

**Ferries and Marine
Infrastructure**
Capability Statement



OUR SERVICES

Our business is focused on supporting the public sector, commercial ferry operators and port authorities in the planning, operation and delivery of ferry services and associated infrastructure – key skills include:

- ▶ appraisal and business case development;
- ▶ demand and revenue forecasting;
- ▶ data analytics, including coding and dashboard production;
- ▶ operator cost analysis;
- ▶ customer and stakeholder engagement;
- ▶ ferries policy development; and
- ▶ research, particularly in support of demonstrating value for money from public sector investment.

In order to complement our offering, we work with a small team of trusted suppliers with which we have developed long-term relationships. Supplementary skills available within our supply-chain include:

- ▶ marine civil engineering, including infrastructure design, consenting, procurement and site supervision;
- ▶ ferry operations;
- ▶ harbour operations and management;
- ▶ brokerage and vessel procurement advice; and
- ▶ marine freight and logistics.

Our team and a small selection of our relevant experience is presented in this capability statement.

CLIENT TESTIMONIAL



Stantec is an excellent consultant working to high levels of competence and also to high levels of integrity. They are adaptable to circumstances and will change plans and tasks if circumstances require it, often without impacts on project costs overall.

Stantec is committed to achieving the client's aims even when that requires constructive challenging of views. **If there is one outstanding feature of Stantec, it is their capacity to reach a deep understanding of the context in which they are working and therefore their research, analysis and conclusions can be relied upon to fit well with requirements."**

Michael Craigie
Executive Manager – Transport Planning
Shetland Islands Council

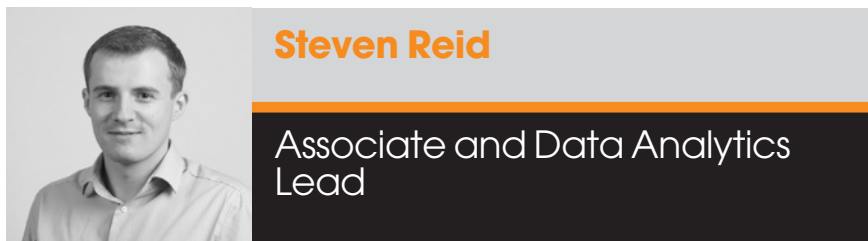
CURRICULUM VITAE: KEY STAFF

Our core team is led by four key individuals located in our Scottish offices, supported by a much wider team of transport planners and economists. Pen portraits for our key team members are provided below. Full CVs can be provided on request.



- ▶ Chartered Transport Planning Professional;
- ▶ PhD, Transport Infrastructure and Industrial Operation and Location, Napier University, 1996;
- ▶ BEng (Hons), Civil and Transportation Engineering, Napier Polytechnic, 1991

Scott leads the team and has acted as Project Director or Manager on over 30 ferry-related studies, with inputs ranging from research to support government policy development through to demand, cost and revenue modelling as part of franchise bids.



- ▶ Chartered Transport Planning Professional;
- ▶ MSc Geo Information Technology & Cartography, University of Glasgow, 2008;
- ▶ BA (Hons) Geography, University of Strathclyde, 2005

Steve leads much of the technical analysis in our ferry-related consultancy commissions. His combined expertise in MS Excel, PowerBI, data analytics and Geographic Information Systems (GIS) allow him to collate, process, analyse and present large and complex datasets in easy to understand graphical formats. The outputs of his work are frequently used to provide digestible summaries of key issues to decision makers.



- ▶ Chartered Transport Planning Professional;
- ▶ BA (Hons) Arts & Social Sciences, University of Strathclyde, 2005

Stephen has acted as Project Manager on almost all ferry and marine infrastructure studies led by our team, forming a strong management partnership with Scott Leitham. His expertise lies in appraisal, business case development, research and public & stakeholder engagement.



- ▶ Chartered Transport Planning Professional;
- ▶ H.M. Treasury Better Business Cases qualification;
- ▶ MA (Economics), University of Edinburgh, 1992.

Paul is a highly experienced economist who spent 13-years working as an Economic Adviser in the Scottish Government before moving to the private sector. He has acted as Technical Adviser to Scott and Stephen on numerous ferry related projects, providing advice on business case development, policy and research.



The Royal Iris of the
Mersey,
Mersey Ferries



PREVIOUS EXPERIENCE:

**Ferry Appraisals and Business
Case Development –**

Commuter Routes

Spotlight Project



Corran Ferry Services Options Appraisal (2018):

The Highland Council

The Corran Ferry, located in north-west Scotland, is a 2-minute passenger and vehicle crossing which links Lochaber with Ardgour and areas to the west. The ferry circumvents a lengthy road-based trip to the main settlement in the area, Fort William, and is an essential link for commuters and those making longer journeys. It is the busiest single vessel route in Scotland.

Whilst an essential link, the vessels serving the crossing are ageing, there are challenges around the sustainability of the crewing model and there are also questions as to whether the current delivery model is the most appropriate for ensuring the long-term financial and operational sustainability of the service. Stantec, in partnership with Mott MacDonald and WSMD Associates, undertook a comprehensive review of the service. This considered options for: future vessels, shoreside infrastructure (including outline designs); service provision in terms of timetables and the length of the operating day; fares and future methods of delivery. The study was well-received by the Council, and provided a set of options aimed at putting the service on a sustainable footing whilst at the same time continuing to meet the needs of the communities which depend on it.





Mersey Ferries Long-Term Strategy (2015) and Outline Business Case (2019):

Merseytravel

The city of Liverpool on the west coast of England is separated from the neighbouring Wirral Peninsula by the estuary of the River Mersey, a fast flowing river which has one of the highest tidal ranges in the world. Whilst there are road and rail links across the river, the two banks are joined by the 'ferry across the Mersey', one of the most famous and iconic ferry services in the world.

The ferries are operated, owned and funded by Merseytravel, the passenger transport executive for the Liverpool City Region. The current vessels date from the late 1950s / early 1960s and are a symbol of the city and prominent heritage attraction as well as a transport link. However, they are approaching the end of their usable life and are in need of replacement. Moreover, the market which they serve has evolved considerably since the vessels first entered service.

Recognising the need to place the services on a more sustainable footing, Merseytravel commissioned a partnership of Mott MacDonald and Stantec in 2015 to develop a 'Long-Term Strategy' for the ferries. The Strategy was focused on defining a role for the service in the modern world, whilst ensuring

that the heritage and symbolism attached to the service is maintained. The work was based on a combination of site visits, consultation, desk-based research and analysis. The final report shortlisted three vessel options (with harbour and service variants therein) for the future of the service. The Strategy was approved by Elected Members in early 2016.

In January 2019, Merseytravel commissioned the Motts / Stantec team, supported by WSMD Associates, to develop the Outline and Full Business Cases for the new ferries, infrastructure and associated services. The OBC and FBC developed a preferred vessel and infrastructure option and identified how the preferred option could be funded, procured, delivered and managed.



Arran & Campbelltown Mainland Port Appraisal (2017):

Transport Scotland

Stantec led this high-profile study considering whether Ardrossan or Troon should be the future mainland port for ferry services to/from the island of Arran and the Kintyre Peninsula on the west coast of Scotland. Both port authorities made representations to Transport Scotland to host the services. Following a detailed stakeholder consultation exercise, we undertook a review of the operational parameters at both ports, reliability, onward connectivity, local socio-economics and cost to government. The highly detailed final report was used by the then Minister for Transport & Islands to inform the decision on the future mainland port (which was ultimately chosen to be Ardrossan).



MV Earl Thorfinn,
North Ronaldsay,
Orkney



PREVIOUS EXPERIENCE:

**Ferry Appraisals and Business
Case Development –**

‘Lifeline’ Routes

Spotlight Project



Shetland Inter-Island Transport Study (SIITS) Strategic (2016) and Outline (2019) Business Cases:

Shetland Islands Council

Shetland Islands Council directly operates ferry services to nine islands, whilst it also contracts air services to Fair Isle, Foula, Papa Stour and, at the time of the study, Out Skerries.

The Council's ferry network is highly efficient, with standardised infrastructure on the main routes and automated linkspans connecting with the vessels. However, a number of the assets used to deliver the service are approaching the end of their usable life, whilst available revenue funding limits elements of the service which islanders consider valuable.

The Council, in partnership with ZetTrans and Highlands & Islands Enterprise (HIE) therefore commissioned Stantec and partners to develop a 30-year Strategic Business Case for the consideration of options for future inter-island transport provision.

The initial stage in this project involved the development of a comprehensive suite of eleven baselining papers, focussing on two separate strands:

- ▶ The delivery of the service from the Council / operator point of view – i.e. vessels, harbour infrastructure, aircraft, airfields and crew deployment. The issues surrounding fixed links were also considered as these are an area of major public interest in the Shetland Islands.
- ▶ The impact of the service from the public perspective – i.e. carryings, timetables / connectivity, island socio-economics and public consultation.

The baselining papers, which amounted to over 600 pages of research, were used as the basis of identifying the transport problems, issues, opportunities and constraints with the current inter-island transport network.

Having completed the baselining exercise, we prepared the Initial Appraisal Report, which adopted a logic mapping approach to identify how the resolution of the identified transport problems would support the socio-economic development of the isles. The report succinctly summarised the transport problems, issues, opportunities and constraints and used these as the basis for developing a set of network wide objectives focussed on capacity, connectivity, frequency, timetable variation and strategic transport connectivity. Our team then developed a long-list of options for each island / route / mini-network and sifted out any options which would clearly not deliver the objectives or which would perform poorly against the criteria set in

the Scottish Transport Appraisal Guidance (STAG).

There was then a concentrated period of option development and appraisal. The outcomes of the options appraisal were then taken out to public consultation, through the form of a public exhibition, on all of the islands in the archipelago served by inter-island air & ferry services. The feedback from the meetings was then used to refine the final appraisal report, which sets out a shortlist of options for each island / route / mini-network to be considered at the Outline Business Case stage.

Following on from the completion of the SBC, SIC further commissioned Stantec and partners Mott MacDonald and ProVersa to develop Outline Business Cases (OBCs) for the islands of Fair Isle and Whalsay, as well as a more general OBC considering the case for additional revenue funding to extend the operating day or operate on additional days. The OBCs – one of which is still ongoing - involved further detailed technical development of options from the SBC; sailing-by-sailing carryings & utilisation analysis; operational planning; supply-chain analysis; socio-economic research; and community engagement in arriving at a preferred option in each business case.

Outer Hebrides Options Appraisal (2017-19):

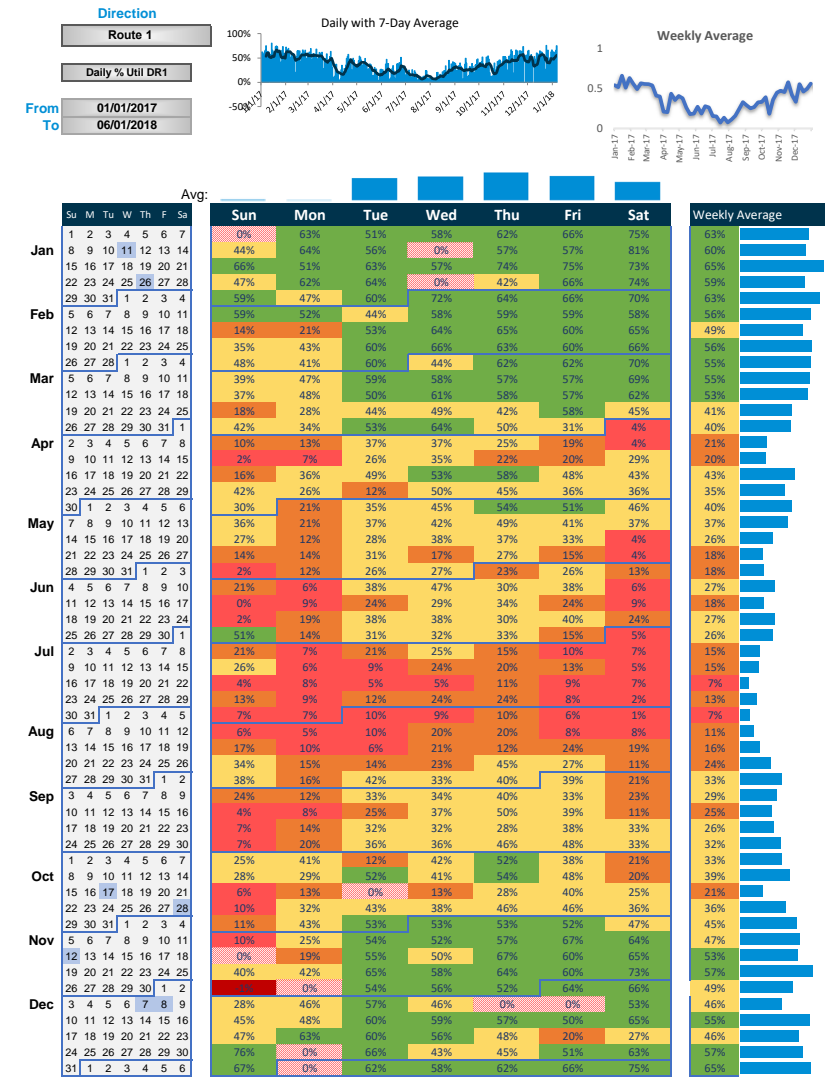
Transport Scotland

The Outer Hebrides is a group of islands located around 30-40 miles from the Scottish mainland. They are served by five ferry routes from the mainland and two internal services which link the islands within the chain. All of the services are funded by the Scottish Government and operated on their behalf by a contracted ferry company, CalMac Ferries Ltd. The Transport Scotland Vessel Replacement and Deployment Plan (VRDP) committed to undertaking an appraisal of options for the future of this mini-network using the Scottish Transport Appraisal Guidance.

The initial stage of the study involved a comprehensive baselining of the Outer Hebrides network in terms of: vessels; infrastructure; operational practices; data analysis, including carryings, utilisation, reliability and punctuality; user behaviour (established through resident and onboard surveys); and public and stakeholder views. This baselining material was used to develop a comprehensive record of transport problems and opportunities at the network level and by route. These problems and opportunities were used as the basis of setting long-term objectives for the network. A set of options was then developed for the network as a whole and for each route within in it and then subjected to appraisal against both the objectives and a standard set

of appraisal criteria. The outputs of the appraisal were brought together in a 30-year Network Plan, which established capital investment and other service enhancements required to the meet the needs of island residents.

The study adopted a range of innovative data analysis and presentation techniques, including the adoption of 'loadings calendars' (see below) and capacity utilisation 'box and whisker' diagrams.





Orkney Inter-Island Transport Study (OIITS) Strategic (2016) and Outline (2019-2020) Business Cases:

Orkney Islands Council

Orkney Islands Council, through its wholly owned company Orkney Ferries, operates ferry services to thirteen islands, whilst it also contracts with Loganair to operate air services to the six Outer North Isles.

The network is run highly efficiently but the assets used to deliver the service are in many cases approaching the end of their usable life, whilst available revenue funding limits the frequency and length of operating day which can be offered, particularly in terms of the ferry service.

The Council, the Highlands & Islands Transport Partnership (HITRANS) and Highlands & Islands Enterprise (HIE) therefore commissioned Stantec to develop a 30-year strategy for the consideration of options for future inter-island transport provision.

The initial stage in this project involved the development of a comprehensive suite of ten baselining papers, focussing on two separate strands:

- ▶ The delivery of the service from the Council / operator point of view – i.e. vessels, harbour infrastructure, aircraft, airfields and crew deployment.
- ▶ The impact of the service from the public perspective – i.e. carryings, timetables / connectivity, island socio-economics and public consultation.

The baselining papers, which amounted to over 500 pages of research, were used as the basis of identifying the transport problems, issues, opportunities and constraints with the current inter-island transport network.

Having completed the baselining exercise, we prepared the Initial Appraisal Report, which adopted a logic mapping approach to identify how the resolution of the identified transport problems would support the socio-economic development of the isles. This report was used as the basis for developing a set of network wide objectives focussed on capacity, connectivity, frequency, timetable variation and strategic transport connectivity. Our team then developed a long-list of options for each island / route / mini-network and sifted out any options which would clearly not deliver the objectives.

Following completion of the Initial Appraisal Report, there was then a concentrated period of option development and appraisal. The outcomes of this appraisal were then taken out to public consultation, through the form of a public exhibition, on all of the islands in the archipelago served by Orkney Ferries & Loganair. The feedback from the meetings was then used to refine the Detailed Appraisal report, which set out a shortlist of options for each island / route / mini-network to be considered at the Outline Business Case stage.

Following on from the completion of the SBC, the project partners further commissioned Stantec and partners Mott MacDonald and ProVersa to develop Outline Business Cases (OBCs) for the Outer North Isles and Rousay, Egilsay & Wyre, as well as a more general OBC considering the case for additional revenue funding to extend the operating day or operate on additional days. The OBCs – which are ongoing - involved further detailed technical development of options from the SBC; sailing-by-sailing carryings & utilisation analysis; operational planning; supply-chain analysis; socio-economic research; and community engagement in arriving at a preferred option in each business case.



Northern Isles Ferry Services (NIFS) Appraisal (2016-2017):

Transport Scotland

The Northern Isles Ferry Services (NIFS) are a bundle of two routes which connect the Scottish mainland with the Orkney and Shetland Islands. The service is subsidised by Transport Scotland and operated under contract by Serco NorthLink Ferries. The contract for the NIFS services was due to expire in 2018 and Transport Scotland therefore commissioned Stantec, ProVersa and WSMD Associates to develop and appraise options for the specification of the next contract – the study considered routes, vessels, timetables, onboard services and public transport integration.

The initial stage of the work was split into three discrete Work Packages: consultation; review of service delivery; and review of service context.

- ▶ The consultation phase involved operator and stakeholder depth interviews, interviewer administered on-ferry surveys and online household and business surveys. Very large samples were obtained across each of the survey strands.
- ▶ The review of service delivery considered the functioning of the NIFS services from the operator / Transport Scotland perspective (i.e. vessels; ports & harbours; operations; and finance & procurement).
- ▶ The review of service context considered the operation of the NIFS services from the public perspective (i.e. carryings / market analysis; services & connectivity; and the economic baseline of the islands and the future planning horizon).

The above tasks were brought together in a series of detailed working papers, which were then collated and summarised in an Initial Appraisal Report (together with objectives and a long-list of options by theme – i.e. vessels, ports & routes, timetables, capacity and integration). The options appraisal involved extensive demand, revenue & fares analysis; detailed timetable planning & modelling; consideration of the costs & benefits of each option (from a financial, social welfare and environmental perspective); confirmation of fit with European Maritime Cabotage & State Aid legislation; and risk profiling / sensitivity testing.

A separate fares consultation task involved engagement with stakeholders, businesses and the local communities in the islands to consider options in relation to future fares policy. As well as the absolute level of fares, detailed consideration was given to the means by which fares are set, seasonal fares & price-based demand management; islander / visitor differentials; accommodation pricing; potential phasing; and capacity & wider market impacts. The fares consultation report set out a wide range of different perspectives on fares as well as an implied elasticity for a given fares reduction.

The final appraisal was used to inform the specification of the next NIFS Invitation to Tender, which was issued in early 2019.



Wemyss Bay



PREVIOUS EXPERIENCE:
Commercial

Spotlight Project



Northern Isles Ferry Services Bid Support (2019):

Serco

Stantec supported the incumbent operator Serco in their bid to retain the Northern Isles Ferry Services contract. Our involvement included a review of the previous contract in terms of carryings and financial performance; development of a forecasting model based on a highly disaggregated segmentation of demand; and application of the demand forecasts to produce a set of revenue forecasts. The outputs of our work were included in the successful Serco bid. This was the second time we had supported Serco in successfully bidding for the NIFS contract.





Panama Canal Transit Study (2017):

Panama Canal Authority

Stantec input into this study led by The Maritime Group International Ltd (TMG) assessing the transit efficiency of vessels using the new Neo-Panamax locks at Agua Clara and Cocoli. The study was focused on analysing the safety and efficiency of tug assisted operations through the locks (transit through the existing locks is assisted by locomotives rather than tugs, so this is a change in practice). Our team specified and overseen the production of a paper analysing transit of vessels through the two lock systems and the Gatun Lakes – this considered transit times across the day / week / year; variances by vessel size; variances by number of tugs used etc. We also developed a benchmarking paper considering transits through lock systems at other gated ports.



Clyde & Hebrides Ferry Services Bid Support (2015-16):

Serco

Stantec provided a wide range of advice to Serco in their bid for the Clyde & Hebrides Ferry Services Contract, the network of 28 subsidised routes on the west coast of Scotland. Following their success on the tender for the Northern Isles Ferry Services contract in 2012, Serco bid for the much larger Clyde & Hebrides Ferry Services (CHFS) contract, a nationally important eight-year contract worth in excess of £1 billion. Our first role was to develop an extensive 950 page 'factbook', which was supplemented by a lengthy network overview report which considered the history of the network, macro trends, findings of previous studies and the complex procurement requirements.

We then developed demand & revenue forecasts and supported Serco in formulating their response to the timetabling and demand management elements of the tender. The comprehensive bid was submitted in early 2016.



Jurassic Coast Marine Links Project (2015):

Jurassic Coast World Heritage Team

We were commissioned by the Jurassic Coast World Heritage Team to review the business case for operating leisure ferry services between Poole & Swanage and West Bay & Exmouth. The case for the ferry services was built upon supporting the local tourism economy and relieving pressure on the congested road networks in this popular area. We reviewed the case for investment, demand & revenue forecasts, marine civil engineering proposals and compliance with regulation, in particular issues around State Aid. On the basis of our advice, the decision was taken not to proceed with the project.



MV Bute,
Wemyss Bay



PREVIOUS EXPERIENCE:
**Policy Development and
Evaluation**

Spotlight Project

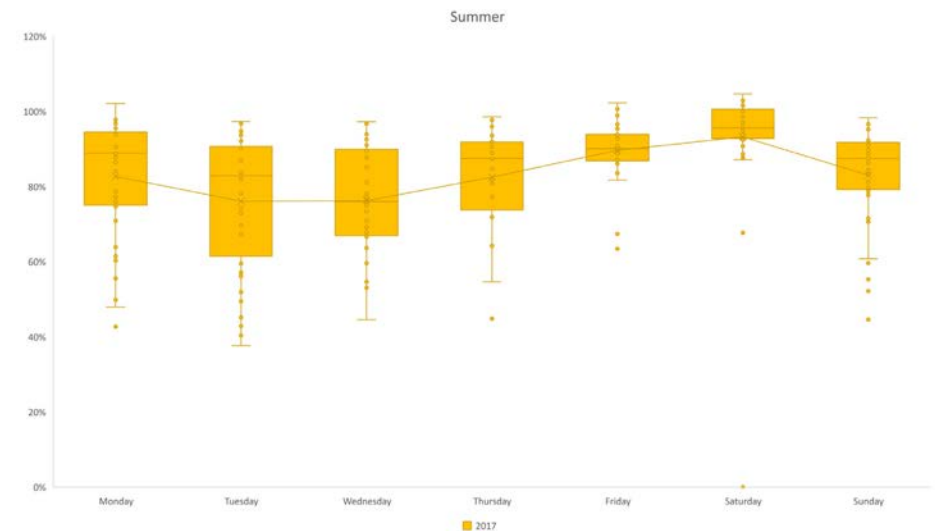


Clyde & Hebridean Ferry Services (CHFS) Road Equivalent Tariff (RET) Evaluation (2019):

Transport Scotland

Stantec undertook this comprehensive evaluation of the impact of the RET ferry fares policy across the CHFS network. RET involves setting ferry fares on the basis of travelling an equivalent distance by road plus a fixed fare aimed at cost recovery. On most routes in the Clyde & Hebrides, this led to a significant reduction in passenger, car, small van and motorhome fares.

The study involved the development and implementation of a programme of on-ferry, household and business surveys to capture how travel patterns and behaviours have changed as a result of RET. The survey analysis was combined with a detailed review of operator data, to quantify the demand-side impacts of the policy. Through a combination of business interviews, primary data and case study analysis, we also attempted to determine the supply-side impacts of the policy on the islands and communities served (e.g. impacts on the business base, infrastructure, supply-chain changes etc). Finally, drawing the material together, the study assessed how the RET policy has performed against its original objectives and contributed to Scottish Government transport and wider economic policy.



Evaluation of the Impact of Road Equivalent Tariff (RET) on Arran (2015):

Transport Scotland

The RET formula explained previously was rolled out to the island of Arran in the Firth of Clyde in October 2014. This study was focussed on exploring the impact of the new fares system on the ferry routes to Arran and to the island itself. The fares reduction in the context of this island was considerable, particularly for visitors who did not previously have access to discounted multi-journey books.

This important two-year evaluation project involved developing an extensive socio-economic baseline of the Arran economy and supplementing it:

- ▶ with a series of on-ferry, household and business interviews in 2015 and 2016;
- ▶ operator consultation;
- ▶ and secondary data research.

The study considered in detail the benefits of RET, but also the challenges brought about including peak vehicle deck capacity issues on the ferry; previous foot passengers switching to taking the car due to the comparatively larger reduction in fares; pressure on island infrastructure and economic leakage to the Scottish mainland.

The emerging evaluation report was used by Transport Scotland to inform the final stage of the RET roll-out to the remainder of the Clyde & Hebrides network in October 2015.

Review of Ferry Freight Fares on Publicly Funded Ferry Services in Scotland (2014):

Transport Scotland

Stantec, in partnership with ProVersa, led this study intended to develop a new overarching ferry freight fares policy for Transport Scotland contracted services. The current approach to freight fares setting has emerged organically over several decades and has thus led to a degree of inconsistency of approach and inequality between islands.

The initial task involved a detailed review of current freight fares policies on Transport Scotland and local authority funded services, covering both commercial and non-commercial vehicles, supplemented by a review of best practice in the private sector and internationally.

Based on the evidence collected, we then undertook an extensive option development exercise which considered and costed the different approaches to fares setting which could be implemented. This was supplemented by a review of wider issues around volume & commodity discounts and surcharges.

We consulted on the options developed with ferry operators and a range of other stakeholders including the main island hauliers. The final report was used by Transport Scotland to consider future freight fares policy for tendered ferry services in Scotland.





Lochboisdale Harbour,
South Uist



PREVIOUS EXPERIENCE:
Marine Infrastructure

Spotlight Project



Mallaig & Armadale Scottish Transport Appraisal Guidance (STAG) (2018-19):

Caledonian Maritime Assets Ltd (CMAL)

Stantec was commissioned in partnership with Mott MacDonald to assess future options for the development of the ferry infrastructure at Mallaig and Armadale in north-west Scotland. The purpose of the study was twofold: (i) to replace life-expired infrastructure at Armadale; (ii) to consider options for increasing the range of vessels which could access both ports, but particularly Mallaig. Stantec managed the appraisal elements of the study, developing the baselining analysis and community consultation. Our team then fed into the option development and appraisal process before supporting the development of the final appraisal report.

Craignure Harbour Scottish Transport Appraisal Guidance Study and Interim Options Outline Business Case (2018-2020):

Argyll & Bute Council

Stantec was commissioned in partnership with Mott MacDonald to assess future options for the development of the ferry infrastructure at Craignure in the Isle of Mull. The current ferry terminal dates from 1964 and is increasingly in need of replacement. Moreover, the length of the pier limits the envelope of vessels which can use it, whilst it is not possible for the main vessel, the MV Isle of Mull, to regularly and reliably overnight there, denying the island a much sought after commuter service. There are also several landside issues associated with pedestrian management, marshalling, road safety and bus operations. Stantec managed the appraisal elements of the study, developing the baselining analysis and community consultation. We then fed into the option development and appraisal process before supporting the development of the final appraisal report.

The combined Stantec and Mott MacDonald team was thereafter commissioned to develop an Outline Business Case (OBC) for interim works to the pier. If delivered, these measures would increase the range of vessels which could be accommodated at Craignure and also facilitate overnight berthing, providing a short-term solution ahead of a longer-term replacement of the pier. This study is ongoing.

Lochboisdale Harbour Scottish Transport Appraisal Guidance (STAG) (2016):

Stòras Uibhist

Stantec was commissioned in partnership with Mott MacDonald to assess future options for the development of the ferry infrastructure at Lochboisdale on the island of South Uist. The current ferry terminal is operationally constrained, whilst the existing infrastructure is approaching life expiry. This provided an opportunity to consider options for relocating the ferry terminal to the island Gasaigh, which is still within the wider harbour area but which offers deeper water, more manoeuvring area and segregation from other harbour users. Stantec managed the appraisal elements of the study, developing the baselining analysis and community consultation. We then fed into the option development and appraisal process before supporting the development of the final appraisal report. The study concluded by recommending three options at Gasaigh and one at the existing harbour for further consideration.

GET IN CONTACT



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