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ORKNEY INTER-ISLES CONNECTIVITY

Overview of STAG STUDY – June 2007

Introduction and overview of process

Orkney Islands Council has direct responsibility for the provision of lifeline ferry and air services between the Mainland of Orkney and the isles. The ferry service is provided through a wholly-owned subsidiary company of the Council, Orkney Ferries Limited, and the Council also contracts for an inter-isles air service between Kirkwall and the six Outer Isles, under a Public Service Obligation.

A variety of problems exist on all the inter-isles services, which in some instances are becoming particularly acute. The three Outer North Isles vessels are regularly operating in open seas over significant distances, which in the UK is unique to Orkney for a Local Authority operation. After 1 July 2010 none of the three of the vessels will meet regulatory requirements and none will be able to operate the Outer North Isles network. There are significant capacity constraints right across the ferry and air network, and most notably in the summer months. Due to it being an ageing network, passenger comfort and facilities for passengers with reduced mobility are quite often limited. The cost burden for the Council of sustaining the air and ferry network to the isles is significant, and annual costs have been escalating recently, including as a result of the transport equipment and infrastructure ageing. These and other problems, and the constraints that they create for the isles, have prompted the STAG study.

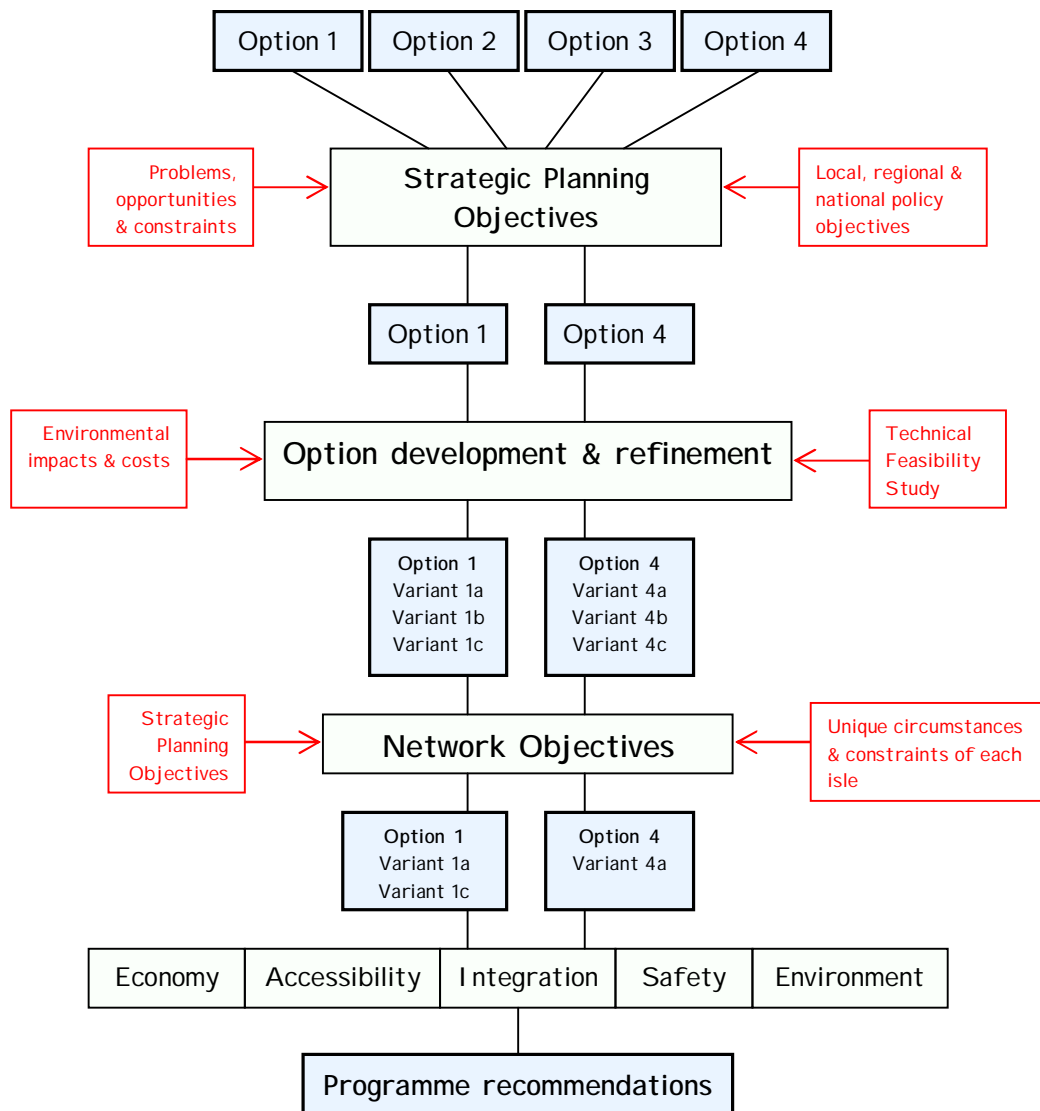
STAG stands for Scottish Transport Appraisal Guidance. It is a requirement of the Scottish Executive that all projects for which it provides support or approval should be appraised in accordance with the guidance. The study has the aim of establishing what option or options will be best placed to overcome the problems, constraints and opportunities that present themselves in the isles communities. The STAG requirements in undertaking such a study are comprehensive and multifaceted. Unlike road studies (which have DMRB¹) and rail studies (which have GRIP²), there is no such design and planning process for the development of a ferry or air link, let alone a ferry and air service network. The Council has been working with the Scottish Executive and Transport Scotland in undertaking the STAG study.

The figure overleaf shows the STAG process that has been undertaken for this study. The process started by establishing strategic planning objectives, reflecting the problems, opportunities and constraints for the isles, and relevant local, regional and national policy objectives. A number of different options for what could be done were then tested to see if they would satisfy these planning objectives. The options which passed this test, were then developed and refined, taking into account all the information that the Council has gathered over the last few years through a number of different studies, and also taking into account potential significant environmental impacts and costs. A number of option variants emerged from this process. At the same time, tailored and targeted network objectives were developed for the inter-isles network, which reflect both the strategic planning objectives, and also critically, the unique circumstances and constraints felt individually by each of the isles.

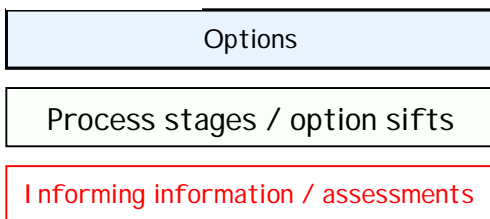
¹ Design Manual for Roads and Bridges.

² Guide to Railway Investment Projects.

Each of the option variants were then tested to see if they would satisfy the network objectives. The option variants which passed this test are now being presented for consideration. These option variants will also be assessed against the Government’s five tests for transport, which are tests in respect to the Economy, Accessibility & Social Inclusion, Integration, Safety and the Environment. In parallel to this process a Strategic Environmental Assessment is being undertaken to inform the study, and to assess the significant environmental impacts of the resulting programme.



Key:



Strategic planning objectives

The key strategic outcomes that a strategy resulting from this study should achieve are to:

- Grow employment and the business base across the isles.
- Enable residents and businesses better access to mainland services.
- Make the isles more attractive as a residential, social and community base.
- Integrate Orkney labour markets.

These outcomes will be achieved if we are able to deliver a strategy of intervention in the network that will satisfy the following strategic planning objectives:

- Facilitate more frequent and faster connections for work and non-work purposes.
- Facilitate more tourist travel to the isles.
- Reduce business costs and improve business efficiency.
- Increase connectivity to the Orkney Mainland.

In addition to these planning objectives, community and network sustainability are key issues for the Council. Sustainability of the isles communities is only possible if the transport system on which they depend can be maintained and improved in a financially sustainable manner. Therefore, it is vital to include a final deliverability objective, such that the network is developed and delivered to meet the above objectives in a financially sustainable manner.

Strategic options

A number of strategic options were generated by drawing upon consultation with key stakeholders, a review of existing transport proposals and the work of previous studies, and an option development exercise. The strategic options which were tested for their ability to satisfy the Strategic Planning Objectives were:

- **Do minimum** – no improvements in the network.
- **Enhance inter-isles ferry services** – which could comprise a wide range of variants.
- **Enhance and/or rationalise air services** as part of the transport mix to the isles.
- **Reduce the need to travel between the mainland and the isles** – providing additional services on the isles, enhancing broadband and teleworking opportunities and/or introducing car clubs to assist people to travel without their own car onboard the ferry for example.
- **Fixed links** – connecting some of the isles by fixed links, which could be tunnels, causeways or bridges.

From the assessment of these options against the Strategic Planning Objectives, it was concluded that the **do minimum** option performs poorly, while **enhancing the ferry network** performs very well. The options of **enhancing and/or rationalising the air services** and **reducing the need to travel** can both make contributions to the objectives, although do not satisfy them entirely. The **fixed link** option gives the best fit against the planning objectives, yet would be the highest cost option and presents potentially challenging technical risks and constraints, and could only benefit some of the isles.

Following consideration of all the available information and a scoping of the impacts of each of the five strategic options against the Government’s five tests for transport, it has been concluded that the **enhancing inter-isles ferry services** option should be taken forward in the study, together with an assessment of the **enhance and/or rationalise air services** option, to assess how the two could best be developed to deliver the study outcomes and to complement one another.

Network objectives

Considering the inter-isles connections to the mainland comprise a particularly complex network, in order to undertake any further development and refinement of the strategic options for the network, tailored Network Objectives have been defined. These Network Objectives build on the Strategic Planning Objectives introduced earlier, and tailor these to be appropriate and commensurate for each of the isles.

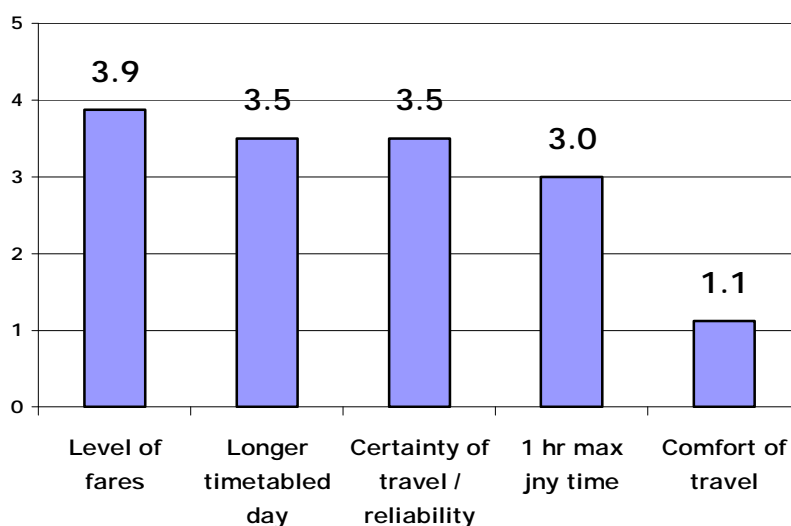
A number of inputs have helped shape the Network Objectives, drawn from meetings of the Transport Representatives of each of the isles Community Councils, and from the work undertaken by Voluntary Action Orkney as part of developing the updated Orkney Community Plan 2020. Community Engagement sessions facilitated by VAO identified the top three priorities for each of the isles, which were as follows:

Isle	Priority 1	Priority 2	Priority 3
Eday	ENVIRONMENT	TRANSPORT	HOUSING
Eglisay	TRANSPORT Improved ferry services	TRANSPORT Fixed link (for)	TRANSPORT Fixed link (against)
Flotta	HEALTH Health Care	TRANSPORT Transport	TOURISM Tourism/Heritage
Graemsay	TRANSPORT Ferry services	POLLUTION AND WASTE CONTROL Recycling facilities	SPORT, LEISURE AND THE ARTS Community facilities
Hoy	EMPLOYMENT Employment	TRANSPORT Ferry Services	HOUSING Housing
North Ronaldsay	HOUSING Housing issues	TRANSPORT Transport issues	LEARNING AND TRAINING Children away from home, living in the hostel
Papa	ENVIRONMENT Becoming	EMPLOYMENT Small	ENVIRONMENT Planning

Isle	Priority 1	Priority 2	Priority 3
Westray	an Environmentally Aware community	Industries to Retain and Attract Young People	Regulations to Protect the Built Environment
Rousay	HEALTH Retaining a GP on the island	TRANSPORT A fixed link to the mainland	BUSINESS Supporting and encouraging businesses
Stronsay/ Papa Stronsay	HOUSING Housing	HERITAGE Preservation of the Natural Heritage	ENERGY AND CLIMATE CHANGE Renewable Energy
Westray	TRANSPORT Air Ambulance	HEALTH Commitment by NHS Orkney to Provide Services	TRANSPORT Ferry based in Westray
Wyre	TRANSPORT Ferry fares	HOUSING Council house letting policy	ENVIRONMENT Geese

At a STAG consultation workshop in May 2006 a poll was taken amongst participants, which asked which key attributes of the inter-isles service they would most like to see improved. Attributes were ranked from one to five, with five being the most important and one being the least important. The results of the poll are shown in the chart.

All of these factors and inputs, together with other inputs, for example from the Development Trusts on the isles, and from work undertaken by Highlands and Islands Enterprise, have informed the nature of the Network Objectives:



- **North Ronaldsay:**

- A daily connection to / from service centre / tourist gateway providing a minimum of five hours on the mainland or island.
- Improve connectivity to the mainland in terms of capacity for building and livestock goods, and for perishable and frozen goods.

- **Eday, Papa Westray, Sanday, Stronsay and Westray:**

- A daily connection to / from service centre / tourist gateway. including providing a minimum of eight hours on the mainland and five hours on the island on at least three days per week.
- Link availability to / from the service centre / tourist gateway in order that connection can be made on at least 96% of available connections.

- **Rousay, Egilsay and Wyre:**
 - Improve connection reliability so that connection is available for 90% of the year.
 - Link availability to the mainland in order that connection can be made on at least 96% of available connections.
- **Shapinsay:**
 - Improve connection reliability in order that connection is available for 90% of the year.
 - Improve connectivity to the mainland in terms of capacity for the carriage of heavy goods.
- **Graemsay:**
 - Improve connectivity to the mainland, especially in terms of connections for heavy goods.
- **Flotta and Hoy:**
 - Improve connectivity to the mainland, especially in terms of connection capacity, and both in relation to space and the carriage of heavy goods.

Option development and refinement

The Council, with the support of the Scottish Executive, appointed consultants in autumn 2006, to carry out a study of the possible ferry and terminal enhancements, drawing in the first instance from the outcomes of earlier studies, and also taking the opportunity to consider anything that had not previously been developed or considered, in association with aiming to develop option variants that would achieve the Network Objectives.

The process has taken into account the key factors that are critical to the pursuance of efficient, comfortable, sustainable and safe connections for the isles, for both passengers and freight, which are: *European Commission compliance; operational constraints; compatibility of vessels and infrastructure; crewing and timetabling; changes in propensity to travel; environmental protection; health and safety legislation; and cost implications.* As mentioned earlier, the sustainability of the network, in terms of the cost to operate it, is a key issue for the Council. In terms of the ferry network it is possible to utilise the full workable life of all the present vessels, by relocating some of them around the network following the introduction of some new vessels, and after modifications and enhancements as is required. This enables the Council to achieve the best value from the existing vessel asset, while also providing short terms benefits to all of the isles.

The development work led to a long list of potential variants of the two main options in the study. The two main options were **enhancing inter-isles ferry services** and the **enhance / rationalise air services** option. The variants then being:

- **Enhancing inter-isles ferry services:**

- Preserve ferry service network as at present albeit with new compliant vessels as needed and optimised cascade of other existing vessels as appropriate and viable. With this variant the network would operate much as at present with the same number of vessels, and operating to the same terminals.
- Network restructure based around a hub and spoke design, and with new compliant vessels as required, and an optimised cascade of other existing vessels as appropriate and viable. Consideration has been given to restructuring the network to operate with a hub or hubs, other than on the mainland. With the geography of the isles, Eday and Shapinsay lend themselves to such an arrangement. The Outer North Isles network could feed into a (new) terminal on the north coast of Shapinsay. Using a road connection across Shapinsay, traffic would then board a further vessel from a (new) terminal to the south of Shapinsay for a short crossing to the mainland, landing at a (new) terminal in the vicinity of Carness or Head of Work. Alternatively, the Outer North Isles network could feed through Eday, either to the existing terminal or a (new) terminal to the north of the isle. A feeder service could then link from Eday into Kirkwall direct, or via Shapinsay. This latter routing (via Shapinsay) would create significant 'disturbance' in the journey though, which would perhaps be abated if the connection from Shapinsay could be a fixed link at some time in the future. However, a fixed link option has been considered extensively and rejected on the grounds of costs and Value for Money, and is not considered in this study as a solution for the short-medium term.
- Network restructure based around optimisation of operational constraints / opportunities, and with new compliant vessels as required, and an optimised cascade of other existing vessels as appropriate and viable. In addition to the hub concept, other opportunities present themselves in the topography of the network for reducing existing operational challenges. Candidates here are:
 - § Link **North Ronaldsay** to a (new) terminal on the north coast of Sanday, and then onward travel would be via a road connection and sailing from the existing Sanday terminal at Loth.
 - § Link **Papa Westray** to Westray (where there is presently a passenger-only connection), and then onward travel would be via a road connection and sailing from the existing Westray terminal at Rapness.
 - § Relocate the **Stronsay** terminal from Whitehall, which is located to the north east of Stronsay, while the approach from Kirkwall and the other Outer North Isles is from the west. Optimally, the Stronsay terminal would be located therefore to the west side of the isle.
 - § Relocate the **Hoy** terminal northwards to an area in the vicinity of Bring Head to reduce the sea time between Hoy and the mainland.

§ Re-route the **Hoy** connection to Stromness from its present connection to Houton on the mainland.

§ Relocate the **Egilsay** terminal from the north west of the isle to the south west of the isle to reduce the sea time between the three isles of Rousay, Wyre and Egilsay.

• Enhance / rationalise air services:

- Preserve air service as at present under the Public Service Obligation, with subsequent repeat tendering exercise at end of existing contract period (2009). The variant will seek to improve the present provision, for example, following an assessment of service usage over a full year, proposals could be taken forward to optimise the timetabling of flights.
- Provide additional capacity and flexibility in network to cater for present (and future) latent demand. This variant includes consideration of larger and/or additional planes to provide additional capacity in the network. The variant also includes consideration of airstrip lighting for example to increase the flexibility in timetabling the network.
- Rationalise air service network, focussing on lifeline connections where particular needs are not met by the ferry service operation. Depending upon the nature of the ferry service option variants that are taken forward, it may be possible to concentrate the air service only on links which do not have the network objectives fully satisfied by the ferry enhancement programme. For example, a much improved Outer North Isles ferry provision, especially accompanied by the removal of operational constraints, may be able to fully satisfy the network objectives with the ferry service alone. Therefore it will be possible to significantly reduce the air service provision to these isles, while enhancing provision associated for example with any isle whose ferry service is less frequent.

Each of these option variants has been assessed in terms of their operability, and other key determinants that will need to be considered later as part of the STAG, for example impacts on the environment and costs. The following table presents a summary of this assessment for the option variants.

	Option variant	Assessment
1	Network operates as at present	Existing timetable constraints in the Outer North Isles service will remain. As demonstrated recently this includes the difficulties associated with improving provision to the most remote isle – North Ronaldsay – which presently receives just one boat per week. The situation is improved (including for all the Outer North Isles) by upgrading the North Ronaldsay terminal so that it can operate at all states of the tide.

	Option variant	Assessment
2	Hub and spoke design network	Capital costs would be significant, including construction of new terminals, road upgrades and construction of a number of differing vessels. Additional traffic through Shapinsay, including Heavy Goods Vehicles, could negatively affect the nature of Shapinsay. The variant includes an inherent single point failure risk within the operation, for example the mainland link vessel or weather problems at the Shapinsay or Eday crossing. Variant introduces a number of interchange penalties for users, even if the overall journey length could be kept the same or improved.
3a	Optimised network design	North Ronaldsay - With the requirement to upgrade North Ronaldsay terminal as mentioned above, and the likelihood that a service to Sanday would be prone to disruption due to use of a smaller size of vessel, and the need for a new terminal in a SAC/SPA area on Sanday, this option presents as untenable.
3b		Papa Westray - Pragmatic approach to improving Papa Westray service and reducing constraints within the present operation to the Outer North Isles. An existing vessel could be utilised, and has the potential to deliver a significant enhancement to the Papa Westray connectivity to both Westray and the mainland.
3c		Stronsay - Although there are larger capital costs associated with constructing a new terminal than upgrade to present terminal, this presents significant operational and journey / connectivity benefits to both Stronsay and the rest of the Outer North Isles network. The existing terminal also requires ongoing maintenance dredging to sustain the access.
3d		Hoy (Bring Head) - Although time at sea could be reduced, the requirement to upgrade the road would be at significant expense, and additional road miles, including by a significant volume of HGVs, would result.

	Option variant	Assessment
3e		Hoy/Flotta (Stromness) - Increased time at sea could be offset by the opportunity to better integrate internal transport services, and with the external connections to the Scottish Mainland. Increase in sea time is not significant (approximately 10 minutes) as the existing passage into Houton is difficult via the buoyed channel. Opportunity for an increase in vessel size, that could not be accommodated at Houton terminal without significant capital and revenue implications, and which would be of significant benefit to Hoy and Flotta.
3f		Egilsay – The terminal at Egilsay is of a relatively good standard, and would not require significant works to accommodate an appropriately cascaded vessel. At the end of the operational period of a cascaded vessel, it would be sensible to review the whole service provision to Rousay, Egilsay and Wyre, and at which point positioning of terminals could be considered.
4	Air service network operates as at present	Existing constraints remain, with competing demands placed upon the air service, both within and between isles. This would remain the case with this option variant. Some enhancements / efficiency gains could be achieved by minor modification of the existing network, recycling low-utilisation rotations to periods when demand significantly exceeds supply for example. The air service is a significant cost to the Council, and in some instances over the week is duplicating the ferry service provision.
5	Additional air service network capacity and flexibility	Additional capacity in the network would be readily utilised, if timings were appropriate for when people want to travel. For example, a two plane operation throughout the year would increase the availability of time in the isle or on the mainland from all of the isles over the summer period. For example also, the provision of airstrip lighting in some/all the isles would increase the flexibility of the provision to start earlier and/or finish later in the dark winter months. The same comments also apply to this option variant as the previous, especially in relation to service duplication with the ferry service and the cost of the air service operation for the Council, which in this case would undoubtedly increase, and by a significant amount.
6	Rationalis	This option variant would see a focus of attention on those

	Option variant	Assessment
	ed air service network	connections which are not fully satisfied by the ferry service alone. Depending on the nature of the ferry service option variants that are taken forward, this is likely to include North Ronaldsay and perhaps Papa Westray. A focus on these links could see an enhancement in the connections, in terms of timings, capacity, airstrip lighting etc. to assist in delivering a service that is comparable to that provided to other isles by a ferry service. This option variant could reduce the cost of providing the air service for the Council, but perhaps only following some capital investment.

The whole of the STAG study has reaffirmed the case that the network under consideration is a hugely complex one. In addition to consideration being given to the structure of the network, consideration has also been given to the way in which the network functions, in other words the specifications of the ferry fleet and the aircraft that are used to operate the network.

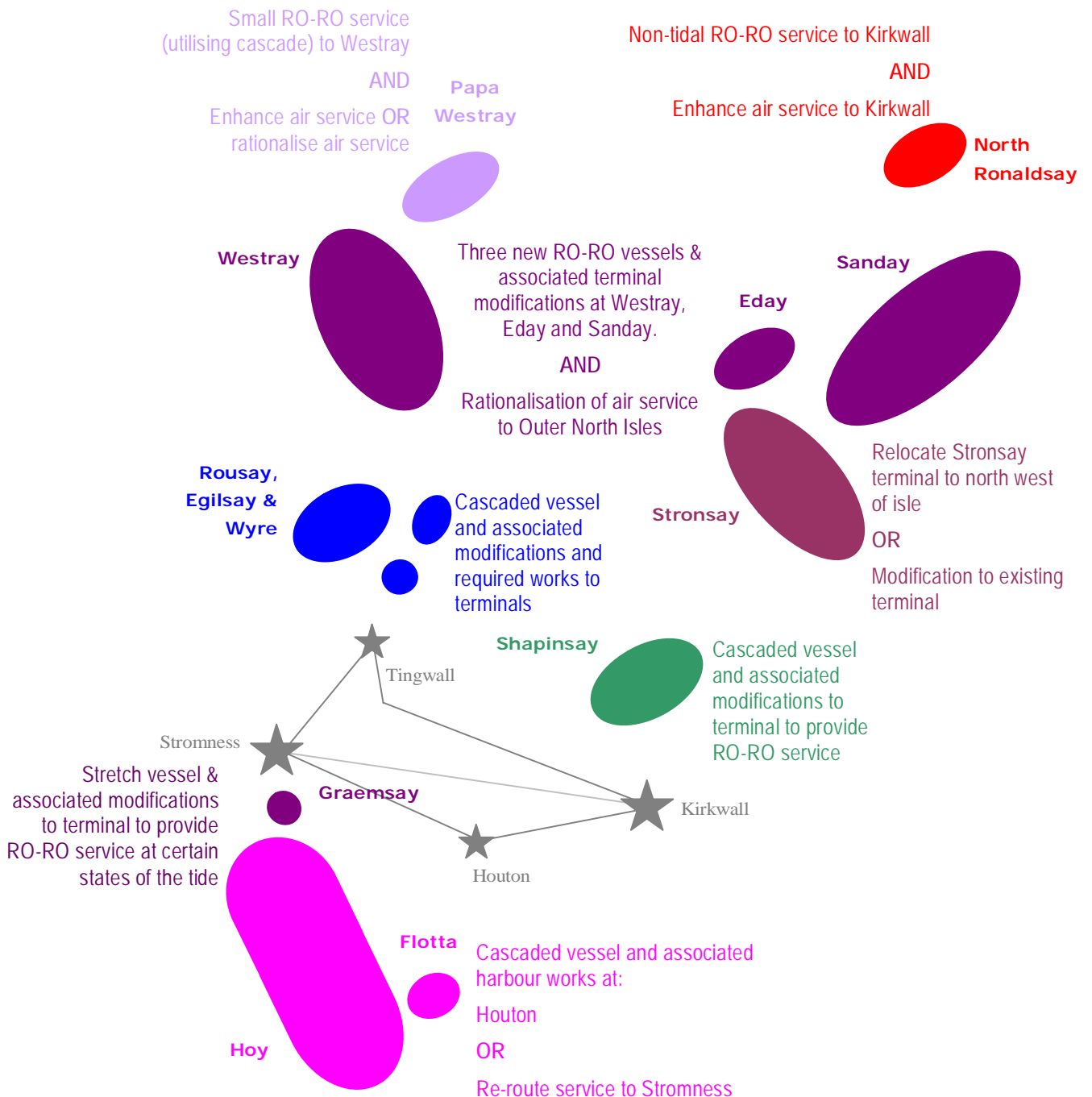
In terms of the Inner and South Isles, single vessel operations are sufficient and can be accommodated by using a cascade of existing vessels in the fleet, at least in the short term. In the case of the Outer North Isles, the existing vessels will not be operable in these waters from the 1st July 2010, and so new vessels will be required in order to sustain the links.

The geography of the network here is such that any number of timetable configurations are possible, albeit with varying constraints associated with the option variants that have been discussed. In trying to achieve the Network Objectives consideration has been given to the number of vessels required in the network. At present the Outer North Isles network has a three vessel operation. Given the opportunity to reduce the constraints in the network through a combination of providing a link service between Papa Westray and Westray, relocating the Stronsay terminal and upgrading the North Ronaldsay terminal, consideration has also been given to whether the network can be sustained with just two, rather than three, main vessels. A two vessel operation to Westray, North Ronaldsay, Sanday, Stronsay and Eday would result however in severe timetable and capacity restrictions, and especially during the ferry refit period or breakdowns. The option of having just two vessels capable of operating the Outer North Isles network struggles significantly in terms of meeting the Network Objectives for the isles.

Programme recommendations

From the assessment of option variants above, together with an assessment of future demand and the operating conditions for the inter-isles network, the remaining variants that present themselves to be taken forward for full appraisal are as shown in

the figure. The figure shows the programme recommendations across a schematic of the isles, and should be considered in conjunction with details on the optimised cascade of vessels around the network, which follow.



An optimised cascade has been identified as a pragmatic approach to enhancing the whole network. In the Outer North Isles:

- New RO-RO terminals will be required at North Ronaldsay, Stronsay, Papa Westray and Pierowall:
 - **North Ronaldsay:** this will be a linkspan operation at the same location as at present, and will be operable at all states of the tide. The linkspan will significantly enhance North Ronaldsay connectivity, especially for the movement of heavy goods. The ability to operate to North Ronaldsay at all states of the tide will deliver benefits for both North Ronaldsay and all the other Outer North Isles by removing the greatest challenge in the present operation of the Outer North Isles network.
 - **Stronsay:** this will be a linkspan operation at a new location on north west coast of the isle. Sea access to the existing Stronsay terminal is via a long buoyed channel, which involves some tight manoeuvres, all of which add to the journey time. This is in addition to the existing terminal being located away from the main routes, therefore adding even more time to journeys, and therefore putting constraints on the whole of the Outer North Isles timetable. The channel also requires regular maintenance in terms of dredging. Relocating the terminal to the west side of Stronsay could overcome these issues. With a shorter sea journey there will be less consumption of fuel and timetable constraints for all of the Outer North Isles network will be reduced, as well as journey times to Stronsay.
 - **Papa Westray and Pierowall:** these will be hard ramps in the existing port areas. The hard ramps will allow a RO-RO connection through Westray to Kirkwall, avoiding the need for lifting goods on and off the ferry. Through connections to the mainland will be much improved and the enhancement provides flexibility which could deliver an increased frequency for Papa Westray. The connection will support local employment, and also removes the requirement for one of the main Outer North Isles vessels to travel to Papa Westray, which provides more flexibility in the timetabling of the network for the other Outer North Isles.
- Terminals will also require modification at Eday, Sanday and Westray.

The new and modified terminals across the Outer North Isles network need to be completed within the first 3-4 years of the programme. This will enable the terminals to accommodate the proposed new Outer North Isles vessels, and a cascaded mv Eynhallow in the case of the Westray to Papa Westray service. The proposed new Outer North Isles vessels take account of regulatory requirements for domestic passenger vessels, existing and forecast capacity demands, and a

desire to optimise the efficiency of the vessels to improve their environmental footprint. This will deliver significant improvements to passenger comfort and the physical accessibility of the vessels; shorter journey times; and a reduction in incidents when people are unable to travel. Those present terminals that are used for overnight stays of vessels will be maintained through the development and modification works. This will ensure that full benefit can be achieved from the provision of certified crew accommodation on new vessels.

Before committing to any element of the programme, the terminal and vessel designs will be subject to extensive and detailed development. In the case of the terminals this will include comprehensive site investigations, hydrographic surveys and environmental assessments. In the case of vessels this will include hull design approvals prior to construction.

This then allows the following cascade and/or enhancement of vessels to the Inner and South Isles service as follows:

- **Hoy/Flotta:** relocation of the mainland base for the Hoy/Flotta route to Stromness and the cascade of one of the existing Outer North Isles vessels to the route. Relocating the landing to Stromness will provide an integrated travel opportunity for internal journeys, and connections to and from mainland Scotland. Sea access to Houton is via a buoyed channel, which in addition to the terminal itself would require major modification and dredging in order to accommodate a larger vessel. Relocation to Stromness would take advantage of the recent investment in terminal facilities. The cascaded vessel will double the carrying capacity for vehicles on the route, with only a minor increase in the time at sea.
- **Shapinsay:** Shapinsay terminal will be modified for linkspan operation, with a cascaded mv Hoy Head on the route. A linkspan operation will improve accessibility for vehicles and foot passengers onto the vessel. The mv Hoy Head increases the vehicle carrying capacity, in terms of both space and dead weight. The mv Hoy Head will also improve the reliability on this short crossing due to the design of the vessel.
- **Rousay, Egilsay and Wyre:** terminal alterations and dredging will be undertaken as required for operation with a lengthened and refurbished mv Shapinsay on the routes. The refurbished mv Shapinsay will provide an increase in vehicle carrying capacity, in terms of both space and dead weight. The vessel provides passenger facilities, which are limited on the existing vessel on this route. The vessel also provides much improved crew operating conditions.
- **Graemsay:** carry out modifications to the Graemsay Terminal in order that the stretched mv Graemsay can operate a limited RO-RO service either side of high tide. This significantly improves accessibility for vehicles, particularly

larger agricultural vehicles, to and from Graemsay. A passenger only service would remain to Moaness as well as Graemsay.

In recommending this programme there is also the opportunity to consider other complementary interventions that could offer synergies in the programme. Noteworthy opportunities here include the provision of community car clubs at mainland and isle terminals that could assist in reducing an isle resident or tourists need or desire to take a car on the ferry. This measure could offer benefits in the very short-term, even prior to new vessels and infrastructure being introduced. In association with new Outer North Isles vessels, and by relieving some of the present constraints in the network, there will also be the opportunity to consider the way in which the service is scheduled, and to increase opportunities for inter-isle connections, not just connections to the mainland, for example.

The programme is also mindful of other development opportunities that are in progress, such as the Container Hub in Hoy and marina developments in the isles.

Following the initial cascade of existing vessels around the network, which is intended to address the specific issues that have been identified for each of the isles, there is then an opportunity to plan for the long-term future (in other words for beyond the life of the vessels) the most appropriate way in which to link each isle to the mainland.

The resulting programme of intervention from the STAG study introduces a number of 'hold-points' in the programme, which will be the specific points at which for each isle decisions will need to be taken as to the future of that link. The long term options for these links in the network at this stage can be all encompassing, and therefore assessment could be undertaken on replacement vessels, or alternative options such as use of catamarans, trimarans, fixed links (including in association with renewable energy capture) or alternative routings to the mainland. Research undertaken in the short-medium term will assist in the decision-making process, as will the most up-to-date information on aspects such as alternative fuels for vessels for example.

Within the programme recommendations above is the recommendation for a rationalisation of the air service. As shown in the figure this rationalisation would include enhancements to the air service connections to North Ronaldsay and perhaps Papa Westray. Enhancements in this instance would focus on increasing the capacity of the links where these are not otherwise catered for by the ferry service. The rationalisation of the remainder of the network is yet to be defined, but consideration will include reducing the service to meet only essential links, if any, which cannot be accommodated by the enhanced ferry service.

Consultation and participation

Participation and consultation is a continuous process that forms an integral part of any STAG study. The study has been overseen by a Steering Group, which comprises elected members (Chair and Vice Chair of the Transportation and Infrastructure Committee and the Convener and Vice Convener) and representatives from Technical Services, Harbours, Finance and Housing and Development Services. The Transportation and Infrastructure Committee have been kept up to date with progress on the study. Workshops have been undertaken with representatives of the isles Community Councils, who have also been kept up to date with progress through the various Consultative Committees of the Council. Wider public consultation is now also required to garner the community and stakeholder's views on the recommendations emerging from the STAG study.

Strategic Environmental Assessment

The Strategic Environmental Assessment (SEA) Directive requires that the environmental consequences of certain plans, programmes and strategies are identified and assessed during their preparation and after their adoption.

Due to the nature of the STAG study, the undertaking of a Strategic Environmental Assessment is a statutory requirement. The SEA has been undertaken in parallel with the STAG study, and has enabled the prediction and assessment of significant environmental effects of individual elements emerging from the study. In this way it has contributed to the sifting of options, and the development and refinement of option variants.

For the programme recommendations that are presented above there are likely to be some adverse environmental impacts, and the SEA provides a means of minimising these impacts and designing measures which can be implemented to mitigate against these impacts. An SEA Environmental Report has been prepared to coincide with the publication of this report.

Paying for the programme

Funding for the programme emerging from the STAG study to deliver the package of measures detailed above has not been secured. Any further progress on implementing the package is subject to securing a funding package. What is emerging from the STAG study is a substantial programme of capital expenditure with a pre-tender estimate in the order of £100M over 20 years. The spend profile of this programme will be heavily weighted towards the first four years of the programme with harbour infrastructure accounting for the greatest part.

The Council has previously set aside some funding specifically to assist with meeting the costs of ferry replacement. The Council provision, referred to as the Vessel Replacement Reserve, will only be sufficient to meet a very small part of the programme.

The previous European Regional Development Fund (ERDF) programme allocated £6M per annum to transport in the Highlands and Islands. The 2007-2013 operational programme for transport and communications under ERDF will be no more than one third of this for all of the Highlands and Islands area.

Discussions are ongoing with the Scottish Executive with regard to a funding package to support the network enhancement programme. At this stage it is anticipated that the Council will be required to make a significant contribution to the programme implementation, which may include through capital and/or revenue contributions to the enhancement and operation of the inter-isle network.

Completing the STAG study

This report presents programme recommendations. It is now vital to seek inputs from members, and from the wider community and stakeholders on these recommendations. At the same time as this consultation, work will continue on appraising the recommendations against Government's tests for transport, which are tests in terms of the economy, the environment, accessibility and social inclusion, integration and safety. This includes undertaking a survey of users of the inter-isles network over summer 2007, which will assist in capturing the economic and social impacts of the network both at present and in response to the intended enhancement of the network. The results from the survey will be used to assist in making the case for investment in the network. Once the consultation is complete, and the results of this have been fed through the study, the full appraisal will be completed. Upon completion final recommendations will be made to the Council, and upon approval, this will then be submitted to the Scottish Executive.