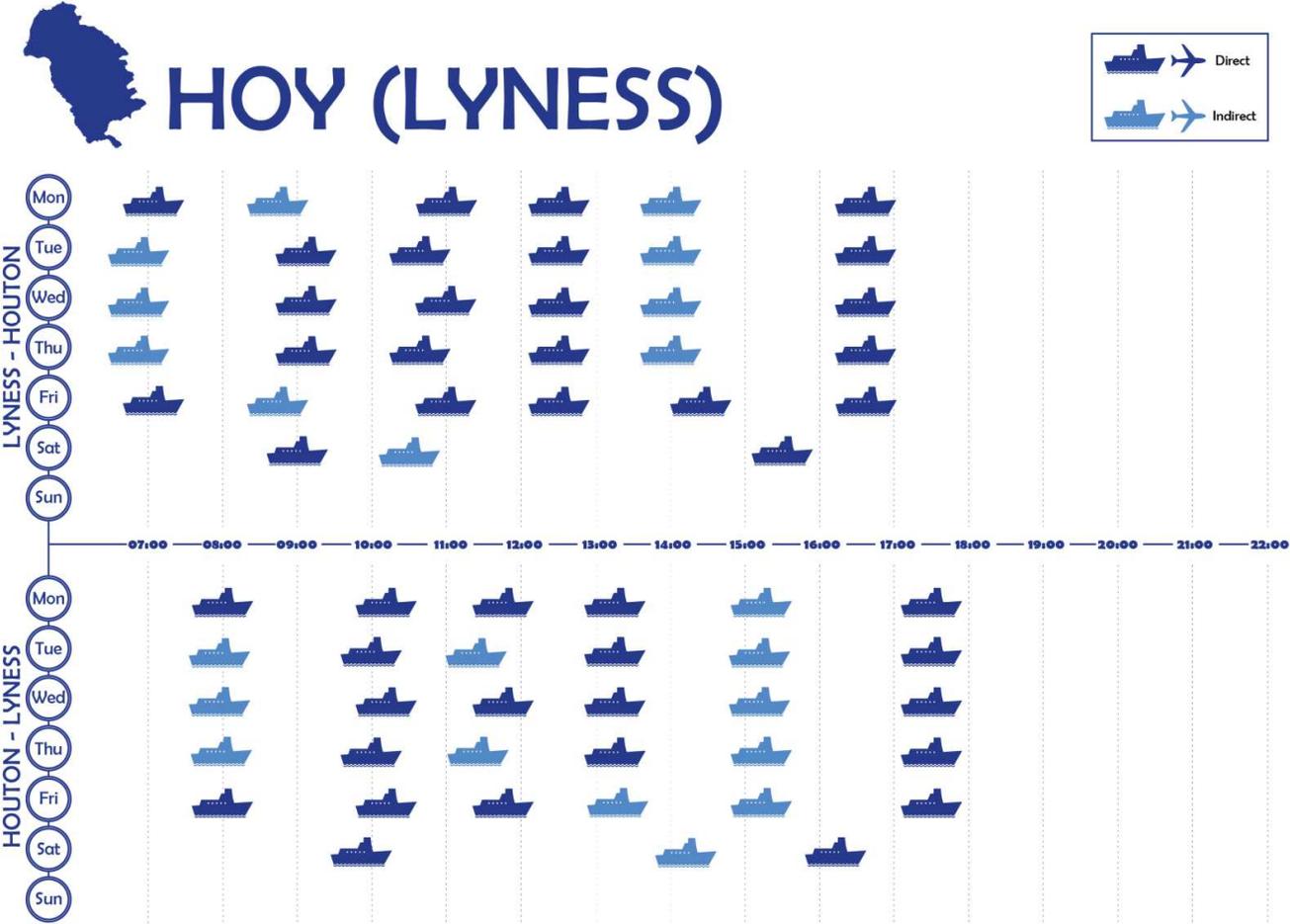
**Access for Disabled:** Access to vessel via steps – challenging for disabled persons

**Accommodation Issues:** Passenger numbers limited during winter

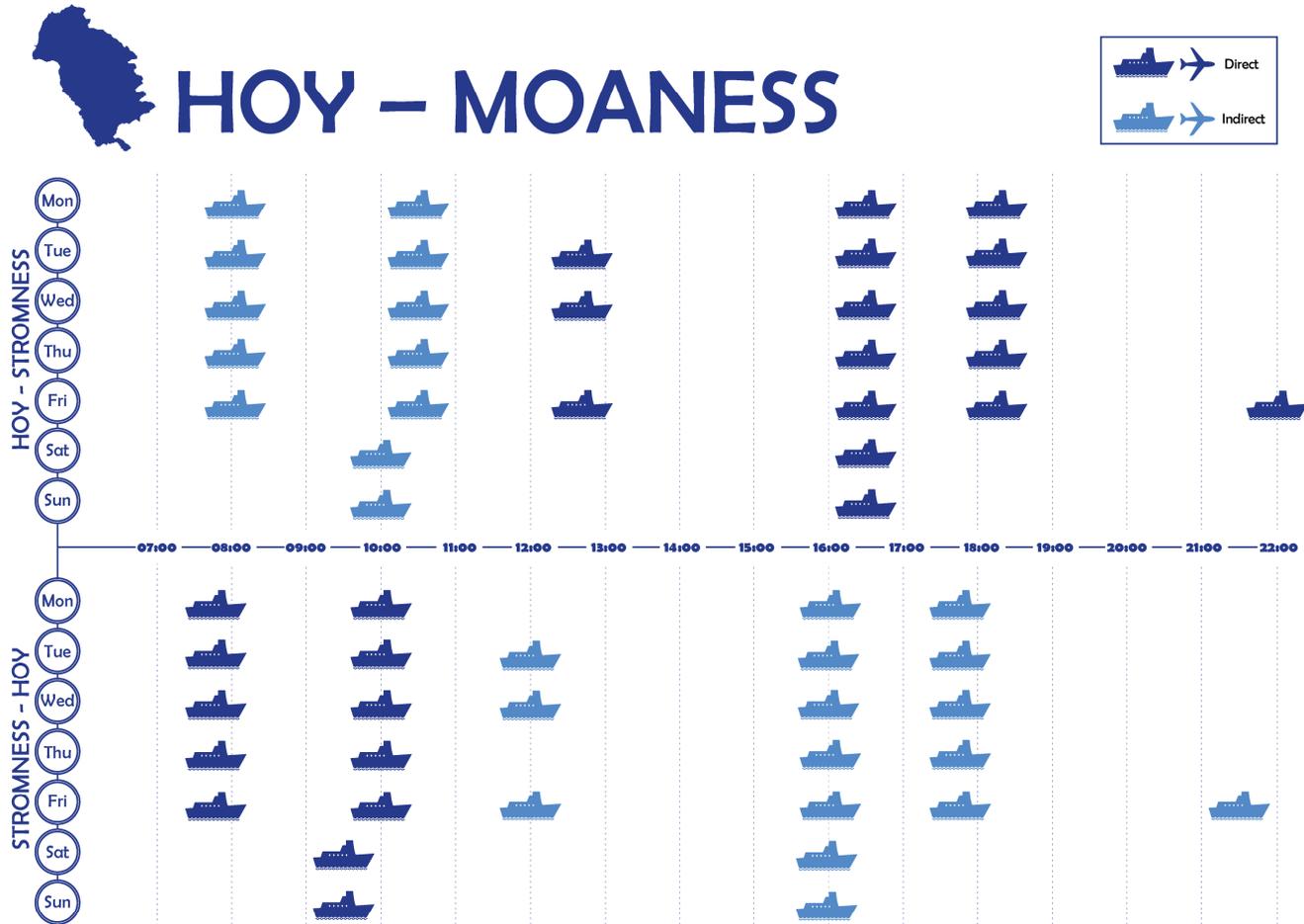
# Hoy (Lyness) - Current Summer Service – departures by day of week



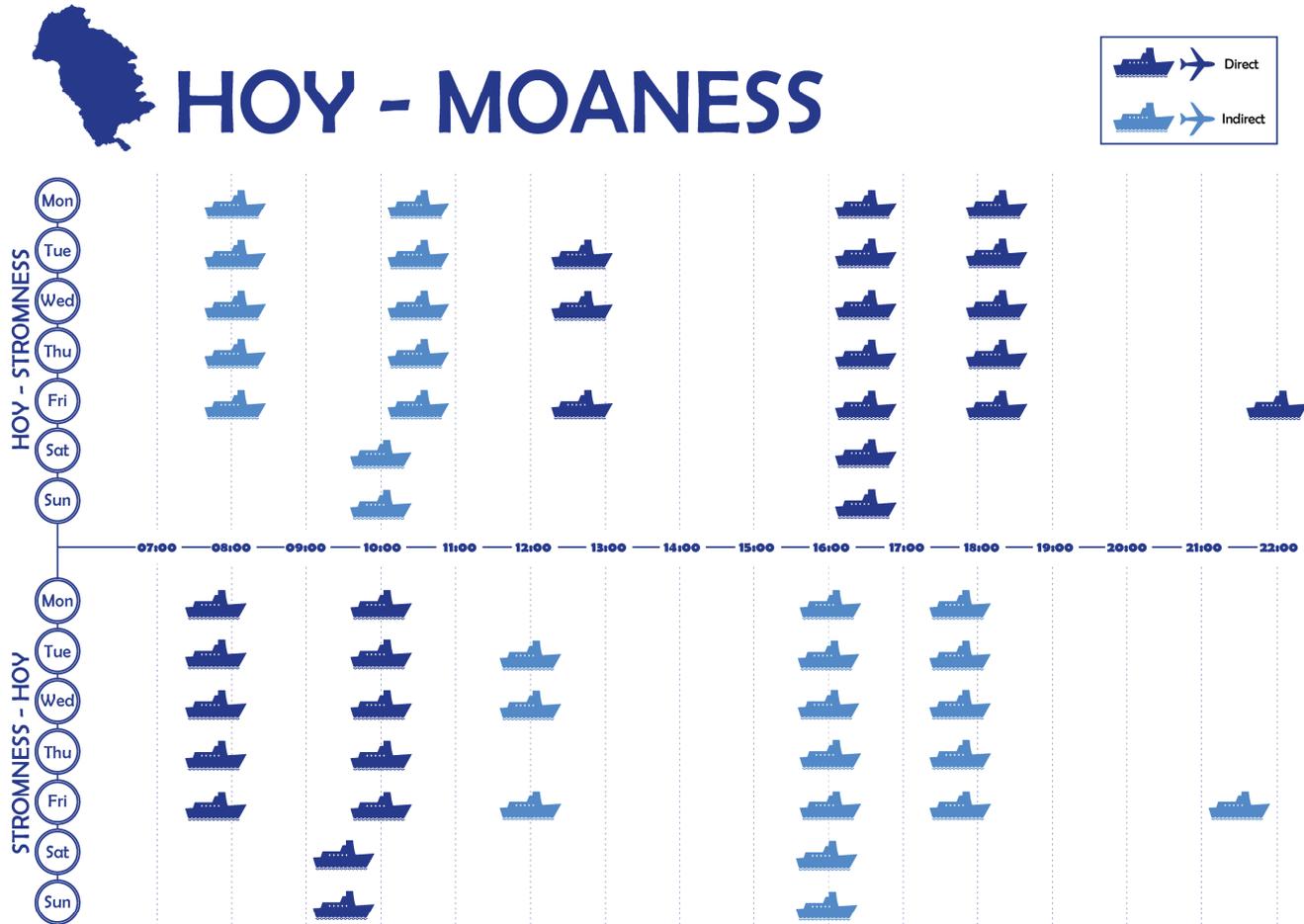
# Hoy (Lyness) - Current Winter Service – departures by day of week



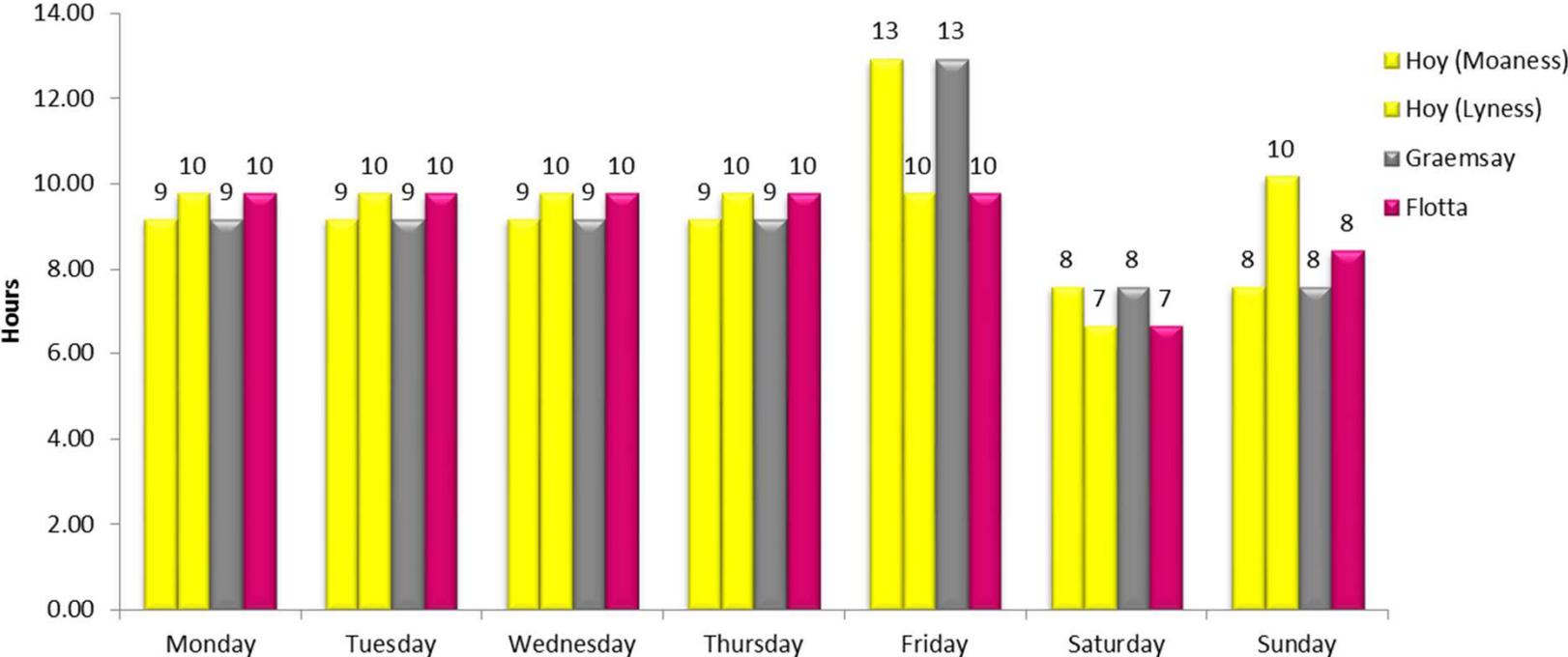
# Hoy (Moaness) - Current Summer Service – departures by day of week



# Hoy (Moaness) - Current Winter Service – departures by day of week



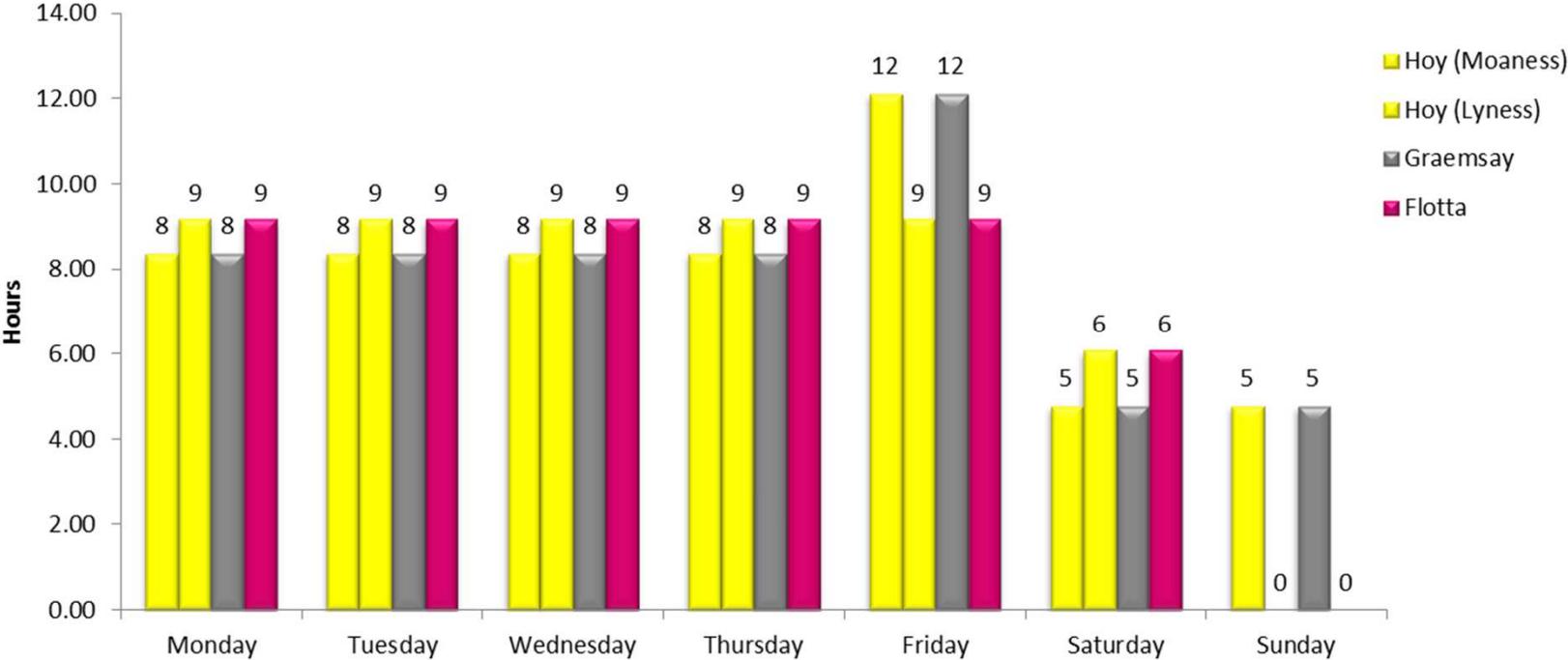
# Daily Time in Orkney Mainland – South Isles, Summer



- Hoy & South Walls residents get around 10 hours ashore each weekday in summer, although weekend time is slightly reduced. 13 hours is available on a Friday through using the Moaness service. This is less time than implied by the RSM, which suggests the need for an operating day in excess of 14 hours across the week
- Time on island is less than time on mainland as the ferry starts from Longhope / Stromness - visitors to Hoy & South Walls typically get around 10 hours on island each day in summer



# Daily Time in Orkney Mainland – Inner Isles, Winter



- Hoy / South Walls residents get around 9 hours ashore each weekday in winter, down one hour from summer. 12 hours is available on a Friday through using the Moaness service
- There is no Sunday vehicle service to / from Hoy
- Time on island is less than time on mainland as the ferry overnights at Longhope / Stromness.
- Visitors to Hoy & South Walls typically get around 10 hours on island on winter weekdays



# Problems, Objectives & Options



### Hoy, Lyness – Flotta – Houton, Transport Problems

	Service Characteristics	Rating	Why is this a problem or not?
1	Overall Journey Time to Kirkwall / Stromness	✓	The crossing time between Lyness / Flotta and the mainland is relatively short, although indirect crossings can add to the journey time. There are connecting bus services from Houton to Kirkwall and Stromness offering a relatively quick journey time overall.
2	First sailing / flight	✓	The first sailing departs Lyness and Flotta at either 06:50 or 07:10. This departure allows residents of both islands to commute to work and education on the mainland.
3	Last sailing / flight	✖✖	<p>The last departure from Houton is 17:30. Combined with the early first sailing, this permits a full working day on Orkney mainland (although only just as connections from Kirkwall or Stromness have to be made to Houton, with sufficient contingency built-in).</p> <p>The time of the last departure does not allow Hoy or Flotta residents to undertake evening social activities on Orkney mainland or connect with the last flights / ferries from the Scottish mainland (see below). It also curtails the length of day tourism visits to Hoy, given that the Moaness – Graemsey - Stromness route has a similar operating day.</p> <p>The length of the operating day is also less than that identified in the RSM model service provision.</p> <p>Flotta residents have access to the Talisman launch and can access the mainland outwith the core hours. However, this study is focussed only on future service provision from the perspective of Orkney Ferries.</p>
4	Time on mainland	✖	Shown on previous consultation boards.
5	Time in Kirkwall / Stromness	✖	See point 4. It should be noted that the time in Kirkwall & Stromness is slightly reduced by the need to connect from Houton.
6	Time on island	✓	Shown on previous consultation boards.
7	Frequency / Sailings per day / Timetable gaps	✓	With 4-6 rotations Monday – Friday (summer and winter), this route has a relatively high service frequency.
8	Capacity	✖✖✖	<p>Car deck capacity and deadweight limitations were alleviated to some extent by the lengthening of the MV <i>Hoy Head</i> in 2013, although car deck capacity does remain a problem on peak sailings.</p> <p>Carrying data from Orkney Ferries suggests that the 09:10 &amp; 16:40 sailings ex-Lyness and 10:15 &amp; 17:30 ex-Houton are the most frequently capacity constrained sailings, highlighting the commuter and day visitor nature of the route.</p> <p>Furthermore, the data suggests that, despite its frequency, the Houton – Lyness – Flotta route records the second highest number of standbys after Westray, suggesting an element of unmet demand.</p> <p>This situation could worsen in the relatively near future if any of the opportunities being pursued for the Lyness Enterprise Area are realised.</p>
9	Reliability (weather / mechanical)	✓	There are no major reliability problems on this route.
10	Comfort	✖	Whilst only a short crossing, the consultation suggested that the passenger accommodation being below the waterline detracts from the scenic journey to Hoy which tourists enjoy.
11	Physical access	✖	Whilst the passenger accommodation is below the water line, physical access is seen to be better than on most older vessels.
12	Integration with PT (local bus)	✓	Bus services to Kirkwall and Stromness connect with the ferry at Houton. The bus will wait up to 15 minutes for the late arrival of the ferry.
13	Integration with PT (strategic)	✖✖	<p>Users of the Lyness – Flotta – Houton route cannot catch the first flights to Aberdeen, Edinburgh and Inverness, although they can catch the first Glasgow and Sumburgh flights. Residents also cannot catch the first NorthLink or Pentland Ferries departures, although they can catch the 11:50 Pentland Ferries departure. The 11:00 NorthLink service from Stromness, which operates during peak timetable, can also be accessed.</p> <p>Evening integration is poorer – the last ferries of the evening from the Scottish mainland coupled with the flights from Aberdeen, Edinburgh and Inverness arrive after the last departure of the ferry to Lyness and Flotta.</p> <p>Trips to the Scottish mainland therefore require at least one off-island overnight stay.</p>
14	Crossing / flight time	✓	The crossing time between Lyness / Flotta and the mainland is relatively short.
15	Onboard facilities	✓	The onboard facilities are considered to be appropriate for the length of the crossing.
16	Weekday / weekend service variation	✖✖✖	<p>The Saturday service offers around half the number of connections that are available on a typical weekday. This level of connectivity is relatively low given the popularity of Hoy amongst tourists and day-trippers.</p> <p>There is a good summer Sunday service. However, the lack of a winter Sunday sailing (due to crewing hours) acts as a significant constraint on the islands. As well as curtailing the ability to undertake day trips to the mainland for personal business, it suppresses any inbound travel (particularly tourism).</p> <p>Moreover, if an island resident plans on travelling to the Scottish mainland on a Sunday, they will have to stay on Orkney mainland on the Saturday evening, at significant cost to themselves.</p>
17	Landside infrastructure issues	✖	Landside infrastructure in Lyness & Flotta is broadly fit for purpose. However, there is an ongoing debate as to whether the MV <i>Hoy Head</i> should berth overnight at Lyness (which would require harbour works) rather than at Longhope. The overnighting of the vessel at Longhope leads to an element of 'dead-legging' in the morning and evening, which takes up crewing hours and reduces the number of connections to the mainland. In addition, the vessel was recently damaged in a storm at its overnight berth.
18	Landside human resources	✓	Lyness & Flotta manage the challenges of landside human resources appropriately.

### Hoy, Moaness – Graemsay – Stromness, Transport Problems

	Service Characteristics	Rating	Why is this a problem or not?
1	Overall Journey Time to Kirkwall / Stromness	✓	The overall journey time between Moaness & Graemsay and Stromness is very short. The ferry berths in the heart of Stromness.
2	First sailing / flight	✓	The first sailing departs Moaness at 08:10 and Graemsay at 07:45 Monday – Friday. This departure allows residents of both islands to commute to work and education on the mainland.
3	Last sailing / flight	✖✖	The last departure from Stromness departs at 1745. Combined with the early first sailing, this permits a full working day on Orkney mainland. However, the time of the last departure does not allow Graemsay or Hoy residents to undertake evening social activities on Orkney mainland or connect with the last flights / ferries from the Scottish mainland (see below). It also curtails the length of day tourism visits to Hoy, given that the Lyness route has a similar operating day. The only exception to this is on a Friday evening when there is a 21:30 departure from Stromness.
4	Time on mainland	✖	Shown on previous consultation boards.
5	Time in Kirkwall / Stromness	✖	See point 4
6	Time on island	✓	Shown on previous consultation boards.
7	Frequency / Sailings per day / Timetable gaps	✓	With four rotations Monday – Friday (summer and winter) plus an additional freight sailing on Tuesdays, Wednesdays and Fridays and a late evening service on a Friday, this route has a relatively high service frequency.
8	Capacity	✖	Capacity is not an issue in terms of total demand. However, the MV <i>Graemsay</i> is a Lo-Lo vessel and can only carry a maximum of two small cars. This deadweight limitation presents a significant constraint on the Moaness – Graemsay – Stromness service, although multi-cats are chartered for use as required.
9	Reliability (weather / mechanical)	✖✖✖	Reliability on this route is relatively poor. Tidal constraints at Graemsay frequently lead to the service being rescheduled, whilst the piers at both Graemsay and Moaness are challenging to berth at and exposed to the weather.
10	Comfort	✓	The levels of comfort on the vessel are seen to be appropriate for the length of crossing.
11	Physical access	✖✖✖	The lack of Ro-Ro facilities and the challenging berths make disabled access to the ferry very poor.
12	Integration with PT (local bus)	✓	The ferry travels into the heart of Stromness. The X1 public bus service operates on a largely hourly basis to provide onward connections to Kirkwall.
13	Integration with PT (strategic)	✖✖	The Moaness – Graemsay – Stromness route does not allow Graemsay and Hoy residents to catch the first flights to Aberdeen, Edinburgh and Inverness, although they can catch the first Glasgow and Sumburgh flights. Residents also cannot catch the first NorthLink or Pentland Ferries departures, although they can catch the 1150 Pentland Ferries departure. The 1100 NorthLink service from Stromness, which operates during peak timetable, can also be accessed.  Evening integration is poorer – the last ferries of the evening from the Scottish mainland coupled with the flights from Aberdeen, Edinburgh and Inverness arrive after the last departure of the ferry to Graemsay and Moaness.  Trips to the Scottish mainland therefore require at least one off-island overnight stay (except on a Friday when there is a late evening sailing).
14	Crossing / flight time	✓	See point 1 above
15	Onboard facilities	✓	The onboard facilities are considered to be appropriate for the length of the crossing.
16	Weekday / weekend service variation	✖	Whilst there are fewer weekend than weekday services, the two rotations which operate on a Saturday and Sunday allow for a meaningful day return to be made to both the island and mainland.  However, one issue worth noting is that the ferry frequency on a Sunday, combined with the lack of a winter Sunday sailing between Lyness and the mainland may curtail Hoy's crucial tourism industry outwith the summer timetable period.
17	Landside infrastructure issues	✖✖✖	As previously noted, tidal constraints at Graemsay frequently lead to the service being rescheduled, whilst the piers at both Graemsay and Moaness are challenging to berth at and exposed to the weather.
18	Landside human resources	✓	There were no issues in relation to landside human resources picked up through the consultation.  The relatively low population of Graemsay and ongoing need for Lo-Lo facilities could present a long-term challenge in terms of meeting the landside needs of the service.

# Study Objectives

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

- **Transport Planning Objective 1:** The capacity of the ferry services should not act as a constraint to regular and essential personal, vehicular and freight travel between the island and Orkney mainland.
- **Transport Planning Objective 2:** Where an island has a 'commutable' combined ferry or drive / public transport / walk time to a main employment centre (e.g. 80 minutes), the connections provided should reliably facilitate commuting.
- **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 Orkney mainland.

# Hoy & South Walls – Lyness-Flotta-Houton – Capital Options

In the light of the analysis of transport problems and objectives, the following **capital options** have been identified for Hoy & South Walls for the ***Lyness-Flotta-Houton*** route

- *Note that any new vessel would comply with all current regulations*
- *Options for Hoy & Walls are combined with those for Flotta*
- Option CO1: Replace the MV *Hoy Head* on a like-for-like basis
  - Vessel would carry approximately 25 cars
- Option CO2: Replace MV *Hoy Head* with one larger vessel
  - Vessel would carry approximately 30-35 cars
- Option CO3: Replace MV *Hoy Head* with two like-for-like vessels
  - Vessels would carry approximately 25 cars
  - 16-18 hour day operated by two vessels
- Option CO4: Passenger only vessel to supplement CO1 or CO2 (Lyness – Houton only)
- Option CO5: Provide an overnight berth at Lyness
  - Would allow time for Longhope repositioning to be recycled into timetable
- Option CO6: Supplement Option CO3 with a new harbour in Mid-Hoy
  - 16-18 hour day operated by two vessels

# Hoy & South Walls – Lyness-Flotta-Houton – 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 Hoy / Walls (in combination with Flotta) for the Lyness-Flotta-Houton route:

- Option RO1: Provide 20% additional crewing hours
  - This option would provide around 16-17 extra crewing hours per week
- Option RO2: Adopt a crew shift system, providing a 16 hour operating day
  - This option would involve a dayshift and backshift crew, providing a minimum 16 hour day

*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 – Lyness-Flotta-Houton

Option	Take Forward (✓) or Reject (✗)	Rationale for Selection / Rejection
Option CO1 (Do Minimum): Replace the MV <i>Hoy Head</i> on a like-for-like basis	✗	Capacity issues identified on the route would not be resolved with one vessel of a similar carrying capacity. The vessel is fully utilised during the peak period & there is therefore no scope for providing additional services when most required.
Option CO2: Replace the MV <i>Hoy Head</i> with one larger vessel	✓	Would offer a step-change in capacity. More intensive operation could be delivered through additional crewing hours.
Option CO3: Replace the MV <i>Hoy Head</i> with two like-for-like vessels	✓	Would offer a step change in capacity and frequency, although a higher cost option.
Option CO4: Supplement Option CO2 with a passenger only vessel between Lyness & Houton	✓	Offers potential low cost extension of the operating day on the route, although without the vehicle access element.
Option CO5: Provide a new overnight berth at Lyness	✓	An overnight berth at Lyness would remove the Longhope dead-legging and allow the time to be recycled into the timetable. However, note that the crew are Longhope based.
Option CO6: Supplement Option CO3 with a new harbour in Mid-Hoy	✗	The cost of this option is very high in the context of the benefits offered by it.
Option RO1: Provide 20% additional crew	✓	Relatively low cost option for marginally extending the length of the operating day.
Option RO2: Adopt a crew shift system – minimum 16 hour day	✓	Whilst a high cost, option, it would transform access to Hoy & South Walls

# Hoy & South Walls – Moaness-Graemsay-Stromness – Capital Options

In the light of the analysis of transport problems and objectives, the following **capital options** have been identified for Hoy & South Walls for the **Moaness – Graemsay – Stromness** route

- *Note that any new vessel would comply with all current regulations*
- *Options for Hoy & South Walls are combined with those for Graemsay*
- Option CO1: Replace the MV *Graemsay* with a like-for-like Lo-Lo vessel
- Option CO2: Replace MV *Graemsay* with a larger capacity Lo-Lo vessel
- Option CO3: Replace the MV *Graemsay* with a larger capacity Ro-Ro vessel
  - Vessel would be capable of carrying a small number of cars
  - Costed options for a hard ramp and tidal ‘block’ solution at Graemsay
- Option CO4: Lengthen Moaness Pier

## Hoy & South Walls – Moaness-Graemsay-Stromness – 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 Hoy & South Walls for the Moaness–Graemsay–Stromness route

- Option RO1: Maximise service intensity with current operating hours
  - This option could provide a small number of additional services within the current operating day
- Option RO2: Provide 20% additional crewing hours
  - This option would provide around 16 extra crewing hours per week
- Option RO3: Adopt a crew shift system, providing a 16 hour operating day
  - This option would involve a dayshift and backshift crew, providing a minimum 16 hour day

*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 – Moaness-Graemsay-Stromness

Option	Take Forward (✓) or Reject (✗)	Rationale for Selection / Rejection
Option CO1 (Do Minimum): Replace the MV <i>Graemsay</i> with a like-for-like Lo-Lo vessel	✗	Current deadweight restrictions on the MV <i>Graemsay</i> are a significant limitation and it would be beneficial if new tonnage could overcome this issue.
Option CO2: Replace the MV <i>Graemsay</i> with a larger capacity Lo-Lo vessel	✓	This option would to some extent alleviate the deadweight constraints associated with the current vessels whilst offering an overall increase in capacity.
Option CO3: Replace the MV <i>Graemsay</i> with a Ro-Ro vessel	✓	This option could be genuinely transformational for Graemsay & North Hoy, providing relatively easy vehicular access to both islands.
Option CO4: Lengthen Moaness Pier	✓	This option should be taken forward for consideration as it would support improvements in reliability, a key evidenced problem with the existing service.
Option RO1: Maximise operating intensity of current crew	✓	Low cost option which would offer a small increase in the number of connections over the week.
Option RO2: Provide 20% additional crew	✓	Relatively low cost option for marginally extending the length of the operating day.
Option RO3: Adopt a crew shift system – minimum 16 hour day	✗	Whilst this option would transform access to Graemsay and Moaness, the crewing resource required to operate this level of service would appear disproportionate to the population and catchment area served, particularly if there are improvements between Houton and Lyness.

# 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/OIITS-Inner\\_And\\_South\\_Isles](https://www.surveymonkey.co.uk/r/OIITS-Inner_And_South_Isles)

