Ferry Services Development Through The Oban Hub

Final Report

to

HITRANS

with

and

September 2009

CONTENTS

EXECUTIVE SUMMARY

INTRODUCTION

Reference Economic Consultants, in conjunction with STSI and Arch Henderson, were commissioned by HITRANS to review ferry services which operate out of Oban to the following islands:

- Barra (Castlebay).
- Colonsay.
- Coll.
- Islay.
- Mull (Craignure).
- South Uist (Lochboisdale).
- Tiree.

The research was undertaken between September 2008 and May 2009. It comprised:

- Development of an evidence base on the socio-economic characteristics of the islands and existing transport provision.
- Consultations with a range of organisations, including community councils, transport operators, infrastructure providers and hauliers.
- Desk-based analysis.

TRANSPORT INTERVENTIONS

A number of transport interventions were developed and agreed with the client group. These are shown at **Table E.1**, over. Each interventions was appraised in terms of:

- Contribution to supporting the options (i.e. desired outcomes in terms of transport services) identified for each of the islands.
- Performance against the 5 STAG criteria.
- Operational feasibility, cost to government and likely public acceptability.

SUMMARY OF FINDINGS

For interventions **A1** and **A2** there appears to be sufficient evidence to suggest that both interventions should be discounted for the purposes of further transport planning.

Under **A1** Coll and Tiree would benefit from increased sailing frequency and through a direct link with Mull. However, these benefits are more than outweighed by a number of factors. Overall journey times between the islands and the mainland would increase by around 50 minutes. Generalised travel costs would increase for both passenger and car traffic. Passengers (and particularly those travelling on foot) would have the inconvenience and uncertainty associated with having to change ferry services on Mull.

TABLE E.1: TRANSPORT INTERVENTIONS FOR APPRAISAL	
Transport Intervention	**Description**
A	New port facility on north/west Mull. Castlebay, Lochboisdale, Coll and Tiree ferry traffic routed via Mull rather than direct to/from Oban. Upgraded road connection between new Mull facility and Craignure
B	Fixed link between Coll and Tiree. Oban-Tiree ferry service ceases
C	Mallaig-Lochboisdale service introduced. Oban-Lochboisdale service ceases. Castlebay continues to be served from Oban
D	Mallaig-Lochboisdale/Castlebay ferry services introduced. Oban-Lochboisdale/Castlebay ferry services cease
E	Enhanced Oban-Craignure service, with commuter-oriented timetable and longer sailing day
F	Extension of Oban-Colonsay air service to Islay
G	Introduction of Oban-Barra air service
H	Reduction in air fares on Oban-Coll/Tiree and Oban-Colonsay

In addition, significant capital investment would be required. First, to create the port and road infrastructure on Mull. The cost would be between £23 million and over £45 million, depending on the port location. Further, co-ordinating the schedules of the Mull-Coll-Tiree and Oban-Craignure services would require overnight berthing of the vessel at Tiree. To enable this, a breakwater would have to be created at an estimated cost of £15 million-£20 million. In addition, there could be considerable opposition to the new service proposals from residents of Coll and Tiree.

Similar points pertain to **A2**. Under this intervention, there would be increased frequency of sailing for South Uist all year round and for Barra in the winter. In addition, there would be a direct ferry link with Mull. Compared to some existing sailings overall journey times between the islands and the mainland would fall.

Again, however, these benefits are outweighed by negative factors. The financial cost of travel between the mainland and the islands would increase for both passengers and cars. Compared to some existing sailings overall journey time would increase, by around 30 minutes. Again, there would be the inconvenience and uncertainty associated with having to change ferry services on Mull.

There would also be the significant capital cost for port and road infrastructure on Mull. We would also expect there to be opposition from some residents of Barra and South Uist.

For intervention **B** there also appears to be sufficient evidence to suggest that this intervention should be discounted for the purposes of further transport planning. This is principally due to:

- A number of "showstopper" environmental designations in the relevant areas.
- Low levels of public acceptability.
- A likely capital cost of the order of tens of millions of pounds.

Intervention **C** would generate a number of benefits. These include, first, economic development gain from a significant increase in sailing frequency. Second, a reduction in overall journey costs for existing users of the Oban-Lochboisdale service. Total journey times would fall for South Uist traffic (in some cases quite significantly) and also for Benbecula traffic.

However, there would be a significant cost associated with providing a Mallaig-Lochboisdale service. An additional vessel would be required and a new build ship would cost in the order of £23 million. The service is forecast to incur an annual operating deficit of over £2 million. Further, for those travelling on foot there would fewer public transport connected sailings at Mallaig compared to Oban. Further, high vehicles would not be able to use the service due to bridge height restrictions on the road from Mallaig.

Further research would be required to more fully understand the scale and nature of economic development benefits from a Mallaig-Lochboisdale service. In addition, these could be compared against the benefits of investing in an enhanced Uig-Lochmaddy service. The conclusions should consider the issues from perspective of the Uists as a whole.

Similar points pertain to intervention **D**. There would be economic development gain from an increased frequency of sailing to both islands. There would also be benefits from lower total journey costs for cars and CVs. Total journey times would be reduced for South Uist and Benbecula traffic, and also for Barra traffic during winter months.

However, it may be that an additional vessel would be required and a new building would cost in the order of £23 million. For those travelling on foot there would fewer public transport connected sailings at Mallaig compared to Oban. High vehicles would not be able to use the service due to bridge height restrictions on the road from Mallaig. This is more of an issue for Barra traffic given that, unlike South Uist, there would be no alternative direct ferry service to/from the mainland. There is likely to be some resistance to the proposal from some parts of the Barra community.

Further research would be required to more fully understand the scale and nature of economic development benefits. In addition, there would need to be cognisance of the role of the Uig-Lochmaddy service in the context of development of transport services for the Uists as a whole.

The research findings suggests that intervention **E** is worthy of further development work. The benefits to Mull from an extended timetable and increased frequency could be significant given the island's economic potential. This intervention could also provide greater sailing frequency for Colonsay. Further research could be used to compare these benefits to the:

- Additional vessel capital and operating costs required.
- Cost of capital investment at Craignure.

Each of the air service-related interventions (**F, G, H**) is worthy of further development work. There are potential economic and social benefits through the improved connectivity that the interventions would provide. These could be achievable at relatively limited cost and mostly through using existing aircraft and airports.

In each case, there is a need to more fully understand the nature of market demand and, in particular, the sensitivity of demand (and hence the level of benefits) to air fare levels.

1 INTRODUCTION

This is the final report of a study reviewing ferry services which operate out of Oban to the following islands:

- Barra (Castlebay).
- Colonsay.
- Coll.
- Islay.
- Mull (Craignure).
- South Uist (Lochboisdale).
- Tiree.

The research for the study was undertaken on behalf of HITRANS between September 2008 and May 2009.

1.1 STUDY OBJECTIVES

The overall objective of the study was to review the ferry services operating from Oban and to identify and assess transport interventions for potential future service developments. This was to be based on STAG pre-appraisal guidelines. The study was to:

- Specifically include possible further development of air services, linking islands directly rather than via the Sound of Mull and provision of a separate freight only service for west coast ports.
- Exclude issues around the infrastructure required for transport integration at the Oban Hub.
- Exclude ferry services to Lismore. These are the subject of a separate study.

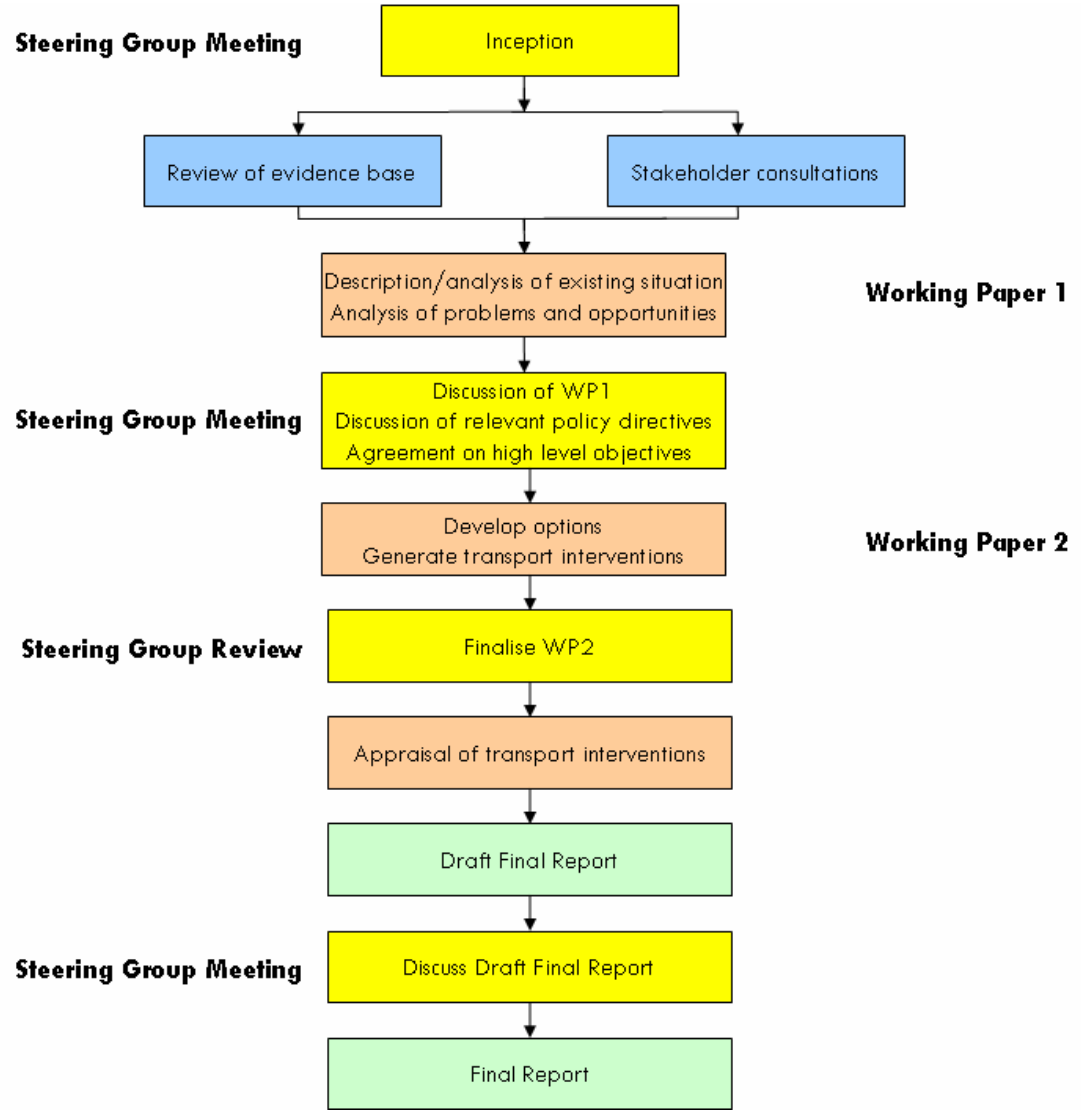
1.2 METHOD

The study method is summarised in the diagram overleaf.

1.2.1 Working Paper 1

The diagram shows that the initial work in the study had two strands. First, a review of the evidence base on the islands concerned and their transport services. This encompassed a range of data and information including:

- Economic and demographic information for the relevant communities.
- Existing transport services to the islands, covering both air and ferry services.
- Facilities at the relevant piers.
- Traffic volumes on the ferry and air services.
- A profile of usage of the ferry services, based on pre-existing primary research with passengers.
- Connections between the ferry services and other forms of public transport at Oban.



The evidence base was supplemented with the findings from consultations with 25 stakeholders. The consultees are listed at **Table 1.1**. Consultations were undertaken either face-to-face or by telephone-apart from Mull Community Council which elected to send us a written response.

The consultations covered: the existing situation in the communities served and their transport services; opportunities and problems arising from existing transport provision; what have been termed "options" for the purposes of this study; and potential transport interventions.

The two strands of the research were brought together in **Working Paper 1** for the study which was produced in November 2008. **Working Paper 1**:

- Described and analysed the existing situation in terms of the relevant communities and their transport services.
- Provided an analysis of opportunities and problems. This is shown at **Chapter 2** of this report.

TABLE 1.1: CONSULTEES	
Community Councils	
Castlebay & Vatersay	Jura
Coll	Lochboisdale
Colonsay	Mull
Eriskay	Northbay
Iona	West Ardnamurchan
Islay	
Transport Operators/Infrastructure Providers	
Argyll & Bute Council	Highland Airways
CalMac	Loganair
CMAL	Mallaig Harbour Authority
First ScotRail	Scottish Citylink
Hauliers	
Barratlantic (Barra)	MacLennan (Tiree)
TSL (Mull)	
Other	
Scottish Government	Mull and Iona Chamber of Commerce
NHS Highland	

Working Paper 1 was discussed at a meeting of the study Steering Group in November 2008. The Steering Group comprises: HITRANS; Argyll & Bute Council (ABC); CalMac; CMAL; Comhairle nan Eilean Siar (CnES); Highland Council; Highlands & Islands Enterprise (HIE); and Scottish Government.

The meeting was also used to discuss:

- Policy directives. These are the relevant policies of local, regional and national bodies that require to be reflected in the process for deriving transport interventions for the study.
- High level objectives for the appraisal element of the study, which were based on the policy directives and opportunities and problems.

1.2.2 Working Paper 2

Following the November 2008 Steering Group meeting, **Working Paper 2** was produced in December 2008. This developed options and generated transport interventions. It also explained the proposed process for appraisal in this study. The Working Paper also contained the information on policy directives which was presented to the November Steering Group meeting.

Working Paper 2 was circulated to the Steering Group and its content was agreed in February 2009.

1.3 STRUCTURE OF THE REPORT

Chapter 2 Presents a summary of problems and opportunities.

Chapter 3 Describes the basis of the transport interventions appraised in the study. It also explains the terminology that is used in this report and the agreed approach to appraisal of the transport interventions.

Chapter 4 Provides the analysis undertaken to support the appraisal of the transport interventions.

Chapter 5 Presents the appraisal findings.

Chapter 6 Provides some brief conclusions.

Working Papers 1 and **2** are separate documents. They contain considerable detail underpinning the analysis shown in this report.

2 ANALYSIS OF OPPORTUNITIES AND PROBLEMS

2.1 INTRODUCTION

This Chapter sets out our analysis of opportunities and problems. As explained at **Chapter 1** the analysis is based on the review of the existing situation and findings from the stakeholder consultations.

A number of generic opportunities and problems are identified. These relate to all, or at least most, of the routes/islands under consideration.

We also review the distinctive issues relating to each of these islands. This includes assessing the relative importance of some of the generic issues identified.

2.2 OPPORTUNITIES

2.2.1 Generic Opportunities

Economic development potential of the islands

This relates not only to tourism but also to other sectors-notably food and drink related to primary production.

Range of existing transport facilities

Apart from Mull, each of the islands has a ferry terminal and an airport. There is also the option of routing services to other ports, notably Mallaig. Within the Outer Hebrides the existence of alternative ports at Castlebay, Lochboisdale & Lochmaddy opens up alternative itineraries.

For Mull, Craignure is one of our four main ports serving the island. This offers opportunities to strengthen access to Iona, Ardnamurchan and Morvern through an enhanced Craignure service.

Geography of the area

The proximity of some of the islands to one another could open up opportunities for enhanced ferry links between: Islay and Colonsay; Coll and Tiree; and each of Barra, South Uist, Coll, Tiree to Mull. These could offer opportunities not only for inter-island travel but also for alternative routings for mainland traffic.

Oban as a regional centre

Increasing traffic through Oban would help to further develop its role as an economic and service centre; and as one of a number of regional centres in the Highlands & Islands. This would exploit the fact that Oban is the only settlement in Scotland-apart from Aberdeen-with road, ferry, air and rail links.

Increased public transport frequency at Oban

This relates specifically to present proposals to increase the train service frequency. This would help to improve integration between the ferry and rail networks.

2.2.2 Oban-Craignure

Proximity to Oban

The relatively short distance between Craignure and Oban offers the potential to provide a more frequent service. The nature of the waters also offer a potential opportunity to deploy a different (faster) type of vessel.

Scale of Mull's economy

This offers the potential for a significant number of residents to commute from Mull to Oban, benefiting both island residents and mainland companies. As an established tourism destination there is an opportunity to increase tourism activity significantly. An enhanced service would improve Mull companies' ability to serve customers on the mainland, thus increasing the size of their potential customer base.

2.3 PROBLEMS

2.3.1 Generic Problems

Narrow economic base and insufficient full-time and/or well-paid employment

There is a need to improve the range of income-earning and employment opportunities. This is to avoid over-reliance on a small number of sectors and develop opportunities in sectors that pay relatively well.

Relatively aged population

There remains a need to attract/retain younger economically active people to ensure a more balanced and sustainable population. This can be supported through offering better employment opportunities and, to an extent, by making the mainland more accessible through enhanced transport services.

Infrequent transport services

In particular, there is a significant decrease in frequency of sailing in winter. While the air services are less seasonal, their frequency is still limited. They are also less suited to certain types of passenger trips (when a vehicle is required, or party size is large) and, of course, to the vast majority of freight traffic. Lack of frequency reduces flexibility of trip-making and can result in having either too much or too little time at one's destination.

Operating mainland sailings to each of the islands served is one of the factors which explains the lack of frequency.

Lengthy journey times

Journey times are over 2 hours to all islands bar Mull. This reflects not only the speed of the vessels used but also the location of the mainland ports, and, on some routes, calling to more than one island on journeys to and from the mainland.

Total journey times are increased by the requirement for vehicle traffic and (on most routes) passengers to check in 30 minutes ahead. This is not to say that these practices are unnecessary, simply that they add time to already lengthy ferry crossing times.

Times of arrival and departure

There can be late night arrivals on some routes, meaning that public transport connections cannot be met and there can be difficulties in securing accommodation, notably in Oban. Some arrival times on the mainland are not suited to freight travelling onwards to the central belt. On some routes, times are skewed heavily to either morning or afternoon, rather than a mix being provided which would offer greater flexibility.

Irregular timetabling

In general, the ferry timetables vary by day of the week and by time of the year. While this can have certain advantages it makes consistent planning for some trips-notably freight-more difficult. Irregular timetabling reflects, in part, the sharing of vessels between routes.

Perception that fares are high

There is a general perception among the island communities that freight rates remain high-including those on the Road Equivalent Tariff (RET) pilot routes. This reflects the high ratio of transport costs to the prices of both inputs (e.g. animal feed) and outputs (e.g. livestock) in primary production; and the cost of transport within the delivered prices paid for imports not available on the islands-notably construction materials.

The communities also perceive that car fares are high; and particularly so on the non-RET pilot routes. This is confirmed by the findings from the Scottish Government surveys. In particular, there are concerns that this can have an impact on tourism where visitors have a range of alternative destinations available to them; and where (perceived) high fares can compound other travel constraints imposed by timetables.

Perceived high fares also reduce the use of Oban-Craignure by those travelling between the mainland and Iona, Ardnamurchan and Morvern, given the need to pay for two ferry crossings. They also reduce the potential for island residents to mix and match when travelling to/from Barra and South Uist-e.g. South Uist residents using the Sound of Barra and Castlebay services to reach Oban on the most convenient day.

Conservatism/Incrementalism

Some (parts) of the island communities are fearful or suspicious of change. It can be difficult to assess the benefits of radical changes to the transport network in advance of their being introduced.

On the other hand, decision-makers on the mainland may not appreciate the scale of the economic potential of the islands. This can lead to the underprovision of transport services.

Integration with other transport modes at Oban

The main issue is the length of connecting times at Oban for the routes except Craignure. This reflects, in part, the infrequency of ferry services to/from the other islands and departure and arrival times outwith the current window for train and bus services. At certain times of the day and year it also reflects limited frequency of the rail and bus services.

Constraints on the Argyll Islands Air Services

The Argyll island air services are infrequent. They are also restricted to daylight operations which limits the amount of time available at the destination for day trips. There are also reported problems with bus connections between Oban Airport and the town itself.

Island infrastructure

Increased demand for travel on enhanced ferry services may place pressures on or be constrained-at least in the medium term-by two factors. These are the: quality of the islands' roads and amount of visitor accommodation.

2.3.2 Oban-Craignure

1. Constraints on Daily Commuting

It is currently difficult to commute daily between Mull and the mainland due to the times of arrival and departure at Oban. In part, this reflects that the vessel is based at Oban on most nights of week.

2. Fare Levels

This was also an important issue for island-based consultees, and specifically in relation to freight. A related issue is the total cost of using two ferries to travel between the mainland and Ardnamurchan/Morvern/Iona via Mull.

3. Length of Sailing Day

As well as constraining commuting, the service finishes quite early on most days of the week for what is an island with a relatively large population. This constrains business and other trips to the mainland. The gap between the penultimate and last sailings on Fridays and Saturdays was also seen as constraining leisure trips by island residents.

4. Low Frequency During the Sailing Day

The frequency was not seen as sufficient given the level of demand on the service and the proximity of Mull to Oban.

5. Reduced Service on Some Days

The need to share a vessel with Colonsay creates gaps in the timetable on certain days. This reduces flexibility of trip-making. It also leads to an inconsistent schedule between and within the summer and winter timetables.

Overall, it could be argued that the main Mull route should provide a service (in terms of frequency and length of sailing day) more akin to CalMac's Clyde services rather than to services provided elsewhere in the Hebrides.

2.3.3 Tiree

1. Time of Departures and Arrivals at Oban

Most departures from Oban are in the early morning-and particularly so in winter when all sailings depart Oban before 0700.

In the summer, there is only one afternoon departure per week. Two sailings arrive at Oban quite late in the evening-that is, after 2200.

2. Days of Operation in Winter

The sailings operate on only two weekdays in winter. This means that business staff travelling on other days (i.e. Saturday and Sunday) have to be paid higher wages but for no extra income to the business.

3. Long Crossing Times

These are exacerbated by at least one call at Coll when the vessel is travelling between Oban and Tiree.

4. Limited Sailing Frequency

This is particularly an issue during the winter timetable.

2.3.4 Coll

The issues shown for Tiree also generally apply to Coll. In addition, specific issues that consultees identified for Coll were:

1. Fare Levels

Notwithstanding the introduction of RET, there was a view that further reductions are required for freight, in particular, and also for island residents. The air fares between Coll and Oban were seen as being high for residents' travel.

2. Inability of Secondary School Pupils to Return Home at Weekends

There is presently insufficient capacity on the Oban air services for all Coll pupils to return home every weekend.

3. Incomplete Inter-Island Links

The timetable does not allow some Tiree-based business people (e.g. the vet) to have frequent and regular access to Coll. There can be too much time spent on Coll before staff can return to Tiree. Also, some of the sailings between the two islands are outwith business hours and days. The summer timetable allows a day trip from Coll to Tiree but not one in the opposite direction.

4. Integration with Other Public Transport

There are problems with: long connecting times at Oban for the train services; transport between the ferry terminal and airport on Tiree; and bus links between Oban Airport and Oban town.

2.3.5 Colonsay

1. Fare Levels

These are perceived as high by island residents-notably for freight and car travel on the ferry. Air fares are also perceived as being high for island residents.

2. Integration With Other Public Transport at Oban

The main issue is the sometimes long connecting times between ferry arrivals in Oban and the train departure to Glasgow. The issue of bus connections to Oban Airport was also raised.

3. Times of Arrival and Departure

There is only one early morning departure from Colonsay during the summer. There is none in the winter. This exacerbates the problem of integration with other public transport at Oban.

4. Frequency

Ferry and air service frequencies are low. Yet this does not appear to be as significant a problem for island residents as those shown above. Consultees based elsewhere did, however, see the lack of sailing frequency as a problem for Colonsay.

2.3.6 Barra

1. Sailing Frequency in Winter

Sailing frequency is four per week until December and thereafter three sailings per week. Actual frequency can be lower if a scheduled sailing is cancelled due to adverse weather.

2. Crossing Time

This is an issue in the summer. Three of the eight weekly sailings are via Lochboisdale. This increases the crossing time to over seven hours. Consultees would also wish to see the crossing time on direct services reduced from around five hours to around four hours.

3. Days of Operation

The freight industry does not see the Monday morning sailing ex Barra as being useful. This is because local production lines are not geared up to despatch product first thing on Monday morning. It may not be appropriate to load perishable or valuable cargo before the week-end in anticipation of catching the Monday morning sailing.

In winter it is not possible to travel between Barra and Oban on either Saturday or Sundays. On summer Saturdays there is no sailing from Barra to Oban. Therefore, visitors wishing to leave the island have to travel via the Uists or depart on the Friday.

4. Times of Arrival at Oban

Late evening arrivals can mean a night spent in Oban if travelling onwards to a destination outside the town. Mid-afternoon arrivals for freight can mean the vehicles reach the central belt at the time of the evening rush hour.

5. Fare Levels

Despite the introduction of RET, costs are still perceived as high, especially for freight for the agricultural sector.

2.3.7 South Uist

The main problems relating to the Oban-Lochboisdale service were as follows.

1. Frequency of Sailing

Frequency is particularly limited during the part of the winter timetable when three return sailings per week operate. However, the rest of the year sees just one additional sailing per week.

2. Crossing Time

This problem arises mainly through a number of sailings via Castlebay. Three out of the four summer sailings are direct to/from Oban. However, almost all winter sailings are via Castlebay. This extends the crossing time to over seven hours.

3. Reliability and Comfort

This is seen as an issue in winter. The Oban crossing is perceived as less reliable and comfortable than other services-notably Uig-Lochmaddy.

4. Fare Levels

Notwithstanding the introduction of RET, the cost of freight and for those travelling in relatively large groups is still viewed as high.

2.3.8 Oban-Islay

A. *Oban-Islay*

1. Relevance of Oban Service

Neither Islay nor Jura residents saw the link as having much relevance to their transport needs. This reflects that their links are with locations further south, including the central belt, rather than with Oban. There was some suspicion that increased frequency to Oban would be at the expense of existing sailings to Kennacraig. This was not seen as worthwhile.

2. Time Available at Oban

Islay/Jura residents have less than one and a half hours between the ship arriving at Oban and its departure on the return crossing.

3. Frequency of Service

The service operates on only one day per week during the summer.

4. Crossing Time

This is seen as long-especially for Islay/Jura residents who otherwise travel to the mainland on the shorter route via Kennacraig. Jura residents, in particular, were seeking new services that would reduce the crossing time to the mainland.

5. Fare Levels

These are seen as high.

B. Islay-Colonsay

Interest in transport links between Islay and Colonsay link was among residents of Colonsay rather than those of Islay and Jura.

1. Inability to Make a Day Trip

2. Lack of Air Link between Islay and Colonsay

3. Concern About Reduction in Oban Services

Colonsay residents do not wish to see any reduction in transport services to Oban if that was a consequence of enhanced links with Islay. This reflects Oban's role as a service centre and its well developed onward public transport links.

3 BASIS OF TRANSPORT INTERVENTIONS AND APPROACH TO APPRAISAL

3.1 INTRODUCTION

This Chapter:

- Explains the terminology used throughout this report.
- Shows the approach by which the proposed transport interventions have been generated.
- Discusses the high level objectives agreed by the Steering Group at its meeting of November 2008.
- Describes the options for achieving these objectives.
- Presents transport interventions related to the high level objectives and options.
- Sets out the proposed approach to appraising the transport interventions.

3.2 TERMINOLOGY

At the start of this study, it was agreed that the approach was to be based on STAG pre-appraisal guidelines. The main variation is that more detail on demand and costs is to be provided through the study than is conventionally the case at the STAG pre-appraisal stage. Further detail on this point is given at **3.7**.

The overall approach agreed at the outset is unchanged. However, as requested by the Steering Group, we have changed some of the terminology used from that contained within STAG. The changes are shown at **Table 3.1**.

TABLE 3.1: TERMINOLOGY

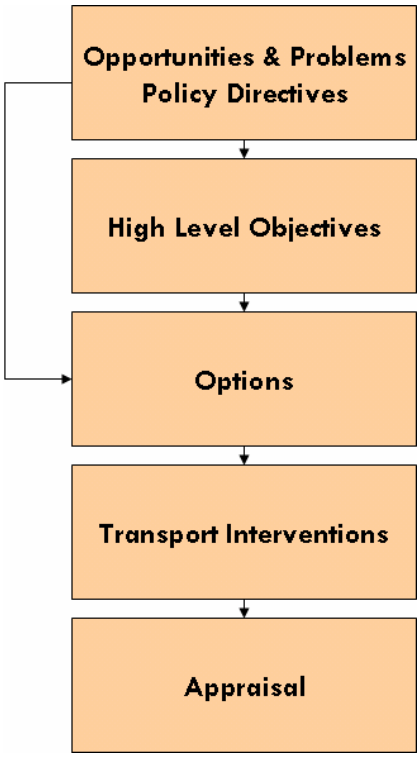
This Study	STAG Equivalent
High Level Objectives	None
Options	Transport Planning Objectives
Transport interventions	Options

3.3 APPROACH

The diagram overleaf shows the approach underlying the route from the initial analysis to the transport interventions. This reflects the principles underlying the STAG pre-appraisal process.

As explained at **Chapter 1**, Opportunities & Problems (shown at **Chapter 2**) and the policy directives were discussed at the Steering Group meeting. The participants then used these as the basis for their selection of the high level objectives. These objectives, in turn, influenced the selection of options. The detail of these options also reflects, in particular, the opportunities and problems identified for each island.

The options were then used as the basis to generate the transport interventions to be appraised in the remainder of the study.



3.4 HIGH LEVEL OBJECTIVES

3.4.1 The Objectives

The following high level objectives were agreed by the Steering Group:

- Improve affordability to users.
- Improve value for money for government.
- Reduce end to end journey times.
- Improve integration.
- Improve accessibility for island communities.
- Reduce greenhouse gas emissions per the Government's climate change policy including 50% reduction by 2030 and 80% reduction by 2050.[1]

3.4.2 Relationship To Opportunities, Problems And Policy Directives

Table 3.2, over, shows the relationship between Opportunities & Problems and policy directives and the high level objectives. There is a clear relationship. This is shown by the fact that each of the objectives has at least two ticks with those relating to affordability and accessibility literally "ticking all the boxes".

1 As of May 2009 the Climate Change Bill includes an interim target to cut emissions by 34% by 2020. Ministers also intend to introduce an amendment to the Bill to ensure this rises to at least 42% as soon as the EU agrees to reduce its greenhouse gas emissions by 30% by 2020.

TABLE 3.2: LINKS BETWEEN HIGH LEVEL OBJECTIVES AND OPPORTUNITIES & PROBLEMS AND POLICY DIRECTIVES						
	Improve affordability to users	Improve VFM for government	Reduce end to end journey times	Improve integration	Improve accessibility for island communities	Reduce emissions
Opportunities	√	√	√	√	√	
Problems	√		√	√	√	
Scottish Government's Purpose	√	√	√	√	√	√
National Transport Strategy	√		√	√	√	√
Regional Transport Strategy Objectives	√			√	√	
Regional Transport Strategy-Ferry Problems	√			√	√	
Local Transport Strategy-CnES	√				√	
Local Transport Strategy-ABC	√				√	

The **opportunities** in relation to the objectives arise from the existence of a range of existing transport facilities (notably ports and airports) and the geography of the study area. These offer the potential for at least some islands to have shorter ferry crossings leading to lower fares, improved accessibility (through, for example, improved frequency of sailing) and, possibly, reduced end-to-end journey times. The re-orientation of services also offers potential for improved value for money through, possibly, increasing demand and reducing the cost of provision.

The prospect of an increased number of train services out of Oban also offers an opportunity for improved transport integration; as does increased sailing frequency which has the potential to reduce connecting times at Oban.

Four of the objectives are shown as addressing identified **problems**. Where this is not the case (VFM and emissions) these are supported by their reference in national **policy directives**.

"Reduce emissions" is one of the three key strategic outcomes of the National Transport Strategy. It is also part of the Scottish Government's Purpose within the "Greener" strategic objective. There is an associated quantified target which is shown in the high level objective at **3.4.1**.

Value for money is also part of the Scottish Government's Purpose. Efficient and effective government allows greater resources to be devoted to increasing sustainable economic growth which is at the heart of the Purpose.

In fact, **Table 3.2** shows that each of the six high level objectives is related to Scottish Government's Purpose.

3.4.3 Relationship to STAG Criteria

STAG has five criteria which provide a framework to ensure all possible impacts of a transport intervention are considered. **Table 3.3**, over, shows the relationship between the STAG criteria and the high level objectives. It shows that each of the objectives bar one fits with at least one of the STAG criteria. In the case of "Improve accessibility for island communities" there is fit with both the "Accessibility and Social Inclusion" criterion and also the "Economy" one. The fit with the latter reflects the potential of more frequent ferry services with timings more closely fitting user requirements producing both financial and time savings and, as a result, wider economic and activity location (EALI) impacts.

The exception is VFM. It does not fit within any of the five STAG criteria. However, the Stage 2 STAG appraisal guidelines require that "Cost to government" is included in the overall project appraisal, alongside performance against the five criteria. This is relevant here because, as discussed at **3.7**, the appraisal for this study goes beyond the level of detail usually required by STAG pre-appraisal.

As noted above, **Table 3.3** shows the link between the five criteria and the high level objectives. This allows us to use the criteria as part of the appraisal process, as shown at **3.7**.

TABLE 3.3: LINKS BETWEEN HIGH LEVEL OBJECTIVES AND STAG CRITERIA						
STAG Criterion/High Level Objective	Improve affordability to users	Improve VFM for government	Reduce end to end journey times	Improve integration	Improve accessibility for island communities	Reduce emissions
Environment		Covered via "Cost to Government"				√
Safety						
Economy	√		√		√	
Integration				√	√	
Accessibility and Social Inclusion	√			√	√	

3.5 OPTIONS

Table 3.4 contains the options.

TABLE 3.4: OPTIONS
Mull
Allow daily commuting off Mull
Reduce fares
Provide a longer sailing day
Increase the regularity of sailing times
Increase sailing frequency to mainland
Increase transport links with other islands
Tiree
Offer a range of ferry arrival and departure times at Oban
Increase sailing frequency to the mainland
Reduce the ferry crossing time to the mainland
Reduce fares-ferry, and air to Oban
Increase transport links with other islands
Coll
Reduce fares-air and ferry
Meet the demand for secondary school pupils to return home for weekends
Increase sailing frequency to the mainland
Increase transport links with other islands
Reduce the connecting time with public transport at Oban
Oban-Colonsay
Reduce fares-air and ferry
Reduce the connecting times with public transport at Oban
Offer a range of ferry arrival and departure times at Oban
Increase sailing frequency
Barra
Increase sailing frequency in the winter
Reduce journey time
Provide sailings on the days and at the times required by freight traffic
Provide sailings at weekends all year round for passenger travel
Reduce the connecting time with other public transport at Oban
Reduce ferry fares
South Uist
Increase sailing frequency
Reduce the ferry crossing time to the mainland
Reduce ferry fares
Oban-Islay
Improve transport links without reducing the Kennacraig-Islay ferry service
Increase the time available at Oban
Increase service frequency
Reduce journey time
Colonsay-Islay
Improve transport links without reducing the Colonsay-Oban ferry service
Offer day trip opportunities from Colonsay to Islay
Increase service frequency from Colonsay to Islay

The options reflect the high level objectives shown at **3.4**. At a more detailed level they are also demonstrably related to the opportunities and problems shown at **Chapter 2**.

Defining the options for each island was a key part of the study process as it:

- Identified the issues be tackled in achieving the high level objectives. For example, a key issue in relation to "improve accessibility for island communities" is increased frequency.
- In turn, meant that these issues could be used to generate possible transport interventions.

3.6 TRANSPORT INTERVENTIONS

3.6.1 Introduction

The interventions aim to address the high level objectives and options shown earlier in this Chapter. They reflect:

- Existing ideas/proposals, including those contained in the study brief.
- Suggestions made by consultees.
- Our own views based on the work undertaken to date.

3.6.2 The Interventions

The interventions are set out at **Table 3.5**. They reflect the options set out at **Table 3.4**, specifically:

- The inclusion of the reference case allows the specific identification of the impacts of the introduction of RET fares on the Oban-Craignure and Oban-Colonsay services. Importantly, **it was agreed at the study inception meeting that the roll out of RET fares across the ferry network was to be assumed for all transport interventions.**
- Interventions **A** and **B** offer the potential for, in particular, increased sailing frequency and enhanced inter-island transport links.
- **C** offers the potential to increase sailing frequency, reduce the crossing time and reduce fares between South Uist and the mainland.
- **D** is as per intervention **C** for South Uist and also offers the same potential benefits for travel to/from Barra.
- **E** relates to the options identified for Mull-notably daily commuting, higher frequency and a longer sailing day.
- **F** offers a means of improving frequency and time at destination on trips between Islay and Colonsay/Oban, without reducing the two islands' main ferry services to the mainland.
- **G** offers a means of improving frequency and reducing journey time for trips between Barra and Oban.
- **H** relates to the option of lowering air fares on the three islands currently served by air from Oban.

TABLE 3.5: TRANSPORT INTERVENTIONS FOR APPRAISAL	
Transport Intervention	**Description**
Reference Case	RET fares extended to Oban-Craignure and Oban-Colonsay ferry services
A	New port facility on north/west Mull. Castlebay, Lochboisdale, Coll and Tiree ferry traffic routed via Mull rather than direct to/from Oban. Upgraded road connection between new Mull facility and Craignure
B	Fixed link between Coll and Tiree. Oban-Tiree ferry service ceases
C	Mallaig-Lochboisdale service introduced. Oban-Lochboisdale service ceases. Castlebay continues to be served from Oban
D	Mallaig-Lochboisdale/Castlebay ferry services introduced. Oban-Lochboisdale/Castlebay ferry services cease
E	Enhanced Oban-Craignure service, with commuter-oriented timetable and longer sailing day
F	Extension of Oban-Colonsay air service to Islay
G	Introduction of Oban-Barra air service
H	Reduction in air fares on Oban-Coll/Tiree and Oban-Colonsay

There are two further points to note. First, the original brief for this study included the intervention of a freight only ferry service. This has not been included. This reflects the apparent lack of interest and potential demand for such a service among freight providers.

We consulted some of the principal freight carriers for Barra, Coll, Colonsay, Mull and Tiree. We were advised that no-one was interested in an additional freight only service.

The industry on Mull was keen on the idea of a second vessel to improve service frequency and, by using a different design of ship, to substantially cut the operating costs (and hence freight rates). Issues for Coll and Tiree focused on possible improvements to the winter schedule. All saw RET as the way to reduce costs-or it has reduced costs to Coll, Tiree, Barra and South Uist.

Colonsay has relatively little freight traffic. There was no apparent demand for a freight only service to the island. The main issue was the perceived high freight rates.

There was no interest in additional freight only sailings with the existing ships, or acquiring an additional freight only vessel. All pointed to the constraints of the Working Time Directive and the requirement to fit around the needs of their customers. Their interests were in seeing a service which met their needs through a combination of the right price, frequency and schedule.

Further, an RET based fare system means that a freight only vessel would not result in lower charges than would be the case for a multi-purpose vessel.

Second, the study brief also referred to enhancing the Oban-Colonsay-Islay ferry link. However, there was limited interest in doing so among those consulted. Consultees were strongly of the view that any such enhancements should not be at the expense of their primary ferry links (i.e. Kennacraig-Islay and Oban-Colonsay). Therefore, the interventions for improved links between Islay and Colonsay/Oban have been framed in terms of air rather than ferry services.

3.7 APPRAISAL

3.7.1 Analysis

As agreed at the inception meeting for the study, appraisal of the transport interventions took the form of set out in STAG pre-appraisal procedures. However, a number of elements were analysed in greater detail than is the normally the case, as follows.

1

Greater detail on economic effects and impacts. This relates, in particular, to changes in generalised costs for end-to-end journeys between the islands and key mainland trip ends. As noted at **3.6.2**, RET-based fares were used as part of the analysis of generalised costs.

2

Where relevant, indicative, high level financial values were produced for:

- Vessel capital costs.
- Vessel operating costs.
- Potential demand and revenues.

In addition, and as is more common in STAG pre-appraisal, the analysis also covered:

- Indicative capital costs for any new/upgraded harbour facilities and road improvements related to specific interventions.
- Operational feasibility of interventions in terms of vessel types, required port and land infrastructure, etc.

All costs are intended simply to give the order of magnitude of proposals and are based on typical costs for similar works in the area. They are considered adequate for the pre-appraisal nature of this study. If any of the interventions considered in this report is to be developed further a more detailed study will be required to refine these costs.

3

There was also consideration of timetabling of new/revised services to allow sufficient analysis of changes to frequency and mainland arrival and departure times.

The analysis undertaken in appraising the transport interventions is presented at **Chapter 4**.

3.7.2 Appraisal

Based on the analysis shown at **Chapter 4**, each of the transport interventions has been appraised in terms of its:

- Contribution to supporting the **options** identified for each of the islands. This was on a scale of 0-3.
- Performance against the 5 **STAG criteria.** This ranged between -3 and 3. This reflects that some of the interventions could have a negative impact on one or more criteria. For example, those introducing shorter ferry crossings could have a negative impact in terms of increased emissions through increased road miles.
- **Operational feasibility, cost to government** and **likely public acceptability**. This was through qualitative assessment, as per STAG guidance.

These three strands have been brought together to assess the performance of each of the transport interventions against the six **high level objectives**.

4 ANALYSIS OF POTENTIAL TRANSPORT INTERVENTIONS

4.1 REFERENCE CASE: RET FARES ON OBAN-CRAIGNURE AND OBAN-COLONSAY FERRY SERVICES

4.1.1 Introduction

In October 2008 an RET fare structure was introduced, on a pilot basis, on the following ferry services:

- Ullapool-Stornoway.
- Uig-Lochmaddy.
- Uig-Tarbert.
- Oban-Castlebay/Lochboisdale.
- Oban-Coll/Tiree.

RET prices the ferry journey, in part, on the basis of distance; in this way it seeks to treat the sea crossing in the same fashion as a road journey. Under RET the fare structure is greatly simplified: no distinction is made between summer and winter rates and the only available fares are single or return, with the return simply twice the price of a single.

The RET fare structure is based on the following rates:

- Passengers: £2 +10p per mile.
- Cars: £5 +60p per mile.
- Commercial Vehicles (CVs) and Coaches: £20 +18p per metre per mile.

Thus the only routes covered by this study that are not within the pilot are Oban-Craignure and Oban-Colonsay. As noted at **Chapter 3**, it was agreed at the study inception meeting that the roll out of RET fares across the ferry network was to be assumed for all transport interventions.

The routes that are the subject of this study have a varied profile in terms of volume of traffic carried and the frequency of service. **Table 4.1** shows traffic volumes in 2007. The data are taken from **Working Paper 1**.

TABLE 4.1: CARRYINGS (000) ON MAIN OBAN FERRY SERVICES: 2007

Route	Passengers	Cars	Coaches	CVs
Craignure	596.7	114.7	2.1	7.3
Castlebay-Lochboisdale	46.6	13.8	0.1	1.0
Coll-Tiree	46.4	13.0	<0.1	1.9
Colonsay	16.3	4.7	<0.1	0.3
Coll-Tiree-Castlebay	9.4	2.2	<0.1	0.3

The Oban-Craignure route is by far the most important in terms of traffic volumes. In 2007 it carried 82% of passengers, 78% of cars, 65% of CVs and over 90% of coaches on the relevant services.

Please note that in the rest of this Chapter some columns and rows may not sum to their totals due to rounding.

4.1.2 Potential Impact of RET on Oban-Craignure

Fares

Table 4.2, over, shows the fares if RET was applied on Oban-Craignure. It shows that the application of RET to the Oban-Craignure route would bring about a considerable reduction in fares. When compared with the existing winter and summer single tariffs for a car, RET would result in a reduction of 61% and 74%, respectively.

Even if it is assumed that most visitors to Mull use a 5 day return ticket, the saving is still considerable; the summer return fare of £54.00 falls by around £33. This is a reduction of over 60%.

A reduction in the fares on the Oban-Craignure service would be likely to also increase demand on through traffic on the services to Iona, Ardnamurchan and Morvern. Even a 10% increase in volumes would bring an extra 60,000 passengers and 12,000 cars and this could overburden the existing operation. The fact that CalMac has a series of premium fares for some summer sailings implies that capacity is under pressure at specific times of the year. This reflects what we understand to be a considerable degree of seasonality of passenger, car and coach demand on the service, with a concentration of carryings in the main summer months.

Potential Demand

To assess the impact which the introduction of RET might have on the Oban-Craignure service, it is helpful to describe the profile of its traffic. This is based on existing passenger survey data reported in the evidence base in **Working Paper 1**.

1

Survey evidence suggests that the split between travel by islanders and visitors is about 33%: 67%. On that basis 200,000 of the 600,000 passengers carried in 2007 were island residents, with the balance being 400,000 visitor passengers. Assuming that passengers did a round trip, this means that there were about 100,000 round trips by islanders and 200,000 by visitors. The population of Mull is about 3,000 so this means that every islander makes about 33 round trips per annum.

This is essentially consistent with survey evidence that Mull residents using the Oban-Craignure service make an average of 32 round trips per annum on the service. The same survey found that the average number of trips to Mull per visitor was nine. This suggests that some visitors are relatively frequent travellers who account for a large share of total travel on the route.

2

For visitors to Mull, leisure is the dominant trip purpose. Some 47% of visitors to Mull are on a day trip. The incidence of day tripping was even higher for Mull residents at 65% of all journeys.

TABLE 4.2: OBAN-CRAIGNURE: EXISTING FARES (2009-2010) AND RET FARES (£)								
	Single Fares				5 Day Return Fares			6 Journey Fare
		Current				Current		Current
	RET	Winter	Summer	Summer-Saver	RET	Winter	Summer	All Year Round
Passengers	2.90	3.60	4.45	4.45	5.80	6.35	7.55	18.95
Cars	10.40	26.50	39.50	31.50	20.80	45.50	54.00	114.00
Car & 2 passengers	16.20	33.70	48.40	40.40	32.40	58.20	69.10	151.90
Coaches* (12m)	39.44	224.00	292.00					
Freight (14m)**	42.68	140						

*RET Coach fare is for vehicle only. Current coach fare includes passengers

** Current freight rate is a best estimate based on consultations undertaken for this study

3

Oban is one corner of the so-called "tourist box" (defined by the popular itinerary from Oban to Fort William to Inverness) so the availability of discretionary travellers is large. VisitScotland data show around 1.7 million visitors per annum from the UK coming to the Argyll, the Islands, Loch Lomond and Forth Valley area.

The total number of visitors to the Oban hinterland suggests that there is an opportunity to increase this significantly. The range and quality of the attractions of Mull (and Iona, Morvern and Ardnamurchan) suggest that this should be possible. New visitors will not travel to the island at the frequency of existing visitors (i.e. nine times per annum), but even if they only travel once a year, that would bring an increase in traffic.

4

Assuming no capacity constraints and a schedule offering a longer operating day that was commuter-friendly it is probably inevitable that the average number of trips per islander would increase. Islanders and some mainlanders already undertake very frequent ferry journeys; lower prices and better frequency are likely to reinforce this trend. A commuter-friendly schedule would also attract shoppers and travel for other "non-business" purposes.

5

The survey evidence reviewed in **Working Paper 1** showed that those who travel on the route view the ferry fare, and particularly that for cars, as the weakest point of the service. It should be noted that the surveys capture only the details of those who actually travel; they cannot assess the scale of frustrated demand as anyone discouraged by the price would, by definition, be excluded from the survey. It can be argued, therefore, that the introduction of RET would remove the largest transport-related obstacle to travel on the Oban-Craignure route.

It is estimated that the introduction of RET would reduce the average fare for a car by approximately 58% on the Oban-Craignure route over the year. Without undertaking a specific study it is difficult to assess precisely how the market will respond to reduced fares and other service improvements; we have therefore made some estimates in relation to different market segments on the basis that the elasticity of demand in the case of the Mull-Oban route is unity (i.e. a 58% reduction in fares will create a 58% increase in car accompanied travel to and from Mull).

The above-and the other elasticities used in this report-are our best judgement based on the evidence base for this study and our previous experience in researching ferry services in the Highlands & Islands. We are aware that the Scottish Ferries Review is generating price elasticity data. These could be used in any subsequent further research into the Craignure and Colonsay services.

At present in response to car fares which are perceived to be high many passengers travel to the port by car and take the ferry journey as a foot passenger. We have assumed that RET would encourage these customers to travel by car. The changes to the passenger fares under RET are likely, in themselves, to produce only a very limited increase in passenger numbers.

Lower fares are likely to encourage additional car trips by islanders as well as by visitors. The latter is likely to include new business attracted by the lower fares and high frequency. Overall there could be an increase of around 70,000 cars carrying an average of around 2.5 passengers.

Coach traffic is also likely to increase as a result of the lower fares and an enhanced service frequency if two vessels are deployed.

When it comes to assessing the impact on freight traffic, our consultations with hauliers suggested that some conventional traffic flows would switch to ro-ro and that a lower freight rate would generate further agricultural-based traffic. However, freight demand in the case of Mull-Oban is probably relatively inelastic; we have, therefore, assumed that elasticity of demand would be 70% of unity: that is, a 70% reduction in freight rates leads to a 50% increase in freight traffic.

Potential Revenues

The revenue impact of the introduction of RET is set out at **Table 4.3**.

TABLE 4.3: OBAN-CRAIGNURE: IMPACT OF RET FARES ON REVENUES			
Present Position			
	Carryings	**Average Fare (£)**	**Revenues (£)**
Passengers	596,700	3.05	1,819,940
Cars	114,700	21.75	2,494,730
Coaches	2,100	100.00	210,000
CVs	7,300	140.00	1,022,000
Total Revenues (£)			**5,546,670**
RET Fares (1 Vessel Service)			
	Carryings	**Average Fare (£)**	**Average Revenues (£)**
Passengers	671,350	2.90	1,946,910
Cars	137,650	10.40	1,431,570
Coaches	2,420	39.44	95,470
CVs	8,780	42.68	374,540
Total Revenues (£)			**3,848,490**
RET Fares and Increase In Demand (2 Vessel Service)			
	Carryings	**Average Fare (£)**	**Average Revenues (£)**
Passengers	818,900	2.90	2,374,810
Cars	181,630	10.40	1,888,980
Coaches	3,370	39.44	132,980
CVs	10,950	42.68	467,350
Total Revenues (£)			**4,864,120**

In order to estimate revenues for the existing position, we have assumed that the average (mean) fare for a single journey across all passengers and cars is equivalent to that of the single fare equivalent for the winter 5 day return.

Table 4.3 shows that the potential impact of RET, if not strongly capacity constrained, is that the number of passengers travelling will increase from 596,000 to 819,000; and the number of cars will increase from 114,000 to 181,000. This dramatic increase in traffic would flow from the introduction of RET and will, in turn, require additional capacity; if it comes in the form of a second ship, the additional capacity will permit a higher frequency of service.

It should be noted that the number of journeys by "mainland visitors" includes those travelling on business. Demand by this segment of the market is likely to be inelastic so this figure is probably an over estimate. On the other hand we may have underestimated the response of "new visitors", given the range of attractions which Mull offers, combined with its proximity to the mainland.

Such significant traffic increases would not only put the existing ferry service under pressure, it would also place heavy demands on the island's existing infrastructure. It is vital that the island's roads, visitor accommodation and other services are developed to meet demand.

The data shown at **Table 4.3** imply that the introduction of RET, on a like for like basis, would cause revenue to fall by around 40%. If a second ship were introduced revenue would fall by 12% from the pre-RET level. With two ships the load factor would be slightly below that at present.

In effect it is assumed that if a single vessel of existing capacity was retained on the route post-RET then much of the additional potential demand would be frustrated. The crucial issue facing the present operation to Mull is that the load factor is already high, particularly in the summer. It is estimated that current vehicle deck utilisation is 50% for the whole year (based on 2007 carryings), with this increasing to over 60% in each of June, July and August and, within this, peaks for particular sailings.

Thus even under current pricing and the current schedule, there is clear evidence that demand is greater than supply during summer weekends, when full fare pricing is used and pre-booking is essential as the ship is full on many sailings. The point that there is pressure on vehicle deck space was confirmed in our consultations.

If RET was introduced and no additional ship capacity was provided then the potential to carry extra traffic in the summer peak would be restricted, although not in the shoulder months nor in the winter.

Our calculations assumed that the maximum average monthly achievable load factor on the vehicle deck would be 75% (or about 18,000 cars in the months of July and August), allowing for the fact that some sailings are not convenient for potential customers. A view was also taken that the best annual load factor that might be achieved is 60%.

The result is shown at **Table 4.3**. Traffic volumes under a one vessel operation would be higher than at present, but much less so than with a two ship service. For example, car demand is forecast to increase by 20% rather than 58%. The additional traffic generated by RET with one ship would produce incremental income of around £500,000, bringing final income to around £3,850,000. That is around £1 million less than with a two ship service.

Ship Replacement and Route Performance

An increase in traffic through Craignure could be accommodated in two ways. Either by:

- Using a larger vessel than MV Isle of Mull; or
- Increasing the number of calls made, by using two ships.

The latter requires no modification to the existing facilities since only one ship can be handled at any one time and therefore all facilities are already of the correct size provided there is a reasonable time gap between sailings.

If a vessel larger than currently used is introduced the implications are very onerous since all facilities require to be increased in size. While it is relatively straightforward to increase the size of the marshalling area the effect of a larger ship on the pier structure is very serious and could lead to its complete reconstruction.

Craignure pier was designed over 40 years ago for much lighter ships than currently use the facility. An increase in ship size will eventually lead to accelerated deterioration of the fendering and actual pier structure. Further, if any new ship is wider than the existing ferry the ship's ramp will not fit on to the linkspan which would necessitate relocation of the whole linkspan and its supporting structure.

Similar restrictions would apply at Oban though not to such a serious extent as Craignure with regard to the fabric of the structure. The two Oban berths are of modern construction with No 2 Berth completed within the last three years. Dimensional restrictions would, however, apply at Oban where it is unlikely a vessel longer than about 110 metres could be comfortably accommodated on either berth. In a similar way to Craignure, a ship wider than the existing could not be accommodated without major alterations to the linkspan and its supporting structure.

These factors, and the ability to provide improved frequency with a two ship operation, strongly suggest that the introduction of RET would require the use of two vessels on Oban-Craignure.

One option that could be considered is the replacement of the MV Isle of Mull with a pair of ships similar to the MV Pentalina. That craft has recently been purchased by Pentland Ferries for its route to Orkney, between Gills Bay and St Margaret's Hope. The price of MV Pentalina is not known, but market intelligence suggests that it was around £14 million. In this analysis it is assumed any subsequent craft will cost around £18 million, reflecting building costs in Europe and other improvements.

The advantage of MV Pentalina is that with an offset stern ramp it is possible to fit this wider vessel onto the linkspan since the ship's ramp is not on the centreline of the ship. It should be noted, however, that such a ship could not use the No 2 Berth at Oban since its increased width would interfere with the operation of No 1 Berth. It would, however, be satisfactory on No 1 Berth.

We understand that in considering future options for Oban-Craignure it could be possible to replace the MV Isle of Mull with a pair of conventional ferries with a capacity for 60 cars and 450 passengers. These would be similar to the existing vessels MV Argyle and MV Bute which are deployed on the Wemyss Bay-Rothesay route.

These craft have a crew of 11 and a service speed of 13 knots. In fact, potential new ships on Oban-Craignure would have to be 15 knots service speed, in order to provide the frequency of service required for the route. For the purposes of clarity these vessels are subsequently referred to as *Bute II type ships*. The use of two such conventional vessels or two MV Pentalina type ships would be very similar in terms of operating ability and costs. For the purposes of this study they are seen as the same. Both involve use of vessels that are more basic than the MV Isle of Mull, with, for example, reduced on board catering. For a 45 minute crossing this should not be an issue.

The main difference between the two vessel types would be that the conventional ships' capital costs are likely to be higher. Their new-building cost would be of the order of £22 million each or £42 million for the pair. This compares to around £34 million for a pair of catamarans. In both cases, it is assumed that there would be a discount for the purchase of two, as opposed to one, vessels from the same yard.

In general, passenger capacity is presently under much less pressure than vehicle capacity. However, there is some peaking of passenger demand on certain sailings-notably on the 0950 ex Oban and the 1700 ex Craignure during the summer. These sailings tie in with day trips from the mainland to Iona.

Some of this traffic may spread to an 0910 ex Oban sailing if an hourly service was provided by two vessels. However, it could be that some passengers would be unable to travel because passenger capacity has been reached. This would depend on how often, at present, more than 900 passengers are carried on a single sailing by MV Isle of Mull-that is, more than twice the 450 passenger capacity of the two ships referred to above. We do not have data to cover this point. This issue would need to be considered in more detail before any final investment decisions were made.

An alternative could be to have two vessels operating on the route in summer but only one in the winter. It would offer an opportunity to match supply more closely to demand and to reduce costs in the winter. However:

- The attraction of the new ships is that they will have lower crew costs. The existing ships that can operate on this route have high crew numbers and costs.
- The improved frequency of service is likely to increase demand, even in the low season.
- Even in winter, the second ship should be able to generate sufficient revenue to cover its direct marginal costs.

Table 4.4, over, sets out a high level financial analysis of the operation of different vessels on the Oban-Craignure service along the introduction of RET fares.

The results show that RET offers an opportunity to increase traffic volumes with a pair of vessels. The additional annual cost compared to continuing with MV Isle of Mull for her remaining life is estimated at around £2.4 million. However, given that this vessel will require replacing in the medium term, the future difference between a one and two ship operation using new tonnage would be around £1.1 million per annum.

TABLE 4.4: OBAN-CRAIGNURE ROUTE PERFORMANCE UNDER RET (£): HIGH LEVEL ANALYSIS				
	Existing	**MV Isle of Mull + RET**	**New Conventional Vessel +RET**	**2 "MV Pentalinas" + RET**
Income	**5,546,660**	**3,848,490**	**3,848,490**	**4,864,128**
Bunkers	651,000	651,000	651,000	1,302,000
Crew costs	2,232,000	2,232,000	2,232,000	2,160,000
Vessel operating costs	620,000	620,000	620,000	1,240,000
Insurance and P&I	100,000	100,000	100,000	200,000
Total operating costs	**3,603,000**	**3,603,000**	**3,603,000**	**4,902,000**
Operating result	**1,943,660**	**245,490**	**245,490**	**-37,872**
Depreciation	400,000	400,000	1,000,000	1,440,000
Interest payable	-	-	750,000	1,080,000
Result before admin and overheads	**1,543,660**	**-154,510**	**-1,504,510**	**-2,557,872**

We have assumed the capital cost for a single ship replacing MV Isle of Mull as £25 million. This is in line with the price (£24.5 million) for the new building on order from CMAL. This has a capacity of 88 cars and 550 passengers; it is a Class IIA (i.e. a Euro Class B) vessel. This will be delivered in 2011.

As explained earlier, the result for two Bute II types of ship would be very similar to those shown for two catamarans shown at **Table 4.4**.

At **Table 4.4**, and elsewhere in the report, interest rates are taken as 6%, reflecting existing market conditions.

4.1.3 Potential Impact of RET on Oban-Colonsay: Fares, Demand and Revenues

Fares

Table 4.5, over, shows the fares if RET was applied to the Oban-Colonsay service, with the reductions in fares being:

- Passengers: 31%-43% compared to the existing 5 day return fares and 31% for six journey fares.
- Cars: 36%-45% compared to the existing 5 day return fares and 21% for six journey fares.
- Freight: 50% compared to existing fares.

Potential Demand

To assess the impact which the introduction of RET might have on the Oban-Colonsay service, it is helpful to describe the profile of its traffic. This is based on existing passenger survey data reported in the evidence base which was reviewed in **Working Paper 1**.

TABLE 4.5: OBAN-COLONSAY: EXISTING FARES (2009-2010) AND RET FARES (£)							
	Single Fares			5 Day Return Fares			6 Journey Fare
		Current			Current		Current
	RET	Winter	Summer	RET	Winter	Summer	All Year Round
Passengers	6.00	10.30	12.40	12.00	17.50	21.00	52.00
Cars	29.00	53.00	62.00	58.00	90.00	105.00	221.00
Car & 2 passengers	41.00	73.60	86.80	82.00	125.00	147.00	325.00
Coaches (9m)	84.80	164.60					
Freight (7m)	70.40	140					

1

Around 15% of passenger journeys on the ferry service are by residents (about 2,440 journeys or 1,220 round trips); 85% journeys were by visitors to Colonsay.

2

Survey evidence shows that price was cited as the major barrier to more trip making on the ferry service, so a reduction in fares should encourage a higher frequency of travel by islanders.

3

Visitors are largely (over 85%) travelling for leisure purposes. Most visitors travel in the summer and the summer price savings would be considerable: the 5 day return car fares would fall by over 40% under RET.

While the survey evidence shows price as the main constraint on increased frequency of use of the ferry service, the ability of lower fares to stimulate additional demand would be less than on an island like Mull due to:

- No opportunity for day trips.
- Relatively few visitor attractions.
- Quite limited through route options.

Visitors travel, on average about 4 times per year, suggesting a number of regular travellers. Assuming the existing visitors travel, on average 4 times per year, this means that there are around 1,730 visitors per annum.

We estimate that the impact of RET might be that passenger and car growth resulting from RET would be about 48%, assuming the elasticity of demand is unity. This reflects the assumptions that:

- Existing visitors would increase their frequency of travel to around five trips per annum. In addition some new visitors are attracted to visit Colonsay.
- Increased islander travel might be an extra five trips per annum.

We have also allowed for some uplift in freight traffic from the 50% reduction in freight rates. However, we have assumed that the very low coach volumes would remain unaltered, reflecting the infrastructure likely to continue to be available on Colonsay.

Potential Revenues

The impact of RET on traffic volumes and revenue is summarised at **Table 4.6**, over.

In order to estimate revenues for the route for the existing position, we have assumed that the average fare for a single journey across all passengers and cars is equivalent to that of the single fare equivalent for summer five day return reflecting the high number of visitors to the island at this time. The freight rate is based on our consultations for this study.

TABLE 4.6: OBAN-COLONSAY: IMPACT OF RET FARES			
Present Position			
	Carryings	**Average Fare (£)**	**Average Revenues (£)**
Passengers	16,275	10.50	170,888
Cars	4,709	52.50	247,223
Coaches	4	148.14	593
CVs	288	140.00	40,320
Total Revenues (£)			**459,024**
RET Fares			
	Carryings	**Average Fare (£)**	**Average Revenues (£)**
Passengers	24,081	6.00	144,486
Cars	6,968	29.00	202,069
Coaches	4	84.80	338
CVs	400	70.40	28,160
Total Revenues (£)			**375,054**

These high level estimates imply that RET would result in a reduction in annual revenue of £84,000. The average loadings per sailing throughout the year would increase from:

- Passengers: 34 to 50.
- Cars: 10 to 14.

Simply on the basis of the changes in carryings per sailing, there would be no requirement for additional sailings or a larger vessel than presently provided.

Ship Deployment

At present, Colonsay is primarily served by MV Lord of the Isles in the summer and MV Isle of Mull in the winter. Any future vessel deployment needs careful consideration, but it may be that Colonsay and Mull can be de-coupled or they may continue to share a vessel. If a pair of ships was deployed on Oban-Craignure, one of them could serve Colonsay all year round.

The vessels would have to be Class IIA (as per MV Isle of Mull and MV Lord of the Isles and also MV Pentalina) rather than Class IV (as per MV Bute and MV Argyle). This is required in order to allow the vessels to operate on Oban-Craignure and, if required, Oban-Colonsay. The different classification would, however, not affect the number of crew required as this is a function of passenger and car capacity.

4.2 IMPLICATIONS OF FLEET DEPLOYMENT FOR POTENTIAL INTERVENTIONS

4.2.1 Introduction

Potential transport interventions A-E are discussed at **sections 4.3-4.7** of this Chapter. Each of these interventions has potential implications for the deployment of vessels that presently work out of Oban. These are discussed below.

4.2.2 Present Position

At the present time, Oban is the base for three ships which serve the islands covered by this study. They are deployed as shown at **Table 4.7**.

TABLE 4.7: OBAN HUB: PRESENT FLEET DEPLOYMENT

	Deployment	
Vessel	**Winter**	**Summer**
MV Isle of Mull	Mull	Mull
	Colonsay	
MV Lord of the Isles	Barra & South Uist	Barra & South Uist
	Coll & Tiree	Coll & Tiree
	Mull	Colonsay
MV Clansman	Coll & Tiree (first half)	Coll & Tiree
	Barra & South Uist (first half)	Barra & South Uist
	Relief cover elsewhere (second half)	

MV Clansman is not available to routes out of Oban in the second half of the winter when she provides annual dry-docking cover for other vessels in the CalMac network. Each passenger ship is required to have an annual dry-dock and, on average, a period of two weeks per ship would be allowed. This means that in the second half of the winter the Oban fleet consists of two ships; in the summer it is a three ship operation.

It is useful to consider the impact of changing this practice. If the Oban hub was treated as a discrete unit, then it would only operate with two ships for six weeks a year only. From the "Oban perspective" this would be much more appealing. It is not unusual for ferry companies to build in a dry dock period of about six weeks when they would operate at a reduced frequency.

The second point is that in the summer, the Craignure service is effectively "de-coupled" from Colonsay, whereas in winter it is not. A year round separation offers scheduling benefits for the Craignure service, particularly if aspirations in relation to the creation of a commuter-friendly schedule are to be achieved (as per intervention E).

4.2.3 Fleet Deployment Options

When looking at options for the future, the deployment of the present and future fleets is critical. Ideally the Oban fleet would be a stand-alone unit, since with three ships (and the Lismore service) there is the sufficient critical mass to do so. Under this scenario the following could be achieved.

a) MV Lord of The Isles, and its eventual replacement, can operate more or less as at present, and remain the main vessel operating to Colonsay. This means that the Craignure service could have one or two dedicated ships serving just Mull. This requires that the services to South Uist and Barra and to Coll and Tiree continue to operate out of Oban.

b) However, if the full landbridge (intervention A) was introduced, MV Lord of the Isles and MV Clansman would be based in Tiree/Barra and not venture to Oban, so the Craignure service would have to provide cover for Colonsay. This would further increase the pressure to provide for two ships for the Craignure service.

c) If one ship was switched to Mallaig for the service to Barra and South Uist, with the second running from Oban to Coll and Tiree (as per intervention D), then the Colonsay service could continue to be covered by MV Lord of the Isles or her replacement. The following schedule is, more or less, already offered every Sunday in the summer. Whilst there would need to be consideration of actual sailing times, the practice of deploying the MV Lord of The Isles on Coll/Tiree and Colonsay is already established.

d) If two ships were to be introduced on the Craignure service, with two other ships providing a landbridge via Mull (intervention A), the period of disruption is reduced since the larger vessels offer a reduced service for one month to the outer islands as each ship dry-docks in rotation. The same applies for the two ships operating to Craignure.

e) It is assumed that all replacement ships that will operate to Coll & Tiree and Barra & South Uist will have the same service speed as MV Clansman (16 knots), then this means that all schedules will have the same transit time between ports. Speed is slightly less important for the service to Mull, but a minimum of 15 knots is still required.

4.2.4 Crewing Levels

The issue of crew costs runs throughout the analysis of the interventions. The following makes explicit the assumptions that have been adopted. Current crew levels (officers, ratings and catering crew) for existing vessels are understood to be:

- MV Isle of Mull: 28.
- MV Lord of the Isles: 28.
- MV Clansman: 28.
- MV Bute: 11.

MV Pentalina, operated by Pentland Ferries, is understood to have a core crew of 10.

To provide cover for holidays, illness, training, etc. there are 2.2 crews assigned to each ship, working one week on and one week off.

It is assumed that any new-building for the Oban-Craignure service would operate with a crew of 11, based upon the MV Bute and MV Pentalina. This is a big reduction in crew numbers per vessel. However, if it is assumed that the number of ships deployed on that route increases from one to two, this would result in only a limited reduction in total crew requirements.

There are a number of assumptions made in relation to vessel(s) for the services to Barra & South Uist and to Coll & Tiree, as follows:

- The ships on these routes will need to be interchangeable. This is not only because it may be decided to operate an integrated schedule with the two ships, but also because in the winter re-fit period and during any emergency, they will need to provide cover for each other. A degree of inter-operability is also generally desirable.
- The precise crew complement required will be very much dependent upon the passenger evacuation systems used on a new ship, the working hours of the ship and the level of on-board catering and services provided.
- A new ship for the Barra & South Uist and Coll & Tiree routes should offer the opportunity to achieve a reduction in crew numbers. This reduction is estimated to be from 28 persons down to 15 per crew.

However, it is worth noting that in summer 2009 CalMac is operating extended operating days by employing extra crew, and giving crew a rest period whilst on a longer sea leg. This will enable the achievement of the weekly working hours shown at **Table 4.8**.

TABLE 4.8: WEEKLY WORKING HOURS PER OBAN BASED VESSEL: SUMMER 2009

Vessel	Hours Per Week (Rounded)
MV Clansman	111
MV Isle of Mull	97
MV Lord of the Isles	92

These timings include 45 minutes preparation before the first sailing and 30 minutes after the last. Essentially there is already flexibility in the system to extend the working day to 15 hours which currently happens on some days. This has consequences for the following analysis of interventions A-E.

4.3 A: NEW PORT FACILITY ON NORTH/WEST MULL

4.3.1 Description

A new port facility would be constructed on north/west Mull. Ferry services for Castlebay, Lochboisdale, Coll and Tiree would operate to/from Mull rather than direct to/from Oban. Access to the mainland would be via the Oban-Craignure service. There would require to be upgraded road connections between the new Mull facility and Craignure in order to cope with the additional road traffic from the ferry service from the islands.

4.3.2 General Impacts

Existing Traffic on Services to Coll, Tiree, Barra and South Uist

An overland route would place a significant volume of additional traffic to the roads of Mull. Volumes on the existing services to Oban are shown at **Table 4.9**.

TABLE 4.9: TRAFFIC ON SERVICES TO COLL, TIREE, BARRA AND SOUTH UIST (000): 2007

Route	Passengers	Cars	Coaches	CVs
Oban-Barra-South Uist	46.6	13.8	0.1	1.0
Oban-Coll-Tiree	46.4	13.0	<0.1	1.9
Oban-Coll-Tiree-Barra	9.4	2.2	<0.1	0.3
Total	**102.4**	**29.0**	**0.1**	**3.2**

The increase in trade would mean that two ships would be needed to operate between Craignure and Oban even if it was assumed that RET fares were not introduced on that route.

Reflecting the discussion of shore infrastructure at **4.3.8**, the following analysis is based on a Mull landfall at Tobermory. Operationally a realistic transit time between Tobermory and Craignure would need to be allowed in co-ordinating the schedule on both legs of the service. Some operational flexibility might be required to accommodate any delays encountered by transit traffic between Craignure and Tobermory. Basing the vessel at Tiree would be vital to co-ordinating the schedules of the Coll & Tiree and Oban-Craignure services.

There are through ticketing issues, although these should not be a major problem. All users will need to be able to make through bookings and know that space is reserved for them on the ship, which would be particularly important at the times of peak demand in the summer.

General Benefits of a Mull Overland Route

The two main advantages of the landbridge would be as follows:

- **Increased frequency of sailing.**
- For some, **more attractive service timings.**

An illustrative timetable is shown below.

	Tiree		Coll		Tobermory		Castlebay		Lochboisdale	
	Arr	Dept	Arr	Dept	Arr	Dept	Arr	Dept	Arr	Dept
Vessel 1		08.00	09.00							
				09.10	10.30					
						10.45			14.30	
					18.30					14.45
			20.05			18.45				
	21.15			20.15						
Vessel 2					11.15			08.00		
			12.50			11.30				
	14.00			13.00						
		14.10	15.10							
				15.20	16.40					
						16.50	20.05			

Under this timetable, Coll and Tiree each having two return sailings per day. Both Castlebay and Lochboisdale now get a direct daily service, with departures and arrivals to each island every day of the week. Only direct sailings are included in the schedule as indirect routings (e.g. Castlebay-Lochboisdale-Mull) would not address the identified issue of long crossing times.

General Disbenefits of a Mull Overland Route

There would be two general drawbacks of the landbridge operation, as follows.

1

In many cases, the total journey time to the mainland would be longer. This is set out in detail in later parts of this section.

2

There would be a **negative environmental impact** through increase in road traffic on Mull.

4.3.3 General Impact on the Oban-Craignure Service

The landbridge route would have a consequential impact on the Oban-Craignure route. Additional capacity, either in the form of a bigger ship or higher frequency of service would have to be provided, even if RET fares were not introduced on Oban-Craignure (although for the planning purposes for this study it has been assumed that this is the case). In planning the schedule consideration would also have to be given to the possible requirement of through traffic for priority on certain sailings on the Oban-Craignure route.

The impact of RET on the Oban-Craignure route plus that of operating a landbridge service to Coll, Tiree, Barra and South Uist (at this point based 2007 volumes for those services) is shown at **Table 4.10**, over.

TABLE 4.10: CARRYINGS AND REVENUE ON OBAN-CRAIGNURE WITH MULL LANDBRIDGE					
	Oban-Craignure: Base	**Mull Landbridge**	**Total**	**Fare (£)**	**Revenues (£)**
Passengers	818,900	102,370	921,280	2.90	2,671,700
Cars	181,630	28,990	210,620	10.40	2,190,430
Coaches	3,370	130	3,500	39.44	138,030
CVs	10,950	3,170	14,120	42.68	602,510
Total					**5,602,670**

The impact of adding existing traffic to the four islands to the baseload of Oban-Craignure under RET is to increase volumes as follows:

- Passengers: +13%.
- Cars: +16%.
- CVs: +29%.

As a consequence Oban-Craignure revenues would increase by 15%.

A high level financial analysis of the implications is shown at **Table 4.11**. Again, the costs assume a two vessel operation on Oban-Craignure.

TABLE 4.11: OBAN-CRAIGNURE ROUTE PERFORMANCE UNDER RET AND MULL LANDBRIDGE (£): HIGH LEVEL ANALYSIS	
Income	**5,602,670**
Bunkers	1,302,000
Crew costs	2,160,000
Vessel operating costs	1,240,000
Insurance and P&I	200,000
Total operating costs	**4,902,000**
Operating result	**700,670**
Depreciation	1,440,000
Interest payable	1,080,000
Result before admin and overheads	**-1,819,330**

The increase in revenues through the additional traffic means that the annual financial outturn is around £740,000 better than that for the two vessel operation under the Reference Case (as shown at **Table 4.4**).

4.3.4 Service to Coll and Tiree

Existing Service Provision

As shown overleaf, the winter schedule offers four sailings per week (Tuesday, Thursday, Saturday and Sunday) to Coll and Tiree.

The core ship on this route is MV Clansman, but in the period January-March it is replaced by MV Lord of the Isles, which has less capacity and is slightly slower.

	19/10/08-9/10/09		10/1/09-26/3/09	
	Tues/ Thurs/Sat	**Sun**	**Tues Thurs/Sat**	**Sun**
Depart Oban	06.45	06.45	06.45	06.00
Arrive Coll	09.25		09.40	
Depart Coll	09.35		09.45	
Arrive Tiree	10.30	10.05	10.45	09.40
Depart Tiree	10.50	10.25	11.00	09.55
Arrive Coll	11.45	11.20	12.00	10.55
Depart Coll	11.55	11.30	12.05	11.00
Arrive Oban	14.35	14.10	15.00	13.55

Points to note regarding the schedule are that:

- Departures from Oban are at the same time on most days. They are early in the morning-usually at 0645.
- All arrivals in Oban are in the afternoon. The earliest is just before 1400 and the latest is at 1500.
- On three of the four days the ship calls at Coll both before and after the call at Tiree.

The summer timetable, which offers a higher sailing frequency, is shown below.

	Mon.	**Tues.**	**Wed.**	**Thurs.**	**Fri.**	**Sat.**	**Sun.**
Depart Obar	08.00	15.00	06.00	08.30	06.00	07.00	08.45
Arrive Coll	10.55	17.40	08.40	11.10		09.40	11.40
Depart Coll	11.05	17.45	08.45	11.20		09.50	11.50
Arrive Tiree	12.05	18.40	09.40	12.15*	09.20	10.45	12.50
Depart Tiree	12.25	19.00	09.55	18.30	09.35	11.15	13.10
Arrive Coll	13.25			19.25	10.30	12.10	14.10
Depart Coll	13.35			19.35	10.35	12.20	14.20
Arrive Oban	16.30	22.20	13.15	22.15	13.15	15.00	17.15

*Note: Ship undertakes a round trip to Barra

It shows that:

- There is considerable variation in sailing times. For example, arrival times at Tiree range from 0920 to 1840.
- Departures from Oban are mostly quite early in the morning. On six days they are before 0900, with only one afternoon departure (1500 on Tuesday).
- There are no arrivals at Oban before 1300. Two of the arrivals (Tuesday and Thursday) are after 2200.
- On four days of the week the ship makes a double call at Coll.
- Calling at both Coll and Tiree extends the crossing times. A direct sailing between Oban and Tiree takes three hours and twenty minutes. A sailing via Coll can, on occasion, take over 4 hours.

Crossing Times and Frequency

Using the existing ships at their current operating speeds, the crossing times between Tobermory and the two islands would be:

- Tobermory-Coll: 1 hour 20 minutes.
- Time in port: 10 minutes (as at present).
- Coll-Tiree: 1 hour (as at present).

Thus the passage time, berth to berth, between Tiree and Tobermory of 2 hours 30 minutes.

Possible sailing frequencies under a Mull overland route are compared to existing frequencies at **Table 4.12**.

TABLE 4.12: COMPARISON OF NUMBER OF SAILINGS PER WEEK: EXISTING AND TOBERMORY-COLL/TIREE

	Existing		Tobermory-Coll/Tiree
Island	**Summer**	**Winter**	**All Year Round**
Coll	7	4	14
Tiree	7	4	14

The frequency would be twice that presently offered during the summer timetable. In addition there would be a daily service during the winter. There would, however, be a reduced frequency during the annual overhaul period, if the service was reduced to a one ship operation at that time.

Fares

Table 4.13, over, compares the existing fares to Coll and Tiree with those that would pertain under an overland route to Mull.

For the **car accompanied passenger** this offers a saving of £0.10 per passenger and £7.60 per car each way. A saving of around £15 for a car and two passengers return would more than compensate the traveller for the marginal cost (around £3) of travel across Mull.

TABLE 4.13: COMPARISON OF RET FARES FOR COLL/TIREE(£): EXISTING AND MULL OVERLAND ROUTE				
	Passenger	**Car**	**CV (14m)**	**Coach (9m)**
Oban-Craignure	2.90	10.40	42.68	34.58
Tobermory-Coll/Tiree	5.00	23.00	95.60	68.60
Mull Overland Route Total	**7.90**	**33.40**	**138.28**	**103.18**
Existing (Oban service)	**8.00**	**41.00**	**170.00**	**116.84**
Reduction in Fares	**0.10**	**7.60**	**31.72**	**13.66**

However, **foot passengers** would, in total, pay more than at present. The £0.10 saving on ferry fares would be outweighed by the cost of a bus journey between Tobermory and Craignure.

For a 14m **freight vehicle** the saving is around £32 each way. This compares to a marginal cost of around £13 for the road journey across Mull, so there would be a financial advantage. In addition, two round trips per day would be seen as an improvement to the schedule provided the services connected and the timetable met the needs of the haulier.

Changes To Total Journey Time To The Mainland

Table 4.14 compares the journey times of the current services between Coll/Tiree and Oban and those via Mull.

TABLE 4.14: TOTAL JOURNEY TIMES: EXISTING AND WITH LANDBRIDGE		
	Coll	**Tiree**
Existing		
Vehicle check in*	37 min	37 min
Crossing time**	2hr 40 min	3hr 45 min
Total Existing	**3hr 17 min**	**4hr 22 min**
Via Mull		
Vehicle check in	30 min	30 min
Tiree To Coll (inc. port time)	-	1hr 10 min
Coll to Tobermory	1hr 20 min	1hr 20 min
Tobermory-Craignure	1hr	1hr
Vehicle check in	30 min	30 min
Craignure-Oban	45 min	45 min
Total Via Mull	**4hr 5 min**	**5hr 15 min**
Increase in Journey Time	**48 min**	**53 min**

* Notes: Average of vehicle check in times at Oban and the two island ports. ** Time shown is the most common one for all sailings throughout the year

It shows clearly that the through journey time would be longer: by around 50 minutes. Even if the longer times of some existing sailings are applied (e.g. Oban-Coll 2 hours and 55 minutes, Oban-Tiree 4 hours) rather than the most common one, the landbridge routing still takes longer than the existing journey time.

Potential Impacts on Demand and Revenues

The routes to Coll, Tiree, Barra and South Uist are covered by the RET pilot project. The evidence base reviewed at **Working Paper 1** indicate that pre-RET ferry fares were at a level that were perceived to be a barrier to access; for both residents and visitors. RET should, at least to some extent, remove this constraint.

In October 2008 RET fares were introduced on Oban-Coll-Tiree. **Table 4.15** shows examples of pre-RET and RET fares for passengers and cars.

TABLE 4.15: OBAN-COLL-TIREE FARES (£): SUMMER 2008 AND SUMMER 2009

	2008	2009	Reduction
Passenger			
Single	13.40	8.00	40%
5 Day Return	22.80	16.00	30%
Car			
Single	79.00	41.00	48%
5 Day Return	134.00	82.00	39%

In the case of one way car and passenger fares, RET has brought about reductions of 48% and 40% respectively; these represent substantial savings.

We estimate that RET fares could, over the medium term, generate an additional 33% in passenger and car demand and a slight absolute uplift in coach volumes. It is assumed that freight demand would be inelastic over this timeframe.

Table 4.16 compares 2007 volumes with those including the uplift in demand post-RET.

TABLE 4.16: POTENTIAL RET IMPACT ON OBAN-COLL-TIREE CARRYINGS

	2007	Post-RET
Passengers	46,400	61,896
Cars	13,000	17,325
Coaches	42	61
CVs	1,878	1,900

Table 4.17 uses these forecasts to compare revenues on the direct Oban service with those for a Mull-Coll-Tiree operation.

TABLE 4.17: COMPARISON OF REVENUES: OBAN-COLL-TIREE AND MULL-COLL-TIREE

		Oban-Coll-Tiree		Mull-Coll-Tiree	
	Carryings	Fare (£)	Revenues (£)	Fare (£)	Revenues (£)
Passengers	61,896	8	495,164	5	309,478
Cars	17,325	41	710,308	23	398,465
Coaches	61	117	7,127	69	4,185
CVs	1,900	170	323,000	96	181,640
Total	-	-	**1,535,599**	**-**	**893,768**

It shows that the revenue generated by the landbridge link is around £640,000 less than that earned by the direct service. However, this would be offset to an extent by the revenues accruing to Oban-Craignure from through traffic to/from Coll and Tiree. Based on the carryings shown at **Table 4.17**, this additional revenue would be approximately £440,000.

Post RET the landbridge would have two effects on demand which may well balance each other. On the one hand the improved service frequency and better timetable could certainly encourage tourism and trade development. This would be supported by the reduction in the through travel cost. On the other hand the landbridge involves a sea-road-sea modal change, whereas the present service is straight through. Passengers tend to dislike modal hopping; even if the journey was shorter as a result it might, for some, hold little appeal compared to a direct service from Oban.

The high level financial analysis shown at **Table 4.18** assumes that the landbridge would not increase traffic levels beyond those that would otherwise be carried on a direct service from Oban.

TABLE 4.18: COLL & TIREE ROUTE PERFORMANCE (£): OBAN AND MULL SERVICES COMPARED: HIGH LEVEL ANALYSIS

	Direct Service		Landbridge	
	Existing Vessel	New Vessel	Existing Vessel	New Vessel
Income	**1,535,599**	**1,535,599**	**893,768**	**893,768**
Bunkers	651,000	651,000	651,000	651,000
Crew costs	2,232,000	1,080,000	2,232,000	1,080,000
Vessel operating costs	620,000	620,000	620,000	620,000
Insurance and P&I	100,000	100,000	100,000	100,000
Total operating costs	**3,603,000**	**2,451,000**	**3,603,000**	**2,451,000**
Operating result	**-2,067,401**	**-915,401**	**-2,709,232**	**-1,557,232**
Depreciation	1,000,000	920,000	1,000,000	920,000
Interest payable	750,000	690,000	750,000	690,000
Result before admin and overheads	**-3,817,401**	**-2,525,401**	**-4,459,232**	**-3,167,232**

The **operating** result of a new ship is better than that of an existing ship. This reflects the lower crew numbers and costs on a new vessel. However, the result after finance charges would, in reality, be worse. (As we do not have the historical price of the ship we have calculated depreciation at the same rate as that of a new ship, which will act to overstate the costs of an older vessel.)

Operating costs are assessed as being the same for the direct services from Oban and those from Tobermory. Bunkers for the direct service are assumed to be the same as for the landbridge: the distance for the first is about twice that of the second, whilst the service frequency of the second is twice that of the first (i.e. sea miles covered are about the same).

Vessel

A vessel with capacity for 450 passengers and 60 cars and with a 16 knot service speed would be required. It should be class B, with on board facilities suitable for the sea journey. Prior to their replacement in due course, either MV Lord of The Isles or MV Clansman should be suitable. However, as shown at **Table 4.18** subsequent new build vessels could provide reduced operating costs through lower crew numbers. The cost of a new build vessel is assumed as £23 million.

4.3.5 Service to Barra and South Uist

Existing Service Provision

Present crossing times on the services out of Oban are as follows:

- Barra:
  - Direct: 4 hours 50 minutes/5 hours 20 minutes.
  - Via Lochboisdale: 6 hours 30 minutes/7 hours 20 minutes.
- South Uist:
  - Direct: 5 hours 20 minutes
  - Via Castlebay: 6 hours 35 minutes/7 hours 25 minutes.

At present Lochboisdale has only a limited frequency of service:

- Four return sailings per week in the summer.
- Four return sailings per week during the first part of the winter timetable and three returns per week during the second part.

For Castlebay, sailing frequency is:

- Eight return sailings per week in the summer.
- Four return sailings per week during the first part of the winter timetable and three returns per week during the second part.

The timetable for the second part of the winter timetable is shown overleaf. It is quite regular across all days. There are mid-afternoon departures from Oban, with all arrivals at Lochboisdale after 2200. All arrivals at Oban are in the afternoon, with the earliest being just before 1500.

The limited frequency creates gaps in the timetable: for example, it is not possible to sail:

- **To** South Uist or Barra on a Friday or a Saturday; or
- **From** South Uist or Barra between Friday morning and Monday morning.

	Sun	Mon	Tues	Wed	Thurs	Fri
Depart Oban	15.00		15.30		15.30	
Arr Castlebay	20.20		20.50		20.50	
Dep Castlebay	20.35		21.05		21.05	
Arr Lochboisdale	22.25		22.55		22.55	
Dep Lochboisdale		07.30		07.30		08.00
Arr Castlebay		09.20		09.20		09.50
Dep Castlebay		09.35		09.35		10.00
Arrive Oban		14.55		14.55		15.20

Our consultations for the study found that the timing of the Monday morning sailing from Lochboisdale is awkward for freight operators. This is because local production lines are not geared up to despatch product first thing on Monday morning and it may not be appropriate to load perishable or valuable cargo before the weekend in anticipation of catching the Monday morning sailing. In addition, arriving in Oban at 1455 or 1520 brings hauliers into the central belt just in time for the evening rush hour.

Our consultations suggest that the late arrivals on South Uist are not popular. An arrival at 2225 or 2255 is inconvenient for inbound visitors; it also means that freight vehicles do not make their local deliveries until the next day.

The 2009 summer schedule is shown below.

	Dep Oban	Arrive Lochboisdale	Depart Lochboisdale	Arrive Castlebay	Depart Castlebay	Arrive Lochboisdale	Depart Lochboisdale	Arrive Oban
Mon			07.30	09.00	09.20			14.10
Mon	15.40			20.30				
Tues					09.20			14.10
Tues	15.40	21.00	21.10	23.00				
Wed					07.00	08.50	09.00	14.20
Wed	13.40			18.30	18.50			23.40
Thurs	08.30*			15.15*	15.30*			22.15*
Thurs	15.40	21.00	21.10	23.00				
Fri					07.00	08.50	09.00	14.20
Fri	13.40			18.30	18.50			23.40
Sat	15.40			20.30				
Sat	08.15	13.35	13.50					19.10
Sun					09.20			14.10
Sun	15.40			20.30	20.50	22.20		

In summer most sailings to/from South Uist are direct, rather than via Castlebay. This is in contrast to the winter when the majority of sailings are indirect. Throughout the year as a whole, around half of the sailings between Oban and Lochboisdale are direct.

The main points to note for summer services to **Lochboisdale** are that:

- Departures from Oban are at 1540, except the morning departure on Saturdays. As a result, on most days the ship arrives at Lochboisdale after 2030.

- There are no morning arrivals in Oban. The earliest is after 1400.
- On only one day of the week (Saturday) are there sailings both to and from Lochboisdale.

For Barra in summer most (five out of eight) sailings are direct, rather than via either Lochboisdale or Tiree. In winter, the percentage of direct sailings is higher.

The main points to note regarding the summer timetable for **Barra** are that:

- For sailings to Barra, all departures from Oban are in the afternoon, except the Thursday sailing via Coll & Tiree. As a consequence, almost all arrivals at Castlebay are after 1800.
- All arrivals in Oban are in the afternoon. Most are around 1400, with the rest being after 2200.
- There is no sailing from Barra to Oban on Saturdays.

Crossing Times and Frequency

Assuming a ship speed of 16 knots, the sailing times for a service from Tobermory would be:

- Barra: 3 hours 15 minutes.
- South Uist: 3 hours 45 minutes.

Consequently, both islands would get one direct sailing per day, seven days per week. As shown at **Table 4.19** this would be a significant improvement over present provision for Lochboisdale; and for Barra during the winter.

TABLE 4.19: COMPARISON OF NUMBER OF SAILINGS PER WEEK: EXISTING AND TOBERMORY-CASTLEBAY/LOCHBOISDALE

	Existing		Tobermory-Barra/South Uist
Island	**Summer**	**Winter**	**All Year Round**
Barra	8	3-4	7
South Uist	4	3-4	7

Fares

Table 4.20 compares the existing fares to Barra and South Uist with those that would pertain to an overland route to Mull.

TABLE 4.20: COMPARISON OF FARES FOR CASTLEBAY/LOCHBOISDALE (£): EXISTING AND MULL OVERLAND ROUTE

	Passenger	Car	CV (14m)	Coach (9m)
Oban-Craignure	2.90	10.40	42.68	34.58
Tobermory-Barra/South Uist	7.95	40.70	169.94	148.52
Mull Overland Route Total	**10.85**	**51.10**	**212.62**	**183.10**
Existing (Oban service)	**10.95**	**48.50**	**244.00**	**212.00**
Reduction in Fare	**0.10**	**(2.60)**	**31.38**	**28.90**

The main point from the above is that there is actually a financial penalty for the **car accompanied** traveller using the landbridge. On top of this would be the cost of the drive across Mull. There will certainly be no cost saving which might stimulate demand.

Foot passengers would, in total, pay more than at present. The £0.10 saving on ferry fares would be outweighed by the cost of a bus journey between Tobermory and Craignure.

For a 14m **freight vehicle** the saving is around £31 each way. This compares to a marginal cost of around £13 for the road journey across Mull, so there would be a financial advantage.

Changes To Total Journey Time To The Mainland

Table 4.21 shows changes in total journey times to the mainland with the Mull overland route.

TABLE 4.21: COMPARISON OF TOTAL JOURNEY TIMES TO THE MAINLAND: EXISTING AND MULL OVERLAND ROUTE

	Barra	South Uist	
	Direct To Oban	**Direct To Oban**	**Via Castlebay**
Existing			
Vehicle check in*	37 min	37 min	37 min
Crossing time**	4hr 50 min	5hr 20 min	7hr 20 min
Total Existing	**5hr 27 min**	**5hr 57 min**	**7hr 57 min**
Via Mull			
Vehicle check in	30 min	30 min	
Sailing to Tobermory	3hr 15 min	3hr 45 min	
Tobermory-Craignure	1hr	1hr	
Vehicle check in	30 min	30 min	
Craignure-Oban	45 min	45 min	
Total Via Mull	**6hr 0 min**	**6hr 30 min**	
Change in Total Journey Time	**+33 min**	**+33 min**	**-1hr 27 min**

* Notes: Average of vehicle check in times at Oban and the two island ports. ** Time shown is the most common one for all sailings throughout the year

For **Barra,** there is a net increase of 33 minutes in total journey time. However, this is based on a comparison to the **most common** crossing time for a direct Oban-Castlebay sailing. In the winter the direct Oban-Castlebay sailing is 5 hours and 20 minutes. Thus compared to such sailings the journey by landbridge would, in fact, be seven minutes shorter. It would be even shorter compared to the small number of occasions when sailings to/from Castlebay operate via Lochboisdale.

For **South Uist,** when the landbridge is compared to the direct sailings the journey is 33 minutes longer. However, as noted earlier, around half the Oban-Lochboisdale sailings are indirect. When compared to an indirect sailing, the journey time via the landbridge is around 1½ hours shorter. This reflects the direct sailings in the Tobermory-Lochboisdale schedule shown at **4.3.2**.

Potential Impacts on Demand and Revenues

The schedule to Barra and South Uist is not ideal and the landbridge offers a way of improving this, giving a direct daily sailing to each island. Additional visitor demand may be stimulated by offering a route to/from the Outer Hebrides via Mull, while Mull, in its own right, will have more visitors as the result of the introduction of RET.

However, the ability to generate additional demand would be limited by, compared to the present direct services out of Oban, the:

- Additional travel time compared to some existing sailings.
- Additional passenger and car costs incurred.
- Increased uncertainty and inconvenience of having to use two ferries.

On this basis, we have assumed that there would no net increase in demand for travel to/from Castlebay and Lochboisdale following the introduction of the landbridge.

Table 4.22 shows the principal fares for passengers and cars on Oban-Castlebay-Lochboisdale pre and post RET.

TABLE 4.22: OBAN-CASTLEBAY-LOCHBOISDALE FARES (£): SUMMER 2008 AND SUMMER 2009

	2008	2009	Reduction
Passenger			
Single	21.95	10.95	50%
5 Day Return	37.50	21.90	42%
Car			
Single	81.00	48.50	40%
5 Day Return	137.00	97.00	29%

A range of ticket types will have been purchased prior to RET fares being introduced. In particular, residents will have tended to have travelled on 6 journey books. Also, the evidence base shows visitors making a degree of use of single or multi-route Hopscotch tickets in order to enter the Outer Hebrides at one port and exit at another.

Taking these factors into account, we have assumed, in effect, that the average reduction in car fares paid will be 29% and that, in the medium term, this will stimulate around 29% growth in cars and passengers (given that most passenger demand is car accompanied), assuming an elasticity that is close to unity. It is assumed that there is very little impact on coach and CV traffic from RET, at least in the medium term.

Table 4.23, over, compares 2007 volumes with those including the uplift in demand post-RET.

It could be argued the landbridge would dilute the impact of RET due to: the lack of price advantage for passenger and car traffic; the generally longer journey compared to existing services; and having to use two ferry services rather than one. However, potential visitors may see the Outer Hebrides as more accessible.

TABLE 4.23: POTENTIAL RET IMPACT ON OBAN-CASTLEBAY-LOCHBOISDALE CARRYINGS		
	2007	**Post-RET**
Passengers	46,600	59,530
Cars	13,800	17,540
Coaches	86	99
CVs	1,009	1,000*

* Note: Reflects a decrease in observed CV carryings in 2008

A high level analysis of volumes and revenues is shown at **Table 4.24.**

TABLE 4.24: COMPARISON OF REVENUES: OBAN-CASTLEBAY/LOCHBOISDALE AND MULL-CASTLEBAY/LOCHBOISDALE					
		Oban-Castlebay-Lochboisdale		**Mull-Castlebay-Lochboisdale**	
	Carryings	**Fare (£)**	**Revenues (£)**	**Fare (£)**	**Revenues (£)**
Passengers	59,530	10.95	651,892	7.95	473,291
Cars	17,540	48.50	850,696	40.70	713,883
Coaches	99	212.00	21,058	148.52	14,752
CVs	1,000	244.00	244,000	169.94	169,940
Total	-		**1,767,646**		**1,371,867**

This shows the revenues from the landbridge service being around £400,000 lower than for the existing service out of Oban. However, this would be offset to an extent by the revenues accruing to Oban-Craignure from through traffic to/from Barra and South Uist. Based on the carryings shown at **Table 4.24,** this additional revenue would also be approximately £400,000. Thus the total revenues under each alternative would be virtually the same.

A high level financial analysis is presented at **Table 4.25.**

TABLE 4.25: CASTLEBAY & LOCHBOISDALE ROUTE PERFORMANCE (£): OBAN AND MULL SERVICES COMPARED: HIGH LEVEL ANALYSIS				
	Direct Service		**Landbridge**	
	Existing Vessel	**New Vessel**	**Existing Vessel**	**New Vessel**
Income	**1,767,646**	**1,767,646**	**1,371,867**	**1,371,867**
Bunkers	651,000	651,000	651,000	651,000
Crew costs	2,232,000	1,080,000	2,232,000	1,080,000
Vessel operating costs	620,000	620,000	620,000	620,000
Insurance and P&I	100,000	100,000	100,000	100,000
Total operating costs	**3,603,000**	**2,451,000**	**3,603,000**	**2,451,000**
Operating result	**-1,835,354**	**-683,354**	**-2,231,133**	**-1,079,133**
Depreciation	1,000,000	920,000	1,000,000	920,000
Interest payable	750,000	690,000	750,000	690,000
Result before admin and overheads	**-3,585,354**	**-2,293,354**	**-3,981,133**	**-2,689,133**

The operating result of a new ship is better than that of an existing ship. This reflects the lower crew numbers on a new vessel. However, the result after finance charges is worse. As we do not have the historical price of the ship we have calculated depreciation at the same rate as that of the new ship, which will act to overstate the costs of an older vessel.

Operating costs are assessed as being the same for the direct services from Oban and those from Tobermory. Bunkers for the direct service are assumed to be the same as for the landbridge: the distance for the first is about twice that of the second, whilst the service frequency of the second is twice that of the first (i.e. sea miles covered are about the same).

Vessel

A vessel with capacity for 450 passengers and 60 cars and with a 16 knot service speed would be required. It should be class B, with on board facilities suitable for the sea journey. Prior to their replacement in due course, either MV Lord of The Isles or MV Clansman should be suitable. However, as shown at **Table 4.25** subsequent new build vessels could provide reduced operating costs through lower crew numbers.

Again, as we do not have the historical price of the ship we have calculated depreciation at the same rate as that of a new ship, which will act to overstate the costs of an older vessel.

4.3.6 Revenue From the Oban-Coll-Tiree-Barra Service

In addition to the traffic on dedicated services to Coll & Tiree and to Barra and South Uist is the traffic on the Thursday summer sailings between Oban-Coll-Tiree-Barra. As shown at **Table 4.1**, the carryings on this sailing were:

- Passengers: 9,400.
- Cars: 2,200.
- Coaches: 15.
- CVs: 280.

These constitute a relatively small proportion (less than 10%) of total demand for travel to/from Coll, Tiree, Barra and South Uist.

We do not have detailed data on the split of the summer Thursday traffic in terms of the various legs of the sailing. We have assumed that passenger and car traffic moving between Coll/Tiree and Barra amounts to no more than 20% of total passengers and cars on the summer Thursday sailings. We have also assumed that there are no coaches or CVs moving on the inter-island legs. The remaining 80% is allocated 70:30 (56% and 24% of the total, respectively) between Oban and Coll/Tiree and between Oban and Barra.

Applying these splits, plus the inclusion of an uplift in traffic through the impacts of RET fares shown earlier, produces the additional revenues shown at **Table 4.26**, over.

TABLE 4.26: ADDITIONAL REVENUES FOR MULL-COLL/TIREE AND MULL-CASTLEBAY/LOCHBOISDALE SERVICES FROM SUMMER THURSDAY TRAFFIC	
Leg	**Revenue (£)**
Oban-Coll/Tiree	92,867
Oban-Barra	63,425
Coll/Tiree-Barra	39,825

These revenues are in addition to those shown at **Tables 4.17** and **4.24**. They are, however, quite modest additions. There would also be a total of £80,000 further revenues accruing to Oban-Craignure as a result of the landbridge.

4.3.7 Capacity Implications of RET & Landbridge Traffic for the Oban Craignure Service

Table 4.27 shows the total traffic forecast for Oban-Craignure assuming the landbridge to Coll, Tiree, Barra and South Uist and the application of RET fares on all routes.

TABLE 4.27: TOTAL TRAFFIC ON OBAN-CRAIGNURE WITH LANDBRIDGE SERVICES AND RET FARES	
Traffic Type	**Carryings (000)**
Passengers	952.9
Cars	219.4
Coaches	3.5
CVs	14.1

The key question is the required capacity of two ships to handle this volume of business. A related issue is whether one of the Oban-Craignure vessels has to serve Colonsay or whether it both ships would be dedicated to the Mull route

An assessment is shown at **Table 4.28**. This based on two vessels operating on the Oban-Craignure service each with a capacity of 60 cars and 450 passengers.

TABLE 4.28: CAPACITY UTILISATION ON OBAN-CRAIGNURE		
	Without Colonsay Service	**With Colonsay Service**
Passenger	26%	30%
Vehicle Deck	46%	53%

In both cases it is assumed that the service will operate until about 2200, although in reality it is possible that this would only be done on summer Fridays and Saturdays. The number of single sailings per day is assumed as being:

- 30, if there is no use of one ship to also serve Colonsay.
- 26, if a daily service is provided to Colonsay.

Capacity on the vehicle deck is the critical issue. The 53% average load factor on the vehicle deck, which is required should Colonsay need to be served by one of the Mull vessels, is probably high, given the seasonal peaks of the trade, both between summer and winter and across the day itself. If the ship's car capacity is increased to 70 the average load factor only falls to 46% including the Colonsay link.

If a shorter working day is assumed, with the last evening sailing arriving in port at about 1900, the situation becomes significantly worse. This is shown at **Table 4.29**.

TABLE 4.29: CAPACITY UTILISATION ON OBAN-CRAIGNURE: 12 HOUR SAILING DAY

	Without Colonsay Service	With Colonsay Service
Passenger	32%	39%
Vehicle Deck	58%	69%

This analysis is relevant if it is assumed that late in the evening services will only be operated on, say, summer Fridays and Saturdays, with an 0700-1900 service for the rest of the time. It shows that the average year round vehicle deck load factor is unacceptably high at 69%, with even the "no Colonsay" service struggling with a 58% load factor. If a ship with a car capacity of 70 was used, the average vehicle deck load factor falls to 60% with the Colonsay link and 50% without it.

The above suggests that ships with (at least) a capacity of 70 cars are preferable and that extended working on Fridays and Saturdays will be essential. Even with two ships exclusively operating between Oban and Craignure, the average vehicle deck utilisation is expected to be above 40%.

The passenger capacity is never so challenged, with a year round 39% load factor in the worst case scenario. Passenger capacity is not an issue for a service that excludes operating to Colonsay. Therefore, a passenger capacity of 450 appears satisfactory. However, if there is an opportunity to provide accommodation for 500 passengers without breaking any crewing level requirements, it would be advisable.

At present Colonsay has five sailings per week in the summer, with no sailings on Saturdays. Assuming the Craignure vessels were required to service Colonsay, but only for five days per week as at present, this would reduce capacity pressure-and particularly on Saturdays. However:

- The average level of vehicle deck utilisation would remain very high, at over 50%.
- Pressure would remain on other days of the week.

4.3.8 Shore Infrastructure

Potential Harbour Sites

Potential harbour sites on Mull offering some degree of protection from prevailing winds and having reasonable access to the existing road system have been reviewed.

Apart from Tobermory the following sites in the north west of Mull have emerged:

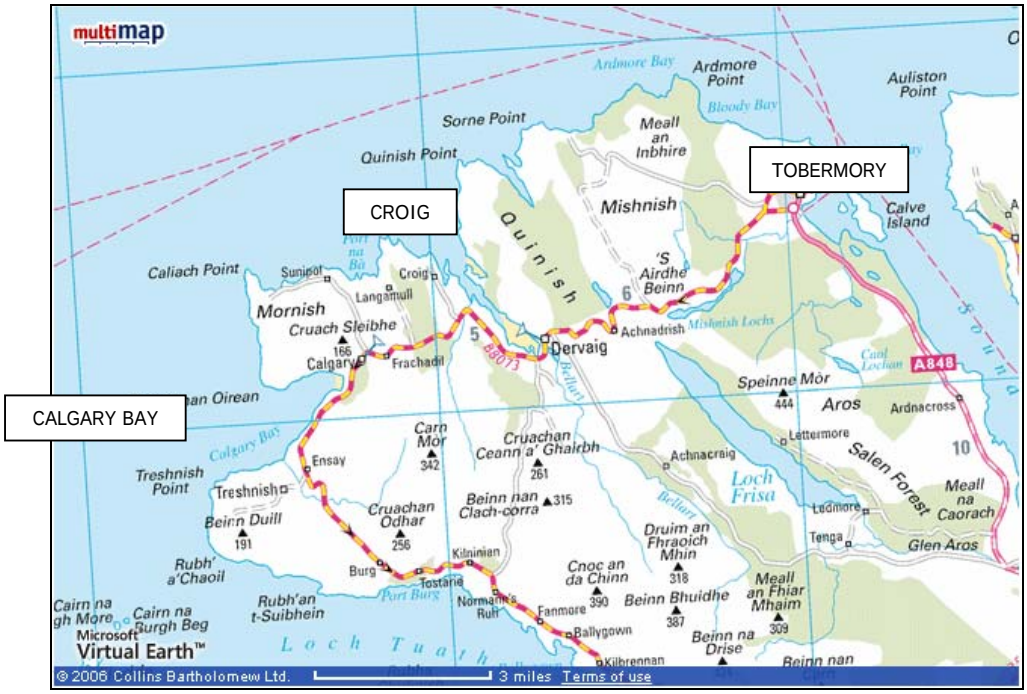
- Loch a' Chumhainn (Dervaig and Croig).
- Calgary Bay.
- Ulva Ferry.
- Loch na Keal.
- Bunessan.

Distances in nautical miles between potential harbours are shown at **Table 4.30**.

TABLE 4.30: DISTANCES IN NAUTICAL MILES BETWEEN COLL/TIREE AND POTENTIAL MULL HARBOURS

Port	Coll	Tiree
Oban	*40*	*51*
Tobermory	17.5	28
Croig	10.5	21
Calgary Bay	8.5	18
Ulva Ferry	15	22
Loch na Keal	23	28
Bunessan	20	22

From the above it can be seen that the only places which offer any significant advantage over Tobermory are Croig and Calgary Bay. Their locations, together with that of Tobermory, are shown on the map below.



Croig, Loch a' Chumhainn

Loch a' Chumhainn lies on the north west coast of Mull and is open to the North West. The village of Dervaig is at the head of the loch some 3 miles from open water but the channel leading to Dervaig would not be accessible for a ferry.

The village of Croig lies some one mile from open water and could offer some shelter although in strong north and westerly winds the approach would be difficult. It is described in Pilot Books as inadvisable in on-shore winds from the west through to north.

The whole area is served by single track roads from Tobermory with distances from Tobermory of some 7¼ miles to Dervaig and around 10½ miles to Croig. These roads are of substandard specification in terms of alignment, dimensions and structure. They would require extensive reconstruction to render them suitable for the volume and weight of traffic which would be generated by a harbour in Loch a' Chumhainn.

The costs of developing a harbour and associated road access at Croig would be in the order of **£46.5 million**, broken down as follows:

- Harbour: £15 million.
- Road improvements Tobermory to Croig: £25 million.
- Road improvements Tobermory to Salen: £6.5 million.

The above harbour costs (and those shown for other potential Mull port developments in the later text) include: berthing structure; ro-ro linkspan; passenger handling facilities; small terminal building; marshalling area; and general facilities.

The cost for the road improvements from Tobermory to Salen are based on the partial upgrade (minor) costs given in the report: "A848 Craignure to Tobermory STAG Appraisal" (August 2008) which was produced for ABC.

We conclude that Croig may provide adequate shelter but the harbour and road costs to allow it to operate as a landfall would be significant.

Calgary Bay

Calgary Bay is on the extreme west coast of Mull and faces South West. It is known to be an exposed location and is considered in Pilot Books to be only a temporary anchorage. Even if a breakwater is constructed it is unlikely to be a viable location for a harbour.

The area is served by single track roads from Tobermory which is a distance of just over 12 miles. These roads are of substandard specification in terms of alignment, dimensions and structure. They would require extensive reconstruction to render them suitable for the volume and weight of traffic which would be generated by a harbour in Calgary Bay.

The costs of developing a harbour and associated road access at Calgary Bay would be in the order of **£53.5 million**, broken down as follows:

- Harbour £18 million.
- Road improvements Tobermory to Calgary £29 million.
- Road improvements Tobermory to Salen £6.5 million.

However, we conclude that Calgary Bay would be unsuitable as a landfall for the proposed service.

Tobermory Bay

Tobermory Bay forms a natural harbour in the north of Mull. It has a pier which is currently used by ferries as a lay over berth and by visiting cruise ships as an overnight berth. It also has as an adjacent slip currently used by the Tobermory to Kilchoan end loading landing craft type of ferry. Further into the harbour there is also a masonry pier. It is used by fishing vessels and there are extensive pontoon facilities and moorings for visiting yachts.

The pier, however, is of some age. Despite being re-fendered in 2008 it is likely to require extensive refurbishment within the next 20 years. Its regular use by a modern ferry would not be viable without considerable modification bordering on reconstruction. It is not equipped with a ro-ro linkspan which would have to be provided.

There is no area available for marshalling vehicles. This would have to be provided by reclaiming land into the Bay in front of the existing Main Street. This in itself would alter completely the character of this iconic town and is likely to meet with considerable opposition.

In any event the pier is situated at the extreme end of the Main Street which is already heavily congested. All vehicles accessing the pier would have to travel the length of the Main Street which would exacerbate the congestion already present. The Main Street is totally unsuitable for use by heavy commercial vehicles. This would also present a considerable safety problem for pedestrians as the Main Street has a footpath only on its landward side and abuts directly on to a rail on the top of the sea wall on its seaward side.

The congestion of the Main Street could be alleviated by widening the roadway into the harbour by the construction of a new sea wall over a length of some 450 metres from the distillery area to the pier. As with the construction of a marshalling area, this would dramatically alter the character of the town.

It would not be possible to move the ferry pier to a location further in to Tobermory Bay thus avoiding the need for traffic to travel through the town. This is because the harbour area is too shallow for such vessels. Although extensive dredging could be undertaken this would be an ongoing commitment and in any event the area is heavily used by recreational craft and fishing boats.

The costs of developing a pier and associated improved road access and marshalling area at Tobermory would be in the order of **£30.5 million**, broken down as follows:

- Pier infrastructure and ro-ro linkspan: £15 million.
- Road and marshalling area improvements: £9 million.
- Road improvements Tobermory to Salen: £6.5 million.

We conclude that Tobermory could be used as a landfall but this would require significant investment and works that would alter the character of the town.

Aros Bay, Tobermory

As an alternative to berthing the ferry in the immediate vicinity of the town we have considered the possibility of creating an entirely new facility in the Aros area in the extreme south east corner of Tobermory Bay.

With the limited information available from existing chart and map sources it can be seen it is technically feasible to create the necessary sheltered harbour facilities in this area. The head of the bay is shallow for over 100 metres from the shoreline but this area would have to be infilled in any event to provide the necessary harbour infrastructure since the hinterland is very steep and would be unsuitable for constructing the necessary works.

The shore is at least half a mile from the existing A848 road but the road is a considerable height above sea level at this point and the connection would be in the order of one mile long. The road distance to Tobermory would be just over 2 miles.

The total costs of developing a facility at Aros Bay would be in the order of **£23.5 million,** broken down as follows:

- Harbour: £15 million.
- Upgraded road connection to A848: £2 million.
- Road improvements Tobermory to Salen: £6.5 million.

Coll and Tiree

Neither Coll nor Tiree could be regarded as sufficiently sheltered for a ferry to be based at the piers. Although they are sheltered from the prevailing westerly winds both are known to be susceptible to swell when the seas get round to the south and are completely exposed to the east.

Gott Bay on Tiree is a very exposed location. If a vessel was based there a breakwater would be required to give adequate shelter from waves during winds from the south through to north east. It is beyond the remit of this report to consider the design of such breakwater in detail. However, existing information on the Admiralty Chart shows that it would require to be placed to the east and south of the ferry terminal orientated roughly north south. As the ferry berth is in an east west orientation the breakwater would have to be sufficiently distant to allow adequate manoeuvring area for the ferry.

Although a rock outcrop could be used to give partial shelter, the majority of the breakwater, which would probably be of rock fill with armour protection, would be in a water depth of around 8 metres and would be some 300 metres long with a further length of around 200 metres on the rock outcrop. The cost of such a structure would be in the order of £15m to £20m depending on the exact details of construction.

Implications for Craignure

If an overland route through Mull is introduced this will have implications for increased traffic at Craignure. In considering these implications it has been assumed that Craignure continues to operate with only one ro-ro linkspan and that any through traffic for destinations beyond Mull is integrated with traffic already going to destinations in Mull. It would be possible to add a second ro-ro linkspan. However, simultaneous two ship working would be very difficult to operate both on land and at sea. Therefore, a second linkspan should be discounted on practical grounds.

Generally, the facilities at Craignure are matched to single ship operating. That is, the marshalling area accommodates the number of vehicles which can be loaded on to one ship and the passenger waiting and handling facilities are similarly of an appropriate capacity.

If it is assumed (as has been done earlier in this report) that two vessels would operate on Oban-Craignure, then this would not require modification to the existing facilities. This is because the existing facilities are based on handling one ship of 70 car capacity. Therefore all facilities are already of the correct size provided there is a reasonable time gap between sailings.

We conclude that the existing facilities at Craignure should be unaffected by the increase in traffic generated by introducing an overland route.

4.4 B: COLL-TIREE FIXED LINK

4.4.1 Description

A fixed link would be constructed between Coll and Tiree. The Oban-Tiree ferry service would cease. Both islands would be served by sailings between Oban and Coll.

4.4.2 Shore Infrastructure

We have reviewed the report "Fixed Link Studies: Final Report" (October 2001) which was produced for ABC. It concluded that for a variety of reasons it was almost impossible that such a link would be acceptable. The principal issues were the environmental consequences of such a link. The report noted:

"a total of 7 separate environmental designations which apply to the islands of Coll, Gunna and Tiree each of which could be considered a "showstopper" to the development of a fixed link"

Other considerations which militated against the fixed link included a lack of support among the local populations. Our consultations for this study indicate that this remains the view among Coll residents who remain strongly against the concept due to concerns that:

- Coll would lose its identity if joined to the larger island of Tiree.
- Services would be less accessible as they were likely to be located on Tiree rather than on both islands as at present. This would, for example, increase the response time for attending emergencies on Coll.

It was noted, however, that businesses were more likely than individuals to be in favour of a fixed link.

The 2001 study was sufficiently negative about the possibility of a fixed link that it did not produce a financial cost for a fixed link and the associated road works. It is reasonable to assume that this cost would be in the region of tens of millions of pounds. We understand from our discussions with ABC that the situation as set out in the 2001 report has not changed in the intervening period.

Accordingly, we have not investigated this intervention in any further detail.

However, it is worth noting that, whilst there may be major environmental difficulties in creating the fixed link between the two islands, in terms of both port and ship operations, this would have merits.

The fixed link would allow a better schedule to be operated to Coll and Tiree. It would reduce sailing time by 2½ hours on every round trip from Oban. This would reduce fuel costs and/or offer the opportunity for the provision of additional sailings.

Physically linking the islands of Coll and Tiree would provide an opportunity to reduce the costs of sustaining public services such as health, fire brigade, police and refuse collection. It would also remove the need for secondary pupils from Coll to board away from home every night.

The concept of operating an internal ferry to link the two islands is not considered to be realistic in terms of the through movement of passengers, cars and freight between the mainland and the second island (that is, the island that has to use the internal service to connect with the main service to Oban).

4.5 C: MALLAIG-LOCHBOISDALE FERRY SERVICE

4.5.1 Description

A Mallaig-Lochboisdale ferry service would be introduced. Oban-Lochboisdale services would cease. Castlebay would continue to be served from Oban.

4.5.2 Crossing Times and Frequency

Existing Service Provision

This is reviewed at **4.3.5**.

Mallaig-Lochboisdale Service

Assuming a vessel with a service speed of 16 knots, the crossing time for a service between Lochboisdale and Mallaig would be 3 hours and 15 minutes. This would be shorter than existing crossing times. As shown at **4.3.5,** existing crossing times between Lochboisdale and Oban are generally:

- 5 hours and 20 minutes for direct sailings.
- 7 hours and 20 minutes for sailings via Castlebay.

The assumption underlying this intervention is that Castlebay would continue to be linked to Oban. As it is not possible to maintain a viable schedule on both routes using one ship, it would be necessary to dedicate a ship to each route. If a ship was dedicated to the Lochboisdale-Mallaig route then it would be possible to provide a service offering two round trips daily.

A possible schedule is shown at **Table 4.31**. It reflects, in part, that it would not be possible to berth the vessel overnight at Mallaig. This is discussed at **4.5.7**.

TABLE 4.31: MALLAIG-LOCHBOISDALE: POSSIBLE TIMETABLE FOR A TWICE DAILY SERVICE	
Depart Lochboisdale	0800
Arrive Mallaig	1115
Depart Mallaig	1130
Arrive Lochboisdale	1445
Depart Lochboisdale	1500
Arrive Mallaig	1815
Depart Mallaig	1830
Arrive Lochboisdale	2145

This would represent a significant increase in frequency compared to the present provision. At present there is a less than daily frequency all year round; with four return sailings per week in the summer and 3-4 return sailings per week during the winter.

This schedule would involve an operating day of 15 hours, to allow for set up and closing down in relation to the vessel. Taking account of CalMac's current operating practices it would be possible to operate this schedule with one crew, augmented by a few extra members to provide cover for the extended day.

The schedule, in broad terms would suit those freight operators consulted for this study. Certainly arrival in Mallaig at 1115 allows for easy access to or beyond the central belt before the evening rush hour.

4.5.3 Fares

Table 4.32 compares the RET fares that would apply to a Mallaig-Lochboisdale service with the existing ones for sailings to Oban.

TABLE 4.32: COMPARISON OF FARES FOR LOCHBOISDALE (£): EXISTING AND MALLAIG SERVICE

	Passenger	Car	CV (14m)
Mallaig-Lochboisdale	7.95	40.70	170.00
Existing: Oban-Lochboisdale	10.95	48.50	244.00
Reduction in Fare	**3.00**	**7.80**	**74.00**

The saving of £74.00 each way for a freight unit is significant, particularly if this is conjunction with a much more "haulier friendly" schedule. Our consultations established that hauliers are aware of this opportunity. The saving for a car with two passengers would be around £14 each way.

4.5.4 Changes To Total Journey Time To Mainland Destinations

Introduction

In assessing the substitution of Mallaig for Oban as the landfall for the Lochboisdale service it is helpful to review the journey choices facing both passengers and freight vehicles wishing to travel between the Uists and key destinations on the mainland. Crianlarich was chosen as an exemplar for this because of its strategic location in relation to Glasgow, Perth and Edinburgh.

Different sources suggest different journey times for car travel on the mainland. Following discussions with HITRANS, we have used two different sources. The first of these was *RAC Route Planner*, from which journey times were extracted by the consultants. The second was *transportdirect.com*. The data from this source were provided to us by HITRANS.

In the relevant subsequent Tables two sets of journey time estimates are shown, drawn from the two data sources. Those with the suffix "A" use the data from the RAC. Those with the suffix "B" use the data from transportdirect.com.

South Uist Traffic

Tables 4.33A/B and **4.34A/B** (below and over) compare the total car journey times between Lochboisdale and Crianlarich by means of three ferry services:

- Lochmaddy-Uig.
- Lochboisdale-Oban.
- Lochboisdale-Mallaig.

TABLE 4.33A: COMPARISON OF TOTAL CAR JOURNEY TIMES FROM LOCHBOISDALE TO CRIANLARICH: WINTER			
	Ferry Route		
Journey Leg	**Uig**	**Oban via Castlebay**	**Mallaig**
On-island-road	1hr 22 min	-	-
Vehicle check in time	30 min	37 min*	30 min
Ferry crossing	1hr 45 min	7hr 25 min	3hr 15 min
Mainland port-Crianlarich	3hr 54 min	55 min	2hr 6 min
Total Journey Time	**7hr 31 min**	**8hr 57 min**	**5hr 51 min**

Note: Mainland road journey times based on RAC Route Planner. *Average of vehicle check in times at Oban and Lochboisdale

The Tables show that, at present, travelling in the **winter** from Lochboisdale to Crianlarich via Uig offers a time saving compared to travelling via Castlebay and Oban. This time saving varies between around 25 minutes and 1 hour and 25 minutes depending on the particular data source that is used.

TABLE 4.33B: COMPARISON OF TOTAL CAR JOURNEY TIMES FROM LOCHBOISDALE TO CRIANLARICH: WINTER			
	Ferry Route		
Journey Leg	**Uig**	**Oban via Castlebay**	**Mallaig**
On-island-road	1hr 22 min	-	-
Vehicle check in time	30 min	37 min*	30 min
Ferry crossing	1hr 45 min	7hr 25 min	3hr 15 min
Mainland port-Crianlarich	5hr 14 min	1hr 15 min	2hr 53 min
Total Journey Time	**8hr 51 min**	**9hr 17 min**	**6hr 38 min**

Note: Mainland road journey times based on transportdirect.com. *Average of vehicle check in times at Oban and Lochboisdale

During the **summer** timetable, the relative merits of a Lochmaddy routing and an indirect sailing to Oban depend on the data source used. Based on the RAC data travelling via Uig offers a time saving of 40 minutes. In contrast the transportdirect.com data suggest that travelling through Oban offers a time advantage of around 20 minutes.

In both instances, a direct Lochboisdale-Oban sailing offers a shorter overall journey than travelling via Uig. The time saving varies between around 40 minutes and 1 hour and 40 minutes depending on which of the two data sources are used.

TABLE 4.34A: COMPARISON OF TOTAL CAR JOURNEY TIMES FROM LOCHBOISDALE TO CRIANLARICH: SUMMER				
	Ferry Route			
Journey Leg	**Uig**	**Oban Direct**	**Oban via Castlebay**	**Mallaig**
On-island-road	1hr 22 min	-	-	-
Vehicle check in time	30 min	37 min*	37 min*	30 min
Ferry crossing	1hr 45 min	5hr 20 min	6hr 40 min	3hr 15 min
Mainland port-Crianlarich	3hr 54 min	55 min	55 min	2hr 6 min
Total Journey Time	**7hr 31 min**	**6hr 52 min**	**8hr 12 min**	**5hr 51 min**

Note: Mainland road journey times based on RAC Route Planner. *Average of vehicle check in times at Oban and Lochboisdale

TABLE 4.34B: COMPARISON OF TOTAL CAR JOURNEY TIMES FROM LOCHBOISDALE TO CRIANLARICH: SUMMER				
	Ferry Route			
Journey Leg	**Uig**	**Oban Direct**	**Oban via Castlebay**	**Mallaig**
On-island-road	1hr 22 min	-	-	-
Vehicle check in time	30 min	37 min*	37 min*	30 min
Ferry crossing	1hr 45 min	5hr 20 min	6hr 40 min	3hr 15 min
Mainland port-Crianlarich	5hr 14 min	1hr 15 min	1hr 15 min	2hr 53 min
Total Journey Time	**8hr 51 min**	**7hr 12 min**	**8hr 32 min**	**6hr 38 min**

Note: Mainland road journey times based on transportdirect.com. *Average of vehicle check in times at Oban and Lochboisdale

At all times of the year, however, a Mallaig service offers the best overall journey time between Lochboisdale and Crianlarich. The approximate time savings from travelling via Mallaig are as follows, compared to via:

- Castlebay and Oban-winter: 2 hour and 40 minutes-3 hours and 5 minutes.
- Castlebay and Oban-summer: 1 hour and 55 minutes-2 hours and 20 minutes.
- Uig: 2 hours and 15 minutes-2 hours and 40 minutes.
- Oban direct sailing-summer: 35 minutes-1 hour.

The ranges shown reflect the different results from the two data sources.

Benbecula and North Uist Traffic

It is also possible that a Mallaig service could attract traffic from the Lochmaddy service that is a trip pair of:

- Either Benbecula or North Uist; and
- The mainland to the south of Skye.

The impacts on journey times between Benbecula/North Uist and Crianlarich are shown at **Tables 4.35A/B** and **4.36A/B**, over.

TABLE 4.35A: COMPARISON OF TOTAL CAR JOURNEY TIMES FROM NORTH UIST & BENBECULA TO CRIANLARICH: WINTER			
Lochmaddy-Crianlarich			
	Ferry Route		
Journey Leg	**Uig**	**Oban via Castlebay**	**Mallaig**
On-island-road	-	1hr 22 min	1hr 22 min
Vehicle check in time	30 min	37 min*	30 min
Ferry crossing	1hr 45 min	7hr 25 min	3hr 15 min
Mainland port-Crianlarich	3hr 54 min	55 min	2hr 6 min
Total Journey Time	**6hr 9 min**	**10hr 19 min**	**7hr 13 min**
Benbecula-Crianlarich			
	Ferry Route		
Journey Leg	**Uig**	**Oban via Castlebay**	**Mallaig**
On-island-road	43 min	44 min	44 min
Vehicle check in time	30 min	37 min*	30 min
Ferry crossing	1hr 45 min	7hr 25 min	3hr 15 min
Mainland port-Crianlarich	3hr 54 min	55 min	2hr 6 min
Total Journey Time	**6hr 52 min**	**9hr 41 min**	**6hr 35 min**

Note: Mainland road journey times based on RAC Route Planner. *Average of vehicle check in times at Oban and Lochboisdale

TABLE 4.35B: COMPARISON OF TOTAL CAR JOURNEY TIMES FROM NORTH UIST & BENBECULA TO CRIANLARICH: WINTER			
Lochmaddy-Crianlarich			
	Ferry Route		
Journey Leg	**Uig**	**Oban via Castlebay**	**Mallaig**
On-island-road	-	1hr 22 min	1hr 22 min
Vehicle check in time	30 min	37 min*	30 min
Ferry crossing	1hr 45 min	7hr 25 min	3hr 15 min
Mainland port-Crianlarich	5hr 14 min	1hr 15 min	2hr 53 min
Total Journey Time	**7hr 29 min**	**10hr 39 min**	**8hr 0 min**
Benbecula-Crianlarich			
	Ferry Route		
Journey Leg	**Uig**	**Oban via Castlebay**	**Mallaig**
On-island-road	43 min	44 min	44 min
Vehicle check in time	30 min	37 min*	30 min
Ferry crossing	1hr 45 min	7hr 25 min	3hr 15 min
Mainland port-Crianlarich	5hr 14 min	1hr 15 min	2hr 53 min
Total Journey Time	**8hr 12 min**	**10hr 1 min**	**7hr 22 min**

Note: Mainland road journey times based on transportdirect.com. *Average of vehicle check in times at Oban and Lochboisdale

Tables 4.35A/B show that, in the **winter,** for traffic from North Uist (Lochmaddy) travelling via Uig offers the shortest journey time to Crianlarich. The time advantage is between 30 minutes and 1 hour and 5 minutes compared to Lochboisdale-Mallaig; and over three hours compared to sailing to Oban via Castlebay.

The position is different for Benbecula traffic. The routing via Mallaig is faster-by 15-50 minutes, depending on the data source used-than travelling via Uig. Both these routes remain much quicker than sailing to Oban via Castlebay.

Tables 4.36A/B show the position in the **summer** when Lochboisdale-Oban crossing times are shorter than during the winter.

TABLE 4.36A: COMPARISON OF TOTAL CAR JOURNEY TIMES FROM NORTH UIST & BENBECULA TO CRIANLARICH: SUMMER				
Lochmaddy-Crianlarich				
	Ferry Route			
Journey Leg	**Uig**	**Oban Direct**	**Oban via Castlebay**	**Mallaig**
On-island-road	-	1hr 22 min	1hr 22 min	1hr 22 min
Vehicle check in time	30 min	37 min*	37 min*	30 min
Ferry crossing	1hr 45 min	5hr 20 min	6hr 40 min	3hr 15 min
Mainland port-Crianlarich	3hr 54 min	55 min	55 min	2hr 6 min
Total Journey Time	**6hr 9 min**	**8hr 14 min**	**9hr 34 min**	**7hr 13 min**
Benbecula-Crianlarich				
	Ferry Route			
Journey Leg	**Uig**	**Oban Direct**	**Oban via Castlebay**	**Mallaig**
On-island-road	43 min	44 min	44 min	44 min
Vehicle check in time	30 min	37 min*	37 min*	30 min
Ferry crossing	1hr 45 min	5hr 20 min	6hr 40 min	3hr 15 min
Mainland port-Crianlarich	3hr 54 min	55 min	55 min	2 hr 6 min
Total Journey Time	**6hr 52 min**	**7hr 36 min**	**8hr 56 min**	**6hr 35 min**

Note: Mainland road journey times based on RAC Route Planner. *Average of vehicle check in times at Oban and Lochboisdale

For North Uist traffic the position is the same as in the winter. The overall journey time is shortest by travelling via Uig.

Similarly, for Benbecula traffic the position remain as it is in the winter with the route via Mallaig slightly faster than that through Uig. Using a direct sailing from Lochboisdale rather than via Castlebay makes the Oban routing more attractive. However, its overall journey time is still up to one hour longer than travelling via Mallaig.

The upshot is that in logistics terms both car accompanied passengers and freight would be able to save time by using the Mallaig route compared to travelling via Oban. This was a point raised by the freight operators consulted during the study. They also noted that Mallaig could offer better timetabling opportunities, thus creating the potential for more logistically sensible itineraries.

TABLE 4.36B: COMPARISON OF TOTAL CAR JOURNEY TIMES FROM NORTH UIST & BENBECULA TO CRIANLARICH: SUMMER				
Lochmaddy-Crianlarich				
	Ferry Route			
Journey Leg	**Uig**	**Oban Direct**	**Oban via Castlebay**	**Mallaig**
On-island-road	-	1hr 22 min	1hr 22 min	1hr 22 min
Vehicle check in time	30 min	37 min*	37 min*	30 min
Ferry crossing	1hr 45 min	5hr 20 min	6hr 40 min	3hr 15 min
Mainland port-Crianlarich	5hr 14 min	1hr 15 min	1hr 15 min	2hr 53 min
Total Journey Time	**7hr 29 min**	**8hr 34 min**	**9hr 54 min**	**8hr 0 min**
Benbecula-Crianlarich				
	Ferry Route			
Journey Leg	**Uig**	**Oban Direct**	**Oban via Castlebay**	**Mallaig**
On-island-road	43 min	44 min	44 min	44 min
Vehicle check in time	30 min	37 min*	37 min*	30 min
Ferry crossing	1hr 45 min	5hr 20 min	6hr 40 min	3hr 15 min
Mainland port-Crianlarich	5hr 14 min	1hr 15 min	1hr 15 min	2hr 53 min
Total Journey Time	**8hr 12 min**	**7hr 56 min**	**9hr 16 min**	**7hr 22 min**

Note: Mainland road journey times based on transportdirect.com. *Average of vehicle check in times at Oban and Lochboisdale

Assessing the standing costs of a commercial vehicle at £200 per day (tractor unit, driver and trailer-not including the cost of fuel) and nine driving hours per day, the route via Mallaig would offer a saving of £22 per hour. However, if an extra hour allows a haulier to complete a round trip in a working day, the saving increases significantly.

4.5.5 Total Ferry and Road Costs

Table 4.37, over, sets out the total trip costs of through journeys from Lochboisdale and Benbecula to Crianlarich for a commercial vehicle.

It shows that, on the basis of a marginal cost for road haulage of £0.62 per mile for a CV, from Lochboisdale it is marginally cheaper to use the Mallaig service compared to Uig-Lochmaddy. But in the case of Benbecula the cheapest route is that via Uig which has the considerable advantage of a much cheaper sea freight rate. Uig is a commercial option because of the relatively low sea-freight of £93, compared to £244 via Oban and £170 via Mallaig.

The saving of £41 by using Mallaig instead of Oban is, however, important for traffic from Lochboisdale.

TABLE 4.37: TOTAL FERRY AND ROAD COSTS (£) FOR FREIGHT (14M CV) TRAVELLING BETWEEN SOUTH UIST AND BENBECULA AND CRIANLARICH			
Lochboisdale-Crianlarich			
Element/Via	**Oban**	**Uig**	**Mallaig**
Ferry Fare	244.00	93.00	170.00
Road Costs*	25.42	137.02	58.28
Total Cost	*269.42*	*230.02*	*228.28*
Saving via Mallaig	**41**	**2**	
Benbecula-Crianlarich			
Element/Via	**Oban**	**Uig**	**Mallaig**
Ferry Fare	244.00	93.00	170.00
Road Costs*	39.06	124.62	71.92
Total Cost	*283.06*	*217.62*	*241.92*
Saving via Mallaig	**41**	**(24)**	

*Note: Marginal cost-assumed as £0.62 per mile

Table 4.38 provides the same analysis for a car with two passengers.

TABLE 4.38: TOTAL FERRY AND ROAD COSTS (£) FOR A CAR AND TWO PASSENGERS TRAVELLING BETWEEN SOUTH UIST AND BENBECULA AND CRIANLARICH			
Lochboisdale-Crianlarich			
Element/Via	**Oban**	**Uig**	**Mallaig**
Ferry Fare	70.40	32.20	56.60
Road Costs*	6.15	33.15	14.10
Total Cost	*76.55*	*65.35*	*70.70*
Saving via Mallaig	**6**	**(5)**	
Benbecula-Crianlarich			
Element/Via	**Oban**	**Uig**	**Mallaig**
Ferry Fare	70.40	32.20	56.60
Road Costs*	9.45	30.15	17.40
Total Cost	*79.85*	*62.35*	*74.00*
Saving via Mallaig	**6**	**(12)**	

*Note: Marginal cost-assumed as £0.15 per mile

The RET ferry fare differential is smaller than for a commercial vehicle. Consequently the cost saving is small when using the Mallaig service compared to travelling via Oban. On the basis of a marginal cost per mile of £0.15 (which covers the cost of fuel) the Uig route offers the lowest overall journey cost for cars from Lochboisdale and Benbecula.

For public transport users there is the issue of the frequency that would be sustained at Mallaig compared to existing provision at Oban. This is discussed at sections **5.4** and **5.5** of **Chapter 5**.

4.5.6 Potential Impacts on Demand and Revenues

The Mallaig-Lochboisdale route offers a number of benefits:

- It is the quickest route between central Scotland and Benbecula and South Uist.
- It is the most frequent of the three ferry services.

This is likely to mean the route capturing some existing Uig-Lochmaddy traffic in addition to generating new demand for travel to/from the Outer Hebrides. The STAG report (Mallaig to Lochboisdale Ferry Service, Final Report: Halcrow, 2005) projected the following demand for a twice daily service:

- Passengers: 48,950.
- Cars: 15,925.
- Coaches: 124.
- CVs: 1,825.

Applying these figures and projecting them forward to the current year, plus allowing an uplift for RET similar to that used for Tobermory-Castlebay/Lochboisdale (shown at **4.3**) produces the traffic levels that could be achieved on the route in the medium term.

These are shown at **Table 4.39**.

TABLE 4.39: POTENTIAL CARRYINGS ON MALLAIG-LOCHBOISDALE SERVICE

Traffic Type	Carryings
Passengers	67,302
Cars	22,169
Coaches	147
CVs	1,860

Based on these carryings and the fares shown at **Table 4.32**, the annual revenues for the service would be £1,775,000 as shown at **Table 4.40**.

TABLE 4.40: POTENTIAL REVENUES ON MALLAIG-LOCHBOISDALE SERVICE

Traffic Type	Revenue (£)
Passengers	535,049
Cars	902,269
Coaches	21,777
CVs	316,259
Total	**1,775,354**

A high level financial analysis of route performance is shown at **Table 4.41**, over. This assumes the service is operated by a new vessel (see **4.5.7**).

In addition to the above, there would be:

- The loss of existing Oban-Lochboisdale revenues.
- A reduction in revenues on the Uig-Lochmaddy service as a result of diversion of traffic from that route onto the Mallaig-Lochboisdale service.

TABLE 4.41: MALLAIG-LOCHBOISDALE: HIGH LEVEL FINANCIAL ANALYSIS (£)	
Income	**1,775,354**
Bunkers	651,000
Crew costs	1,080,000
Vessel operating costs	620,000
Insurance and P&I	100,000
Total operating costs	**2,451,000**
Operating result	**-675,646**
Depreciation	920,000
Interest payable	690,000
Result before admin and overheads	**-2,285,646**

4.5.7 Ports and Vessels

A ship for this route is assumed to need a service speed of 16 knots, with a capacity of 60 cars and 350 passengers, although a slightly larger vessel might be preferred to allow interchange with other routes. The ship would need to be a class B vessel, with on board facilities suitable for a sea journey of more than three hours. The capital cost of a suitable new build vessel would be in the order of £23 million.

A ship of this size would be able to use the existing facilities at Mallaig. The marshalling area could accommodate the number of vehicles which can be loaded on to one ship and the passenger waiting and handling facilities are similarly of an appropriate capacity.

There is no area available for constructing an additional linkspan and in any event two ship operating in Mallaig would be difficult due to congestion both on shore and at sea. Any increase in throughput at Mallaig would therefore be achieved by integrating with the existing timetables of the services to Skye and the Small Isles. However, this is not seen as a problem.

Finally, it would not be possible to berth the vessel overnight at Mallaig given the use of the harbour to berth the Mallaig-Armadale vessel. Therefore, the vessel would have to overnight at Lochboisdale. This means that the first sailing of each day would be outward from South Uist.

4.5.8 An Enhanced Oban-Barra Service

This intervention assumes that if Mallaig became the terminus of the Lochboisdale service then Castlebay would continue to be linked to Oban.

With a passage time of 4 hours and 50 minutes during the summer with MV Clansman, one round trip would take 10 hours 25 minutes including 15 minutes turnaround in each port. To that should be added 45 minutes preparation time each morning and 30 minutes finishing time at the end of each day.

Two round trips daily would take require a working day of more than 21 hours. This would demand very high crew levels; and could be difficult to justify on the basis of the incremental traffic generated. However, a schedule of 1½ round trips daily could be accommodated.

An alternative to the above would be to discontinue serving the Outer Hebrides from Oban. In this case, either Lochboisdale or Castlebay would be served from Mallaig. The Sound of Barra service would be used by those travelling from the island which no longer had a direct service to the mainland. However, this alternative has not been considered as part of this study.

4.6 D: MALLAIG-LOCHBOISDALE/CASTLEBAY FERRY SERVICE

4.6.1 Description

A Mallaig-Lochboisdale/Castlebay ferry service would be introduced. Oban-Lochboisdale/Castlebay ferry services would cease.

4.6.2 Crossing Times and Frequency

As noted earlier, a Mallaig-Lochboisdale sailing would have a crossing time of 3 hours and 15 minutes. Existing crossing times between Lochboisdale and Oban are generally:

- 5 hours and 20 minutes for direct sailings.
- 7 hours and 20 minutes for sailings via Castlebay.

A Mallaig-Castlebay sailing would have a crossing time of 3 hours and 45 minutes. On most sailings between Oban and Castlebay the crossing time is 4 hours and 50 minutes, although on occasion the crossing time can be over 7 hours when the vessel sails via Lochboisdale.

Table 4.42 shows how a frequency of two round trips daily might operate. The schedule reflects, in part, that it would not be possible to berth the vessel overnight at Mallaig. This is discussed at **4.6.6**.

TABLE 4.42: MALLAIG-CASTLEBAY/LOCHBOISDALE: ILLUSTRATIVE TIMETABLE	
Dep Castlebay	0800
Arr Mallaig	1145
Dep Mallaig	1200
Arr Lochboisdale	1515
Dep Lochboisdale	1530
Arr Mallaig	1845
Dep Mallaig	1900
Arr Castlebay	2245

Anything less than this frequency offers no significant improvement on the existing service from Oban. Further, only direct sailings are included in the schedule as indirect routings (e.g. Castlebay-Lochboisdale-Mallaig) would not address the identified issue of long crossing times.

Table 4.43, over, compares frequency on the potential Mallaig services to that on the present Oban-Castlebay/Lochboisdale service.

The picture is a mixed one. For Barra there would be a reduced sailing frequency in summer, falling from eight to seven sailings per week. Winter frequency would, however be higher than at present, with between 3 and 4 additional return sailings per week.

TABLE 4.43: COMPARISON OF NUMBER OF SAILINGS PER WEEK: EXISTING AND MALLAIG-CASTLEBAY/LOCHBOISDALE			
	Existing		Mallaig-Castlebay/Lochboisdale
Island	**Summer**	**Winter**	**All Year Round**
Barra	8	3-4	7
South Uist	4	3-4	7

South Uist would see a higher frequency all year round. In the summer there would be an additional three sailings per week. In the winter, as per Barra, there would be an additional 3-4 return sailings per week.

Both islands would have a daily service, with the opportunity to both depart from and arrive at the island on the same day. All sailings would be direct to and from the mainland.

4.6.3 Fares

As shown at **Table 4.32** fares for a Mallaig service would be cheaper than those to Oban. The reductions would be as follows:

- Passenger: £3.00.
- Car: £7.80.
- CV (14m): £74.00.

4.6.4 Changes To Total Journey Time To Key Destinations

Tables 4.44A/B (below and over) show the relative total journey times for travel between Castlebay and Crianlarich via Oban and via Mallaig. (Those for Lochboisdale are shown at **4.5**. They are unchanged by the inclusion of Castlebay within this intervention).

TABLE 4.44A: COMPARISON OF TOTAL CAR JOURNEY TIMES FROM BARRA TO CRIANLARICH		
	Ferry Route	
Journey Leg	**Oban Direct**	**Mallaig**
Vehicle check in time	37 min*	30 min
Ferry crossing	4hr 50 min	3hr 45 min
Mainland port-Crianlarich	55 min	2hr 6 min
Total Journey Time	**6hr 22 min**	**6hr 21 min**

Note: Mainland road journey times based on RAC Route Planner. *Average of vehicle check in times at Oban and Castlebay

The Tables show that no time advantage is gained in travelling between Barra and Crianlarich via Mallaig rather than Oban. Depending on the data source used the time is either virtually identical to that through Oban or up to 25 minutes longer.

TABLE 4.44B: COMPARISON OF TOTAL CAR JOURNEY TIMES FROM BARRA TO CRIANLARICH		
	Ferry Route	
Journey Leg	**Oban Direct**	**Mallaig**
Vehicle check in time	37 min*	30 min
Ferry crossing	4hr 50 min	3hr 45 min
Mainland port-Crianlarich	1hr 15 min	2hr 53 min
Total Journey Time	**6hr 42 min**	**7hr 8 min**

Note: Mainland road journey times based on transportdirect.com. *Average of vehicle check in times at Oban and Castlebay

However, it should be noted that the data in the Tables show **the most common** crossing time between Oban and Castlebay. In the second half of the winter timetable the crossing time is 5 hours and 20 minutes, while on the occasions when the ferry sails via Lochboisdale, the crossing time increases to over 7 hours. Thus compared to at least **some** of the present Oban-Castlebay sailings, there would be a time advantage from a routing via Mallaig.

Table 4.45 sets out the total trip costs of through journeys from Barra to Crianlarich for a CV.

TABLE 4.45: TOTAL FERRY AND ROAD COSTS (£) FOR FREIGHT (14M CV) TRAVELLING BETWEEN BARRA AND CRIANLARICH		
Element/Via	**Oban**	**Mallaig**
Ferry Fare	244.00	170.00
Road Costs*	25.42	58.28
Total Cost	269.42	228.28
Saving via Mallaig	**41**	

*Note: Marginal cost-assumed as £0.62 per mile

It shows a saving of around £41 per single journey.

Table 4.46 provides the same analysis for a car and two passengers.

TABLE 4.46: TOTAL FERRY AND ROAD COSTS (£) FOR A CAR AND TWO PASSENGERS TRAVELLING BETWEEN BARRA AND CRIANLARICH		
Element/Via	**Oban**	**Mallaig**
Ferry Fare	70.40	56.60
Road Costs*	6.15	14.10
Total Cost	76.55	70.70
Saving via Mallaig	**6**	

*Note: Marginal cost-assumed as £0.15 per mile

The saving, at around £6 per single journey, is relatively slight.

4.6.5 Potential Impacts on Demand and Revenues

Table 4.47 shows potential demand for a Mallaig-Castlebay/Lochboisdale service.

TABLE 4.47: POTENTIAL CARRYINGS ON MALLAIG-CASTLEBAY/LOCHBOISDALE SERVICE	
Traffic Type	**Carryings**
Passengers	93,341
Cars	28,499
Coaches	114
CVs	2,204

The projections reflect:

- The transfer of existing Oban-Castlebay traffic to a Mallaig service, with RET fares applied.
- A reduction in Mallaig-Lochboisdale carryings compared to those forecast for a twice daily service (intervention C, as shown at **4.5**). Again, the projections in the 2005 STAG report have been used.

Based on these carryings and the fares shown earlier, the annual revenues for the service would be around £2.3 million as shown at **Table 4.48**.

TABLE 4.48: POTENTIAL REVENUES: MALLAIG-CASTLEBAY/LOCHBOISDALE SERVICE	
Traffic Type	**Revenue (£)**
Passengers	742,062
Cars	1,159,919
Coaches	16,860
CVs	374,735
Total	**2,293,575**

A high level financial analysis for the route is given at **Table 4.49**, over.

Again, as we do not have the historical price of the ship we have calculated depreciation at the same rate as that of a new ship, which will act to overstate the costs of an older vessel.

The Mallaig service performs better, by around £290,000. However, a full financial analysis would need to reflect loss of revenue from the Uig-Lochmaddy service as a result of traffic diversion to the Mallaig operation.

4.6.6 Ports and Vessels

The general comments made regarding the port of Mallaig at **4.5** also apply to a Mallaig-Castlebay/Lochboisdale operation. Based on the potential levels of demand shown above, a vessel of around 70 car capacity should meet the requirements of serving the two ports out of Mallaig. If a new vessel was required the cost would be around £23 million.

TABLE 4.49: ROUTE PERFORMANCE (£): OBAN AND MALLAIG SERVICES COMPARED: HIGH LEVEL ANALYSIS				
	Oban-Castlebay/Lochboisdale		Mallaig-Castlebay/Lochboisdale	
	Existing Vessel	New Vessel	Existing Vessel	New Vessel
Income	**2,002,610**	**2,002,610**	**2,293,575**	**2,293,575**
Bunkers	651,000	651,000	651,000	651,000
Crew costs	2,232,000	1,080,000	2,232,000	1,080,000
Vessel operating costs	620,000	620,000	620,000	620,000
Insurance and P&I	100,000	100,000	100,000	100,000
Total operating costs	**3,603,000**	**2,451,000**	**3,603,000**	**2,451,000**
Operating result	**-1,600,390**	**-448,390**	**-1,309,425**	**-157,425**
Depreciation	1,000,000	920,000	1,000,000	920,000
Interest payable	750,000	690,000	750,000	690,000
Result before admin and overheads	**-3,350,390**	**-2,058,390**	**-3,059,425**	**-1,767,425**

A new vessel for a Mallaig service could be required, rather than simply redeploying MV Lord of The Isles. This is because, under existing arrangements, during the second half of the winter MV Lord of The Isles needs to be stationed at Oban given that MV Clansman is undertaking relief duties elsewhere. Second, MV Lord of The Isles has a 54 car carrying capacity while our analysis suggests that a 70 car capacity ship would be required for a Mallaig service.

The first of these points could be overcome as follows when MV Clansman is used to provide dry dock cover for the rest of the CalMac fleet:

- For these two and a half months revert to the existing Oban-Castlebay-Lochboisdale schedule through Oban; or
- CalMac has a new-building due to be delivered in April 2011. The ship that is replaced could be used as the general replacement ship from 2011.

The first of these would result in a return to the very limited service in the second half of the winter. In addition, neither solution addresses the issue of the limited car capacity of MV Lord of The Isles.

The largest size of vessel which can use Mallaig is limited by the three parameters of length, beam and draught. At Mallaig the limit of length is controlled by the length of berthing face available to moor the vessel. At present, a vessel of the length of MV Lord of The Isles (84.6 metres) can be accommodated, but one of the length of MV Clansman (99 metres) cannot.

Accommodating a longer vessel than is presently possible at Mallaig would require a bollard available to give a good lead for the head rope (assuming the vessel is stern in to the linkspan) which ought to lead forward. The provision of an additional bollard on shore is relatively straightforward. It could be achieved at a cost in the order of £7,000 to £10,000 depending on the construction of the quay. This should allow a vessel of around 70 car capacity to operate to/from Mallaig. A more costly option is the provision of a mooring dolphin as an independent structure remote from the existing quay. This would cost in the order of £600,000 to £750,000.

Further work would be required to make a definitive decision on whether MV Clansman could operate out of Mallaig if the above infrastructure works were undertaken. The vessel would protrude into the harbour approach channel to an extent which is likely to be unacceptable to other harbour users. In addition, the restrictions of the harbour would make manoeuvring of the ferry extremely difficult.

We also note CalMac's view that there would be no potential at Mallaig for increasing the length of the berth by dolphin or otherwise since this would restrict the harbour entrance. Thus, they stated, the maximum size of vessel that can be accommodated at the linkspan berth in Mallaig would be 85 metres-that is, around 70 car capacity.

Finally, it would not be possible to berth the vessel overnight at Mallaig given the use of the harbour to berth the Mallaig-Armadale vessel. Therefore, the vessel would have to overnight at Lochboisdale or Castlebay. This means that the first sailing of each day would be outward from the Outer Hebrides.

4.7 E: ENHANCED OBAN-CRAIGNURE SERVICE

4.7.1 Description

An enhanced Oban-Craignure service would be provided, with a commuter-oriented timetable and longer sailing day than at present.

4.7.2 Existing Service Provision

Oban-Craignure

The winter and summer schedules are shown below.

Oban-Craignure

	Winter					Summer				
	Depart Oban	Arrive Craignure	Depart Craignure	Arrive Oban		Depart Oban	Arrive Craignure	Depart Craignure	Arrive Oban
Mon	07.00	07.46	08.00	08.46	**Mon**	07.00	07.46	08.00	08.46
	10.00	10.46	11.00	11.46		09.50	10.36	10.55	11.41
	16.00	16.46	17.00	17.46		11.55	12.41	13.00	13.46
						14.00	14.46	15.00	15.46
Tues	08.00	08.46	09.00	09.46		16.00	16.46	17.00	17.46
	10.00	10.46	11.00	11.46		18.00	18.46	19.00	19.46
	12.00	12.46	15.00	15.46					
	16.00	16.46	17.00	17.46	**Tues/**			06.45B	o7.31B
	18.00	18.46	19.00	19.46	**Wed/**	07.45	08.31	08.45	09.31
					Thurs	09.50	10.36	10.55	11.41
Wed	08.00	08.46	09.00	09.46		11.55	12.41	13.00	13.46
	10.00	10.46	11.00	11.46		14.00	14.46	15.00	15.46
	16.00	16.46	17.00	17.46		16.00	16.46	17.00	17.46
						18.00	18.46	19.00	19.46
Thurs	08.00	08.46	09.00	09.46		20.00A	20.46A		
	10.00	10.46	11.00	11.46					
	12.00	12.46	15.00	15.46	**Fri**	07.45	08.31	08.45	09.31
	16.00	16.46	17.00	17.46		09.50	10.36	10.55	11.41
						11.55	12.41	13.00	13.46
Fri	08.00	08.46	09.00	09.46		14.00	14.46	15.00	15.46
	16.00	16.46	17.00	17.46		16.00	16.46	17.00	17.46
	18.00	18.46	19.00	19.46		18.00	18.46	19.00	19.46
	21.45	22.31				22.30	23.16		
Sat			07.00	07.46	**Sat**			07.00	07.46
	08.00	08.46	09.00	09.46		07.30	08.16	08.30	09.16
	10.00	10.46	11.00	11.46		09.30	10.16	10.30	11.16
	12.00	12.46	15.00	15.46		11.45	12.31	12.45	13.31
	16.00	16.46	17.00	17.46		14.00	14.46	15.00	15.46
	21.45	22.31				16.00	16.46	17.00	17.46
						18.00	18.46	19.00 C	19.46 C
Sun			09.00	09.46		20.00 C	20.46 C		
	10.00	10.46	11.00	11.46					
	16.00	16.46	17.00	17.46	**Sun**			08.45	09.31
	18.00	18.46	19.00	19.46		09.50	10.36	10.55	11.41
						11.55	12.41	13.00	13.46
						14.00	14.46	15.00	15.46
						16.00	16.46	17.00	17.46
						18.00 D	18.46 D	19.00 D	19.46 D

Notes:
A: Wednesdays only
B: Thursdays only
C: Saturdays, 10 May-13 September
D: Sundays, 18 May to 7 September

The main points to note are that:

- The schedule is different on most days of the week during the summer and the winter. In part, this reflects the lack of a dedicated vessel for the Craignure service.
- On most weekdays the first sailing to Oban arrives after 0900. This means that the schedule is not suited to daily commuting from Mull.
- In the winter, the last sailing **to** Mull is generally at 1600 or 1800. The exceptions are the 2145 sailings on Fridays and Saturdays. The last sailings **from** Mull are at either 1700 or 1900.
- In the summer, on four days of the week the last sailings **to** Mull are at 1800. The last sailings **from** Mull are at 1900 on every day of the week.
- Sunday has a relatively limited service, with less than 4 return sailings in the winter.

The distance between Oban and Craignure is around 8 nautical miles and the current crossing time is 46 minutes. This reflects the 5 knot speed limit in Oban Bay and the manoeuvring required in Craignure on departure.

Oban-Colonsay

In winter Colonsay is linked to Oban by three sailings per week. The schedule for winter 2008-09 is shown below.

	Mon/Wed	Fri
Depart Oban	12.00	10.00
Arr Colonsay	14.20	12.20
Dep Colonsay	14.40	12.40
Arrive Oban	17.00	15.20

There are no morning arrivals on Colonsay, the earliest being at 1220. Similarly, all arrivals at Oban are in the afternoon. The earliest is at 1520.

As shown overleaf, during the summer a higher frequency of service is offered on the route, partly by serving Colonsay en route to/from Islay.

Sailings are provided on six days of the week, although there is no sailing **from** Colonsay on a Monday and no sailing **to** the island on Tuesdays. Saturday is the only day when no service is provided.

Departures from Oban are generally mid to late afternoon. The exception is the 0900 on Thursdays. Most arrivals in Oban are after 1400, with two being after 2130.

Oban-Colonsay				Summer			
	Mon	**Tues**	**Wed**	**Wed**	**Thurs**	**Fri**	**Sun**
Depart Oban	17.00			15.30	09.00	17.00	17.30
Arr Colonsay	19.20		11.25*	17.45	11.40	19.20	19.50
Dep Colonsay		07.50	11.45	18.05*	11.55	19.35	20.05
Arrive Oban		10.10	14.10		14.15	21.55	22.25

*Service to/from Islay

4.7.3 Potential Means of Enhancing the Oban-Craignure Service

Four alternatives were originally considered. As agreed with the client these were:

- Continuing with one single conventional vessel.
- Operating a single vessel service with a vehicle carrying catamaran.
- Using a pair of vehicle carrying catamarans on a dedicated service to Mull, with an off peak daily service to Colonsay.
- Operating two vessels-a fast (25 knot) passenger only vessel plus a conventional vehicle carrying vessel.

As shown in the Reference Case at **4.1**, the introduction of RET on Oban-Craignure is likely to produce a significant uplift in demand. As also noted accommodating this demand would best be achieved through a two vessel service. A single vessel would have insufficient capacity to accommodate the underlying growth in traffic-unless there was a significant increase in vessel size. This would have major implications for the shore infrastructure at Craignure.

Importantly, due to the significant increase in demand that RET fares could generate then the Reference Case would, in itself, lead to a commuter-oriented timetable and longer sailing day than at present.

Reflecting the above, the two alternatives which involve deploying a single vessel have not been considered further. Therefore, the following analysis is based on the alternatives which have a two vessel operation.

We recognise that there are presently no plans to replace MV Isle of Mull with two new vessels. However, given the evidence presented at **4.1** this would appear necessary under the Reference Case and this report presents a range of information on the impacts and value for money of such an investment.

4.7.4 Analysis: Two Vehicle Carrying Vessels

Crossing Times and Frequency

The service would operate using a pair of vehicle carrying vessels, with an off peak daily run to Colonsay. As discussed at **4.1.2**, these could be either catamarans or conventional vessels. An illustrative schedule for the **winter** is shown at **Table 4.50**.

TABLE 4.50: TWO VESSEL SERVICE ON CRAIGNURE-OBAN INCLUDING A COLONSAY CALL: WINTER

Depart Craignure	Arrive Oban	Depart Oban	Arrive Craignure	Arrive Colonsay	Depart Colonsay
		0710	0756		
0710	0756	0810	0856		
0810	0856	0910	0956		
0910	0956	1010	1056		
1010	1056	1110	1156		
1110	1156	1210		1430	1445
1210	1256	1310	1356		
1410	1456	1510	1556		
	1605	1620	1706		
1610	1656	1710	1756		
1720	1806	1820	1906		
1810	1856				

Note: Second vessel operation shown in shaded boxes

Because the difference in passage time between a 16 knot vessel and the existing service provided by MV Isle of Mull is only 4-5 minutes we have not altered the sailing cycle time of 1 hour, which comprises 46 minutes on passage and 14 minutes in port. This has the advantage of maintaining a largely clockface timetable at both ports. The departure times of xx10 are used in order to fit with train connections at Oban.

One vessel would be based in Craignure and the other in Oban. This permits the operation of what is essentially a "mirror" schedule except for the interruption to provide the Colonsay service. An all year round two vessel operation on the Craignure service would be needed to developing commuting while meeting the needs of other parts of the market.

There would be 10 return sailings per day on Oban-Craignure. This compares to between 3 and 5 sailings per day under the existing winter schedule, as shown earlier. In addition there could be up to seven sailings per week to Colonsay. This compares to three sailings per week at present.

Table 4.51, over, illustrates the schedule and frequency that could be achieved with two vessels dedicated solely to the Oban-Craignure route during the **summer**. This assumes that Colonsay would continue to served by another Oban based vessel during the summer.

The provision of 15 return sailings a day represents a significant increase compared to the current position of 4-7 sailings per day in summer.

TABLE 4.51: TWO VESSEL SERVICE ON CRAIGNURE-OBAN: SUMMER			
Depart Craignure	**Arrive Oban**	**Depart Oban**	**Arrive Craignure**
		0710	0756
0710	0756	0810	0856
0810	0856	0910	0956
0910	0956	1010	1056
1010	1056	1110	1156
1110	1156	1210	1256
1210	1256	1310	1356
1310	1356	1410	1456
1410	1456	1510	1556
1510	1556	1610	1656
1610	1656	1710	1756
1710	1756	1810	1856
1810	1856	1910	1956
1910	1956	2010	2056
2010	2056	2110	2156
2110	2156		

Potential Impacts on Demand and Revenues

The potential impact on demand and revenues from a commuter-oriented timetable and longer sailing day are shown at **4.1.2.**

4.7.5 Analysis: Two Vessel Service: Fast Passenger Craft and Conventional Vessel

A 25-knot passenger vessel would complete the Oban-Craignure crossing in 31 minutes, taking account of the speed restriction in Oban Bay. However, this option has been discounted on the three main grounds.

First and in particular, it is not compatible with the introduction of RET which would substantially increase vehicle demand on the service. For the reasons outlined earlier, meeting this uplift in demand is seen as requiring two vehicle ferries on the route.

Second, in winter the sea conditions will on occasions be unsuitable for a 25 knot vessel even around Oban. Therefore the conventional ship may become de-facto the only winter vessel. Certainty for commuting year-round reliability is essential, and the fast craft cannot offer this.

Third, the attraction of a passenger only service for islanders lie in the importance of Oban itself as a trip-end which may not require a vehicle for trip purposes such as commuting and shopping. However, RET fares may lead to an increase in residents taking a car for trips to Oban. Further, the attraction for visitors of a passenger only service is likely to be less than for residents. Craignure is a landfall for the ferry service rather than being a significant visitor destination in its own right. While public transport provision could be enhanced a proportion of the visitor market-and particularly those staying overnight will be looking to travel with their vehicle.

In addition to the above would be the relatively high fuel consumption and related environmental impacts of such a vessel.

An alternative may be to provide a less expensive conventional passenger only service during the months of peak passenger demand. This could help to address any passenger capacity issues arising from a two vehicle ferry service on Oban-Craignure as discussed at **4.1.2**.

4.7.6 Shore Infrastructure

Craignure Pier is an old structure designed for much smaller, and therefore, lighter vessels than those currently using it. It is aligned more or less perpendicular to the shore in an approximate south west-north east orientation. Vessels berth at the ro-ro berth on the north west side of the pier.

It could be that if a vessel was constantly berthed overnight at Craignure that in strong north west winds the ferry would be pinned to the pier and could cause damage to the relatively light fender structure. In some other wind directions, notably north east through to east there would be significant wave action at the pier. However, this would not necessarily make the arrangement unsafe.

Improvements to the existing fendering system would certainly help to address the situation. This would cost in the order of £1 million.

A further assistance would be to provide fendering to the other side of the pier-that is, the south east side. This would allow the ferry to be moved to this side of the pier in some weather conditions. Again, the cost of this would be in the order of £1 million. In addition to fendering some dredging would be required. Although this cannot be quantified at present it is likely to cost in excess of £100,000.

Unfortunately, in both cases improvements to the fender system does not help the condition and strength of the basic structure which would suffer to some extent from the loads from a ferry moored in strong wind conditions. If this was to prove a significant issue then the only answer would be reconstruction.

4.8 F: OBAN-COLONSAY-ISLAY AIR SERVICE

4.8.1 Description

The existing Oban-Colonsay air service would be extended on to Islay. This would create air links between: Colonsay and Islay; and Oban and Islay.

4.8.2 Present Situation

Oban-Colonsay

Colonsay is linked to Oban by both ferry and air services. As shown at **4.7**, The ferry service offers 5 return sailings per week in summer and 3 return sailings per week in winter. A day return is not possible via the ferry.

Table 4.52 shows the existing air services to Colonsay at summer 2009.

TABLE 4.52: OBAN-COLONSAY AIR SERVICES: SUMMER 2009

	Tuesday & Thursday	Saturday*	Sunday*
Dep Oban	0830		
Arr Colonsay	0855		
Dep Oban	1700		1555
Arr Colonsay	1725		1620
Dep Colonsay	0910	1055	
Arr Oban	0935	1120	
Dep Colonsay	1740		
Arr Oban	1805		

*Note: Operates during school terms only

The service operates on four days of the week, with day return opportunities in both directions of travel on Tuesdays and Thursdays.

Frequency of service and days of operation are the same in winter as in summer. However, flight timings are different due to hours of darkness restrictions. On Tuesday and Thursdays the second set of flights departs two hours earlier than in summer: that is, ex Oban at 1500 and ex Colonsay at 1540.

The provision of flights on a Tuesday and Thursdays reflects that the ferry services do not operate on these days during the winter. On summer Tuesdays, ferry travel is only possible in one direction (that is, from Colonsay to Oban).

The single leg flights at the weekend are the return legs of "scholar" flights which bring secondary school pupils home to Colonsay at the weekend. At present, no available spare seats on actual scholar flights can be offered to members of the public. (The same holds for scholar flights to/from Coll). Doing so, if feasible, would offer additional travel opportunities and improve the overall passenger loadings on the air services.

To date demand for Oban-Colonsay has been limited compared to that for the Oban-Coll-Tiree air service. Between the inception of the service in mid-June 2008 and March 2009, 391 passengers were flown (excluding scholar flights). However, it can be expected that traffic will increase as the service becomes established, given that it is still in its first year of operation.

Islay-Colonsay

There is presently no air service between Islay and Colonsay. The existing link is a summer only ferry service on Wednesday, with Colonsay a way call between Islay and Oban (see below). The crossing time is 1 hour and 10 minutes.

The ferry offers a day trip opportunity from Islay to Colonsay but not in the opposite direction. Around 6½ hours time is available on Colonsay for day trippers from Islay. A single passenger fare is £4.65. That for a day return is £8.00.

Islay-Oban

There is presently no air service between Islay and Oban. The existing direct link is a summer only ferry service on Wednesday, with a call on Colonsay during the passage between Islay and Oban. The crossing time is around 4 hours.

A day trip is not possible in either direction as there is only 1 hour and 20 minutes between the ship arriving in Oban and departing for the return sailing back to Islay. The single fare for a passenger is £12.65.

Islay's main links are presently with Kennacraig (ferry) and Glasgow (air). The former can be used to travel between Islay and Oban. The combined road and ferry journey is around 4½ hours, including vehicle check in at the port.

4.8.3 Possible Timetable: Frequency and Flight Times

Summer

An Oban-Islay-Colonsay air service could be provided by simply extending the existing Oban-Colonsay flights onto Islay. The resultant flight times and schedules are shown at **Table 4.53**, over.

On Tuesday and Thursday the schedule would provide, as at present, two return trips per day between **Oban and Colonsay**. However, the extension of the service on to Islay changes the amount of time available at the destination for a day trip.

For those travelling on a day trip from Oban to Colonsay, the time available increases from 8 hours and 45 minutes to just under 10 hours. However, for those making a day trip from Colonsay to Oban the time available decreases: from 7 hours and 25 minutes to 6 hours and 15 minutes.

TABLE 4.53: OBAN-COLONSAY-ISLAY: POTENTIAL SUMMER TIMETABLE			
	Tuesday & Thursday	**Saturday***	**Sunday***
Dep Oban	0830		
Arr Colonsay	0855		
Dep Colonsay	0910		
Arr Islay	0930		
Dep Oban	1700		1555
Arr Colonsay	1725		1620
Dep Colonsay	1740	1055	1635
Arr Islay	1800	1115	1655
Dep Islay	0945	1130	1710
Arr Colonsay	1005	1150	1730
Dep Colonsay	1020	1205	
Arr Oban	1045	1230	
Dep Islay	1815		
Arr Colonsay	1835		
Dep Colonsay	1850		
Arr Oban	1915		

*Note: Operates during school terms only

The existing weekend single flights between Colonsay and Oban would be maintained. There would, however, be changes to the flight times. The Saturday Colonsay to Oban service would arrive in Oban at 1230, around an hour later than at present. On Sundays, the 1555 ex Oban flight would be maintained as this requires to take place after a flight between Oban and Coll to return school pupils to the mainland. However, the inbound scholar flight would depart Colonsay at 1745. This is about one hour later than at present.

The schedule would introduce a service between **Islay and Colonsay** with six return flights per week. The flight time would be 20 minutes.

On Tuesdays and Thursdays day returns would be possible in each direction. The time available at destination would be:

- On Islay: 8 hours and 45 minutes.
- On Colonsay: 7 hours and 35 minutes.

By linking Islay and Colonsay, there could be opportunities for interlining at Islay, to fly between Glasgow and Colonsay. Interlining has been a feature of the Oban-Coll-Tiree flights where those travelling between Coll and Glasgow have connected with the Glasgow flights on Tiree.

The potential timetable shown at **Table 4.53** would offer some opportunities for flying between **Colonsay and Glasgow via Islay**. For example, on Tuesdays and Thursdays flights from Glasgow arrive on Islay at:

- 0910 thus offering a connection to the 0945 flight from Islay to Colonsay.
- 1750 thus offering a connection to the 1815 flight from Islay to Colonsay.

Connections would be too tight in the opposite direction of travel, with flights from Colonsay arriving on Islay only 10-20 minutes in advance of departures for Glasgow. This issue could be addressed by bringing forward the first flight of the day from Oban to, by around 20 minutes, to, say 0810.

Based on the schedules shown above, no connections would be possible on a Saturday, but would be feasible in both directions on a Sunday.

Flying Colonsay-Islay-Glasgow would take 1 hour and 35 minutes compared to 4 hours and 30 minutes by car and ferry via Oban.

There would be four return flights per week between **Islay and Oban**, plus two single leg journeys at the weekend. The flight time would be one hour, including the stopover at Colonsay. This compares to around 4 hours by ferry, although the total time for the air trip would be extended if one of the trip ends was in Oban itself. This is because Oban Airport is approximately six miles from the town itself. Using the bus service between Oban Airport and Oban town would extend the journey time from Islay to Oban to 1 hour and 33 minutes.

On the Tuesdays and Thursdays day returns would be possible in both directions. The time available at destination would be:

- On Islay: 8 hours and 45 minutes.
- At Oban: 6 hours and 15 minutes.

If demand warranted it, a direct Oban-Islay service could be provided on Fridays. The direct flight time would be 40 minutes. Assuming two return flights were operated and the plane departed Oban at 0830 and at 1700, the time available at destination would be:

- On Islay: 8 hours and 45 minutes.
- At Oban: 6 hours and 55 minutes.

Winter

Table 4.54, over, shows a potential core timetable that could be operated in the winter months.

The earlier end to the flying day reflects the inability to fly in hours of darkness. The main consequence would be reduced times at destination for those making a day trip. The exception is for those making day trips from Oban and Colonsay whose time of 6 hours and 45 minutes on the island would be unchanged from the existing winter timetable. In contrast, those making a day trip from Colonsay to Oban would have only around 3 hours at Oban compared to over 5 hours at present.

TABLE 4.54: OBAN-COLONSAY-ISLAY: POTENTIAL CORE WINTER TIMETABLE	
	Tuesday & Thursday
Dep Oban	0830
Arr Colonsay	0855
Dep Colonsay	0910
Arr Islay	0930
Dep Oban	1350
Arr Colonsay	1415
Dep Colonsay	1430
Arr Islay	1450
Dep Islay	0945
Arr Colonsay	1005
Dep Colonsay	1020
Arr Oban	1045
Dep Islay	1505
Arr Colonsay	1525
Dep Colonsay	1540
Arr Oban	1605

For the other trip pairs, there would be three hours less time at destination compared to day trips under the summer timetable. Time available would range from around:

- 3 hours, for day trips from Islay to Oban.
- 5½ hours, for day trips from Oban and Colonsay to Islay.

Another change from the summer timetable would be an extended wait at Islay Airport for afternoon connections for Colonsay traffic travelling on to Glasgow.

Alternative Configuration

An alternative approach would be to call at Colonsay only once on the round trip from Oban. This is the present practice in serving Coll and Tiree from Oban, where there is only one call at each island. This is illustrated, in terms of the core winter timetable, at **Table 4.55**, over.

The main effects of this would be to:

- Extend the Oban-Colonsay flight time on two of the four legs-from 25 minutes to 1 hour and 15 minutes.
- Reduce the Oban-Islay flight time on two of the four legs-from 1 hour to 40 minutes.
- Slightly increase (to 3 hours and 45 minutes) the time at destination for day trips from Islay and Colonsay to Oban.
- Exclude the possibility of a day trip from Islay to Colonsay using the service.

TABLE 4.55: OBAN-COLONSAY-ISLAY: POTENTIAL CORE WINTER TIMETABLE: ALTERNATIVE CONFIGURATION	
	Tuesday & Thursday
Dep Oban	0830
Arr Colonsay	0855
Dep Colonsay	0910
Arr Islay	0930
Dep Oban	1410
Arr Islay	1450
Dep Islay	0945
Arr Oban	1025
Dep Islay	1505
Arr Colonsay	1525
Dep Colonsay	1540
Arr Oban	1605

4.8.4 Fares

Data from Highland Airways' website shows fares at a highest level of £39.99 per single flight for passengers flying between Oban and Colonsay. However, the airline also offer a range of lower fares, mainly at either £34.99 or £29.99. Some fares are offered at £19.99, but these are limited to the return legs of scholar flights at weekends.

Applying these fares, on a pro rata basis in terms of the distances between the airfields, the highest levels of single fares might be:

- Colonsay-Islay: £33.00.
- Islay-Oban: £65.50.

Assuming some discounting of these fares, the cheapest single fares might be:

- Colonsay-Islay: £25.00.
- Islay-Oban: £49.50.

If the Islay services were operated on a commercial basis then the fares would, of course, be set by the airline. In addition, residents would have access to reduced fares if the Air Discount Scheme (ADS) applied to the routes.

4.8.5 Potential Impacts on Demand, Revenues and Costs

Demand

Islay-Colonsay

Estimating demand is very difficult given the limited information available. In particular, we would expect that demand would be quite sensitive to the fare levels charged. Discussions with ABC indicate that they presently have no view on the basis on fare setting were this intervention to be introduced.

We believe that:

- Islay-Colonsay traffic would be lower than that between Colonsay and Oban, given Oban's greater role as a service centre and onward public transport connections.

- There would be some tourism demand from Islay for day trips, especially given that the air service would operate outside the day in the summer when there is a ferry connection between Islay and Colonsay.

- There could be some demand for travel between Colonsay and Glasgow via Islay. However, the available survey evidence does not show particularly strong links between Colonsay and the Glasgow area. Only 21% of visitors originated in the Glasgow City/Renfrewshire and East Renfrewshire area, while none of the Colonsay residents surveyed had a trip end in that area.

We tentatively estimate that traffic on the Colonsay-Islay service would be around 50% of the "settled down" Oban-Colonsay passenger demand (see **Table 4.58**, later). This equates to **300 passenger trips** per annum.

Islay-Oban

Estimating demand for an Islay-Oban service is challenging given the absence of detailed information on the links between the two areas. Survey evidence suggests that around 9,500 single trips per annum are made between Islay and the Oban area using either the Kennacraig ferry or the direct seasonal service. If it was assumed that air captures one in eight of these passengers, with a further 33% of that number being stimulated, there would be around **1,600** passengers on the service per annum.

This is less than the "settled down" demand (approximately 2,000 passengers) for an Oban-Coll-Tiree service (see **Table 4.58**, later). This may be conservative given that the population of Islay is around four times that of Tiree & Coll combined. However, we understand that links between Islay and Oban are less well developed than those between Coll & Tiree and Oban. In addition, Islay has better developed transport alternatives than the two Atlantic islands, with:

- A much more frequent ferry service, particularly in winter.
- A Glasgow air service which is of greater of frequency than that between Tiree and Glasgow and which may also offer lower fares than those available on an Islay-Oban operation.

Further:

- The potential level of fares for an Oban service are higher for Islay than for Tiree.
- A flight time of 1 hour on a small unpressurised aircraft is likely to deter some parts of the market.

Our estimate of demand remains, however, a tentative one given the limited information available. It equates to an average of around three passengers per flight. However, there would be a degree of seasonality due to tourist demand in the summer and the less attractive schedule for day trips in the winter. By way of comparison, around 29,000 passengers flew between Islay and Glasgow in 2008.

Given the currently low demand on existing Oban-Colonsay flights, the forecast volumes are unlikely to produce any significant capacity constraints on the service.

Revenues

If these passenger numbers were achieved in the medium term, then revenues (gross of airport charges) could be approximately:

- Islay-Colonsay: £9,000.
- Islay-Oban: £92,000.

Costs

The intervention assumes that the extended service would be operated by the aircraft that presently serves Colonsay, Coll and Tiree from Oban. The costs are likely to be relatively slight if it was possible to extend to Islay on a marginal cost basis, covering fuel and airport charges. However, this would depend on the existing staff structure serving the PSO operation and the spare capacity in terms of pilot hours on the days of operation.

4.8.6 Potential Issues for Operational Feasibility

Further, more detailed analysis would be required to consider/confirm the following issues:

- Extension of PSO designation to cover the new services to Islay.
- Fuel supply at Islay Airport (This issue was raised by Highland Airways).
- Opening hours at Islay and Oban Airports.
- Provision of public transport from Islay Airport for Colonsay residents.

4.9 G: INTRODUCTION OF OBAN-BARRA AIR SERVICE

4.9.1 Introduction of Oban-Barra Air Service

A direct air service would be introduced between Oban and Barra.

4.9.2 Present Situation

There is presently no direct air service between Oban and Barra. The present link between the two areas is by ferry. As shown at **4.3.5**, the existing frequency is eight return sailings per week in summer and between 3 and 4 return sailings per week in winter. Given the distances involved and the frequency of service no day returns are possible in either direction.

The crossing time varies between around 5 hours (for a direct sailing) and 7 hours and 20 minutes (for sailings via South Uist). Most sailings are, however, direct. A single passenger fare for the ferry service is £10.95.

4.9.3 Possible Timetable: Frequency and Flight Times

Using Existing Oban Based PSO Aircraft

It could be possible to use the Oban-based Islander aircraft that is used for the services to Coll, Colonsay and Tiree. This would mean that the Oban-Barra service would be a "middle of the day" operation given the need to serve the other islands in the morning and evening. The implication of this is that a day return could not be offered.

However, the most important constraint is the tidal restrictions imposed by the need to use the beach landing strip at Barra Airport. Discussions with HIAL indicate that an arrival at Barra around noon-although this would vary on a daily basis-would provide some degree of consistency in the service schedule across the days of operation. This would also fit well with the "middle of the day" nature of the service referred to earlier.

As with the air services from Oban to Coll, Colonsay and Tiree the general aim would be to provide air services on days when the Oban-Barra ferry service is only operating, at most, in one direction. This would suggest a schedule of four return flights per week from Oban, with one on each of the following days:

- Tuesday.
- Wednesday.
- Friday.
- Saturday.

Day trips would not be possible given the constraints referred to above. However, at least the service would operate on two sets of consecutive days, allowing a return within 24 hours. The flight time would be around 55 minutes. This would a departure from Oban at around 1100, arriving back at around 1300.

Using Another Aircraft That Presently Serves Barra

An alternative would be to use an aircraft that presently operates to Barra as part of another PSO. These are the routes to Glasgow and to Benbecula. The aircraft presently used for these services is the Twin Otter. This has a larger number of passenger seats than the Islander (18 as opposed to eight). It is also slightly faster than the Islander. It could offer a flight time of 45-50 minutes between Oban and Barra.

However, a key issue would be the times when the aircraft would be available for an Oban-Barra leg in addition to providing services to Glasgow and to Benbecula.

4.9.4 Fares

Pro rating the Oban-Coll fare to the distance for Oban-Barra implies that the maximum single fare on the route could be around £72. However, if a range of fares was available, as per the Argyll air services, single fares on Oban-Barra could be around £56. This would make the fares generally more expensive than those on the Glasgow-Barra service. Loganair's website shows these as between £46 and £63.

4.9.5 Potential Impacts on Demand, Revenues and Costs

Demand

The positive aspects for demand on the service would be:

- The length of ferry crossing between Oban and Barra. As shown at **4.3**, this is at least 4 hours and 50 minutes and on occasion, over 5¼ hours.
- The infrequency of the ferry service in winter, when crossing times are also longer than in the summer.

Less positive is the survey evidence suggesting a lack of strong links between Barra and Oban. In particular:

- While 45% of residents using the Oban-Barra ferry service spend at least one night in Oban as part of their trip, only 9% are making a trip solely to Oban.
- A majority (60%) of visitors travelling to/from Barra by ferry do not spend any nights in Oban.
- Some 5% of visitors on the ferry service are residents of North Argyll. However, there would be a lack of local authority and similar business traffic between Oban and Barra that appears to be an important element of demand on the flights from Oban to Coll & Tiree.
- Potentially, the level of fares that might be charged.
- A relatively long flight (up to 55 minutes) in a small unpressurised aircraft.

A tentative estimate of demand is set out at **Table 4.56**, over. This assumes an existing Oban-Barra ferry market of around 32,000 passengers per annum, of which residents comprise around 30%.

The Table shows demand at around 1,000 passengers per annum. This equates to an average of 2.5 passengers per flight.

TABLE 4.56: OBAN-BARRA AIR SERVICE: POTENTIAL DEMAND			
Existing Traffic	**Volume**	**Potential Air Share**	**Air Demand**
Residents (1): Travelling to Oban only	912	12.5%	114
Residents (2): Spending At Least One Night In Oban	3,646	6.25%	228
Visitors Spending More Than One Night In Oban	6,713	6.25%	420
Sub-Total			*762*
Plus Generated Trips (33% of base)			252
TOTAL			**1,014**

This may be conservative-particularly for residents' travel and especially during the winter. Actual demand would, of course, reflect the fare levels charged-especially relative to those on the Glasgow-Barra air service. By way of comparison, slightly over 9,000 passengers flew on that route in 2008, although a significant proportion are, we understand, travelling for health-related purposes.

Revenues

The demand estimates shown above and the fare levels shown earlier imply a potential annual revenue of around £65,000.

Costs

The intervention assumes that the extended service would be operated by the Islander aircraft that presently serves Colonsay, Coll and Tiree from Oban; or using an aircraft that flies from Barra as part of another PSO.

The costs of an Oban-Barra service would depend on the existing structure of staff to serve these PSO operations and the spare capacity in terms of pilot hours on the days of operation. It is, therefore, not possible to provide an estimate without further, detailed research.

4.9.6 Potential Issues for Operational Feasibility

Further, more detailed analysis would be required to consider/confirm:

- The timetable that could be provided given the tidal restrictions at Barra and also if the service was to use an aircraft that serves a PSO other than the Argyll island air services.
- Making the case for PSO designation for Oban-Barra.

4.10 H: LOWER FARES ON OBAN-COLL/TIREE AND OBAN-COLONSAY AIR SERVICES

4.10.1 Description

Fares would be reduced on the air services to the three islands with the aim of stimulating additional demand.

4.10.2 Present Situation

The range of fares on the existing services are shown at **Table 4.57**.

TABLE 4.57: ARGYLL ISLANDS AIR SERVICES: EXISTING SINGLE FARES

Route	Range of Single Fares (£)
Oban-Tiree	34.99-51.06
Oban-Colonsay	19.99-39.99
Oban-Coll	19.99-39.99
Coll-Tiree	12.50-18.57

There are a number of points to note as follows:

- There is a range of fares within each of the bands shown. For example, those to Coll include £29.99 and £34.99 as well the minimum and maximum shown at the Table.
- Oban-Tiree has the highest underlying fares. This is exacerbated by the fact that single fares from Tiree have a higher level of charge per departing passenger than those levied by ABC for passengers departing Oban, Coll and Colonsay.
- The lowest fares on the Oban-Coll and Colonsay are relatively limited. They are for the return leg of scholar flights to these islands which operate only at weekends during school term time.

The consultations for the study indicated a general perception that fares are high on the services. They are certainly well above the ferry fares with, for example, current single ferry fares between Oban and Coll/Tiree being £8.00.

4.10.3 Potential Impact of Fare Reductions

There are challenges in estimating the impacts of a reduction in the existing air fares. The principal one is the lack of detailed information on the traffic profile for each of the islands. Further, the routes have been operating for less than a year. Therefore, a complete picture of traffic characteristics and volumes has still to emerge.

Our estimate of impacts is based on data from a study undertaken by HIE ("Evaluation of Fare Reductions On Air Services to Barra, Campbeltown and Tiree", January 2006). This analysed the impact of fare reductions on passenger carryings on these PSO routes to Glasgow.

It estimated that for:

- Glasgow-Barra a 30% fare reduction had generated an increase of 18% in passenger carryings.
- Glasgow-Tiree a 22% fare reduction had generated an increase of 15% in passenger carryings.

Thus on the two routes each 10% reduction in fares had generated between 6% and 7% additional demand. These estimates were based on analysis of trends in passenger carryings and a survey of passengers who use the air services.

It could be argued that, all other things being equal, the stimulation on the Oban air routes might be higher than this. This is because of the particular characteristics of the two air services referred to above. Specifically, there were elements on each route that might be considered quite price inelastic: that is, relatively unlikely to make additional trips as a result of fare reductions. For the Barra service, this was health traffic and those who work offshore but retain a house on Barra; and for Tiree it was health traffic.

To the extent to which the existing passenger markets on the Oban air services have lower shares of the health and travel to work traffic, then their demand may be more elastic than that for the two Glasgow routes.

In addition, the elasticities shown above were based on an analysis over quite a short time period after the fares had been reduced. It can be expected that the impact on demand will be greater in the medium to longer term.

However, we also understand that there is a reasonable share of employer's business traffic using the Oban air services, including from the public sector. Until the longer term, this element of demand can be expected to be quite inelastic.

Also the "pull" of the air services, in the light of reduced fares, compared to surface travel may be less for travel between the three islands and Oban compared to for travel between Tiree/Barra and Glasgow. This reflects the longer journey times and overall costs for the journeys to Glasgow.

On the basis of the above, we estimate that a 30% reduction in fares on the Oban air services could lead to an increase of 21% in passenger carryings. This would give the routes an elasticity of -0.7 compared to the -0.6 to -0.7 found in the HIE research referred to earlier.

The potential impact on demand is shown at **Table 4.58**, over. The carryings data shown exclude the movement of secondary schoolchildren on the scholar flights to Coll and Colonsay.

The existing annual passenger traffic has been estimated based on carryings to date between mid-June 2008 and end of March 2009. Given that the service has been operating for under a year, it can be expected that underlying demand will still be developing. We have assumed that demand settles down in the third year of operation, with demand in that year some 20% higher than in the first one.

TABLE 4.58: ARGYLL ISLANDS AIR SERVICES: POTENTIAL IMPACT OF A 30% FARE REDUCTION			
Service	**Existing Passenger Traffic (Annualised)**	**Settled Down (Year 3)**	**Settled Down-With Fares Reduction**
Oban-Colonsay	494	593	717
Oban-Coll-Tiree	1,662	1,995	2,414
Total	**2,156**	**2,588**	**3,131**

The elasticity has been applied to the settled down year 3 traffic estimates. Thus in year 3 the lower fares result in total carryings of around 3,100 passengers, around 540 greater than if existing fares continued to apply.

This comprises:

- 419 additional air trips on Oban-Coll-Tiree.
- 124 additional air trips on Oban-Colonsay.

The HIE research suggested that for the fare reductions on the two Glasgow services most of the additional trips were generated rather than being diverted from the ferry service. The share of all new air trips that were generated were estimated as:

- Glasgow-Tiree: 74%.
- Glasgow-Barra: 62%.

Given the stronger competition between the ferry and air services to Oban compared to competition between the ferry and air trips to Glasgow, the factors from the HIE study may be too high. We estimate for the Oban air services that:

- 50% of the new air trips would be diverted from the ferry service; and
- The other 50% would be trips that are not presently made at all.

Irrespective of the level of diversion assumed, the loss of traffic on the ferry services would be very slight relative to total existing carryings.

It is estimated that the air service's revenues would fall by 15%-around £14,000 per annum in Year 3. The increased passenger numbers would not lead to any significant capacity constraints given the existing level of passenger loadings. The calculations shown above are tentative. This is because of the short length of time for which the Oban air services have been operating and the lack of information on the traffic profile.

5 APPRAISAL

5.1 INTRODUCTION

This Chapter sets out our appraisal of each of the interventions. It does so on the basis set out at **Chapter 3**, drawing on the detailed analysis contained **in Chapter 4**. Each intervention is assessed in terms of:

- Contribution to supporting the options identified for each of the islands.
- Performance against the 5 STAG criteria.
- Operational feasibility, cost to government and likely public acceptability.

In each case, these three strands have been brought together to assess performance against the six high level objectives set for the study.

The overall analysis, in sum, serves to highlight the strengths, weaknesses and issues for each of the interventions.

The appraisal makes use of the survey evidence that was reviewed in **Working Paper 1**. However, some of the results (particularly for island residents) are based on small sample sizes. As such, they should be treated with a degree of caution.

Finally, for the reasons explained at **Chapter 4**, there is no appraisal of Intervention B (Coll-Tiree Fixed Link).

Please note that in the rest of this Chapter some columns and rows may not sum to their totals due to rounding.

5.2 A1: MULL OVERLAND ROUTE SERVING COLL AND TIREE

5.2.1 Contribution to Supporting The Options

Tiree

Table 5.1 shows the contribution of this intervention to the options identified for Tiree.

TABLE 5.1: A1: CONTRIBUTION TO SUPPORTING OPTIONS FOR TIREE

Option	Score
Offer a range of ferry arrival and departure times at Oban	3
Increase sailing frequency to the mainland	3
Reduce the ferry crossing time to the mainland	0
Reduce fares ferry to Oban	2
Reduce air fares to Oban	0
Increase transport links with other islands	2

Based on the illustrative timetable at **Chapter 4**, there would be a positive impact in terms of the **range of ferry times** at Oban. The co-ordination of the sailings from Oban and Tobermory for through traffic would require that the schedule starts the day at Tiree. This would mean that the sailing times would be the same each day.

For through traffic between Oban and Tiree, times from Oban (for sailings to/from Craignure) would be:

- Departure 0915 and 1630.
- Arrival 1245 and 1855.

Thus there would be both a morning and afternoon departure from Oban, with the morning departure at a more sociable time than most sailings depart at present (e.g. all winter sailings leave Oban before 0700). In addition, there is only one present sailing (summer Tuesdays) when the vessel leaves Oban in the afternoon.

The 1245 arrival at Oban compares to most arrivals being after 1400 at present. An 1855 arrival would provide a later arrival, while not being as late as the existing post-1900 arrivals, both of which reach Oban after 2000.

There would be a significant increase in **frequency**, from:

- Seven to fourteen sailings per week during the summer.
- Four to fourteen sailings per week in the winter.

The intervention would make no contribution towards **reducing the ferry crossing time between Tiree and the mainland**. The use of two ferries and the road journey across Mull would, in fact, increase the total crossing time by around 50 minutes. This assumes, as shown at **Chapter 4**, that vehicles would have to check in for both ferry services rather than once at the first port of departure.

As shown at **Chapter 4**, there would be a **reduction in ferry fares to Oban** under this intervention. These would be:

- Passengers: £0.10 (1%).
- Cars: £7.60 (19%).
- CV (14m): £31.72 (19%).
- Coach (9m): £13.66 (12%).

However, these savings would be offset to an extent by the costs of the road trip across Mull. For foot passengers travelling by public transport across Mull this would make their journey more expensive than at present. Survey evidence shows that on the present services a significant proportion of Oban-Coll/Tiree ferry users travel as foot passengers:

- Residents: 50%.
- Visitors: 57%.

However, this percentage may decrease following the introduction of RET fares as car accompaniment becomes more financially attractive.

For cars, assuming a marginal cost of £0.15 per mile as per **Chapter 4**, the additional road cost would be £3.15. Thus there would still be a financial saving of over £4 per journey. For CVs, assuming a marginal cost of £0.62 per mile, the road cost would be around £13, leaving an overall saving of over £18 per journey.

Given the nature of this intervention, there would be **no impact on air fares**.

Finally, the intervention would **increase transport links with other islands**. First, between Tiree and Mull. There are presently no direct transport links between Tiree and Mull. However, the configuration of the timetable towards through traffic between Tiree and the mainland would mean that a day trip would not be possible between Mull and Tiree. However, one would be possible in the opposite direction.

Second, there would be more frequent links between Tiree and Coll. Present services between the two islands are limited in frequency. Further, the time available at destination can be unsuitable. Under this intervention, there would be two sailings a day between the two islands, with day trips possible from Tiree to Coll.

There would, however, no longer be the direct summer sailing on Thursdays between Coll/Tiree and Barra.

Coll

Table 5.2 shows the contribution of this intervention to the options identified for Coll.

TABLE 5.2: A1: CONTRIBUTION TO SUPPORTING OPTIONS FOR COLL

Option	Score
Reduce air fares to Oban	0
Reduce ferry fares to Oban	2
Meet the demand for secondary school pupils to return home for weekends	2
Increase sailing frequency to the mainland	3
Increase transport links with other islands	2
Reduce the connecting time with public transport at Oban	2

As the Table shows there would be no impact on **reduce air fares** from this intervention.

However, it would offer an additional means of **meeting the demand for secondary school pupils to return home for weekends**. By leaving Oban on a 1630 departure for Craignure on Friday there would be an arrival on Coll just after 2000. On Sundays there could be a 1520 departure from Coll arriving in Oban around 1900. At present, secondary school pupils can get home at least one in every four weekends by air, leaving from Oban on a Saturday morning and returning on Sunday afternoon.

The comments made for Tiree also apply in the case of Coll for:

- **Reduce ferry fares to Oban**.
- **Increase sailing frequency to the mainland**.

They also apply in relation to **increase transport links with other islands**. However, while a day trip would be possible from Mull to Coll on a daily basis, only 2½ hours would be available on the island. Also, there would no longer be a summer ferry service linking Coll and Barra.

Based on existing bus and train schedules and the illustrative ferry timetable shown at **Chapter 4**, there would also be **reduced connecting times with public transport Oban**. This would be mainly for the train rather than bus services, with reductions of over 1 hour in connecting time with certain sailings.

This assumes that there would be a co-ordinated timetable between the Oban-Craignure and Mull-Coll-Tiree ferries to avoid undue waits for through traffic between the mainland and Coll.

Mull

Table 5.3 shows the contribution of this intervention to the options identified for Mull.

TABLE 5.3: A1: CONTRIBUTION TO SUPPORTING OPTIONS FOR MULL	
Option	**Score**
Allow daily commuting off Mull	0
Reduce fares	0
Provide a longer sailing day	0
Increase the regularity of sailing times	0
Increase sailing frequency to mainland	0
Increase transport links with other islands	3

In all but one cases there would be no impact. This is because many of the options relate to the Oban-Craignure service.

For the reasons discussed at **Chapter 4**, this intervention is unlikely to produce more sailings on Oban-Craignure than would be provided under the Reference Case. However, the need to co-ordinate the Craignure and Mull-Coll-Tiree schedules might adversely affect the desire to have a more regular timetable between Oban and Mull than at present.

5.2.2 Performance Against STAG Criteria

Table 5.4 provides scores for the overall performance of this intervention against the five STAG criteria.

TABLE 5.4: A1: PERFORMANCE AGAINST STAG CRITERIA	
Criterion	**Score**
Environment	-2
Safety	0
Economy	+1
Integration	-2
Accessibility and Social Inclusion	+3

Environment. There would be an increase in road miles travelled on Mull. Based on the traffic forecasts shown at **Chapter 4**, there would be an additional:

- 412,000 car road miles.
- 46,000 coach/CV road miles.

There would also be additional road miles associated with the provision of bus services to/from Craignure for those travelling without a vehicle.

Further, there would be increased ferry-related emissions from having to deploy a larger vessel and provide more sailings on Oban-Craignure than would otherwise be the case.

This intervention would be neutral in terms of **safety**.

There are two aspects to the **Economy** criterion. These are:

- Transport and Economic Efficiency (TEE).
- Economic Activity and Locational Impacts (EALI) which cover wider economic development impacts.

Given the nature of our research there is only a limited amount of analysis that can be provided for each one.

For the **TEE, Table 5.5** brings together the earlier work to provide a high level analysis. This considers the changes in ferry fares, road miles travelled and overall journey times between Coll/Tiree and Oban. The figures relate to a single (i.e. one way journey). A negative sign indicates a disbenefit, while positive numbers indicate a benefit.

TABLE 5.5: A1: TEE BY TRAFFIC TYPE: HIGH LEVEL ANALYSIS (£)

Traffic Type	Ferry Fare	Marginal Road Cost	Time	Total
Foot Passenger	0.10	-3.00	-5.95	**-8.85**
Car & Passengers	7.79	-3.15	-11.35	**-6.71**
CV	31.72	-13.02	-11.97	**6.73**

Note: Change in time used is a simple average of that for Coll-Oban and Tiree-Oban

The changes in ferry fares and marginal road costs were shown at **5.2.1**. In addition we have assumed that foot passengers travel between Tobermory and Craignure by bus with a single fare of £3.

The values of time used are based on from Webtag guidance. Based on survey evidence the proportion of foot passengers and car occupants travelling in work time was taken as approximately 5%, with car occupancies of 1.86 persons per vehicle. CV occupancy for this and the other interventions appraised in this Chapter is assumed as 1 person per vehicle.

Generic values of time have been used. It could be that users have a value of time for travel on the ferry which is different to that for land-based travel. However, without further information this cannot be verified. This also explains why we have not used the change in ferry crossing time as a specific criterion in our appraisal.

The high level analysis shows a negative overall impact for both foot passengers and car units. For the former the very slight saving in ferry fares is outweighed by the bus fare, with the value of additional time leading to a total negative impact of around £9. For car units, the reduced ferry fares are outweighed by the value of the additional time for the overall journey between the islands and Oban.

There is, however, a positive impact, of between £6 and £7 for CV traffic. This reflects the relatively large reduction in ferry fares. This outweighs the financial cost of road travel across Mull and the additional overall journey time. However, the benefits of this could be reduced by the need for freight to be transhipped via Mull. This would require a driver, while some CVs on the existing services are likely to travel unaccompanied between Oban and the islands.

It should be appreciated that this high level analysis is only partial. A fully specified analysis would include values that users attach to:

- Changes to the arrival and departure times both at the two islands and at Oban. The value could be either positive or negative.
- Increased frequency of connections between the islands and the mainland. It is expected that this would be positive.
- Having to use two ferry services to travel to/from the mainland and travel between the two ports on Mull. The inconvenience and uncertainty associated with this is commonly termed an "interchange penalty". It can be expected that the value of this factor would be negative and more so for foot passengers compared to those accompanying their own vehicle on the ferry.

Without a survey of businesses and other economic interests, it is not possible to be more than general about **wider economic development impacts**.

1

Any reduction in freight transport costs, if passed on to customers, would be of particular importance to the primary production sectors. Primary sector employment accounts for around one in seven jobs on Tiree and over one in five on Coll. Transport costs tend to be a significant issue for primary products and their associated inputs due to the costs forming a relatively high proportion of the goods' values. However, there may be issues for the transport of livestock in terms of extended journey times between Coll & Tiree and the mainland.

The amount of time available should allow freight deliveries as are presently undertaken through the "double call" to Coll on some days. These are presently used for bringing a range of goods to the islands without the vehicles and staff being forced to spend an undue length of time before catching the next sailing back to the mainland.

2

Increased frequency of sailing may make Coll & Tiree more attractive visitor destinations, particularly for short breaks. However, the positive impacts of this may be constrained by the interchange penalty referred to earlier and particularly so for foot passengers. Further, if the vessel is based on Tiree then this would mean that day trips from Mull to Tiree would not be possible, while those from Mull to Coll would be limited in terms of the time available.

3

The improved links between Tiree and Coll should allow greater business visits from the former to the latter by, for example, the Tiree-based vet and the telephone engineer. It appears that traffic between the two islands has grown in recent years. This could be strengthened by the opportunities for day trips from Tiree to Coll.

4

Ferry services between Mull and the two islands should help to develop new markets for businesses in each of the three locations. This could involve two destination holidays and also sales of goods and services by Mull businesses. The former passenger only link between Tobermory and Coll & Tiree saw deliveries of bread and dairy products by Mull businesses. There would be the opportunity to build on some existing links-for example, some Coll livestock is transported to Mull at present despite the cost and time involved in routing the traffic via Oban. Mull's abattoir is the closest to Coll in terms of distance.

The landbridge would also strengthen the key sector of tourism on Mull by routing Coll & Tiree visitors via the island. Data for 2007 show that this sector accounted for over one in four employees in employment in Mull & Iona.

As shown earlier, there would be improved **integration** with the bus and train services at Oban. The survey evidence shows:

- 26% of Tiree/Coll residents making same day connections with public transport services at Oban.
- 9% of visitors also doing so.

However, the ferry services between the mainland and Coll and Tiree would become less integrated by use of the landbridge and two sailings rather than a direct ferry from Oban.

Accessibility would be significantly improved by the much higher frequency of links to and between Coll and Tiree. This would include access to Mull and thus to a range of services. For example, Coll and Tiree are presently served by a Mull-based dentist, while some health services on Coll are delivered by Tiree based staff. The ferry is also important in accessing services not available on either Coll or Tiree. Survey evidence shows 29% of Coll and Tiree residents travelling on Personal Business. In terms of **social inclusion**, the existing ferry services are important for maintaining links between the two islands and other communities. Survey evidence shows that around one in six (17%) of existing trips to/from Coll & Tiree are made for VFR (Visiting Friends and Relatives) purposes.

5.2.3 Operational Feasibility, Cost to Government and Likely Public Acceptability

Points regarding these aspects are summarised at **Table 5.6,** over.

5.2.4 Performance Against High Level Objectives

Reflecting the preceding analysis, **Table 5.7** summarises this intervention's performance against the high level objectives set for this study.

TABLE 5.6: A1: FEASIBILITY, COST TO GOVERNMENT AND PUBLIC ACCEPTABILITY	
Category	**Key Points**
Operational feasibility	Neither Coll nor Tiree are sufficiently sheltered for a ferry to be based at the piers. However, without the vessel based in Tiree there would be considerable difficulties in co-ordinating the schedules of the Mull-Coll-Tiree and Oban-Craignure services
Cost to government	• Capital costs for new facilities/roads would be as follows at the three possible sites: £23.5 million for Aros Bay, Tobermory; £30 million for Tobermory itself; and over £45 million for Croig. This could be reduced by around £6 million if it was assumed that A848 would be upgraded even without this intervention. Costs could be "shared" if intervention **A.2** was also undertaken • If vessel was to be Tiree based then creation of a breakwater would be required. Cost estimated as £15 million-£20 million. • One of the existing Oban-based vessels could provide the service. No additional vessel would have to be procured • There would need to be a slight increase in the capacity of vessels on the Oban-Craignure service to accommodate through traffic between the mainland and Coll & Tiree. This would incur additional capital costs of around £4 million. • The additional net revenue cost of ship operation would be around £200,000 per annum
Likely public acceptability	• There is likely to be considerable opposition from residents of Coll and Tiree. This would be on the grounds of extended overall journey times and the inconvenience, practical difficulties and uncertainty created by travelling between the two ports on Mull-particularly for foot passengers • We would expect there to be support for the proposal from residents of Mull. However, this may be reduced depending on the extent of any physical works in Tobermory and possible negative impact on the village's character

TABLE 5.7: A1: PERFORMANCE AGAINST HIGH LEVEL OBJECTIVES		
Objective	**Performance**	**Comment**
Improve affordability to users	Positive	Financial costs would increase for foot passengers, but decrease for cars and CVs
Improve value for money for government	Negative	If no traffic was stimulated, then the same number of users would require higher net operating costs and considerable capital investment
Reduce end to end journey times	Negative	Journey times would increase
Improve integration	Negative	Benefits from improved links to public transport at Oban would be outweighed by the disbenefits from travel between two ports on Mull, particularly for foot passengers
Improve accessibility for island communities	Positive	Coll and Tiree would have a significantly increased sailing frequency and a direct service to Mull. Mull would have ferry services to two new destinations
Reduce greenhouse gas emissions	Negative	Increased emissions from both land-based and sea transport

5.3 A2: MULL OVERLAND ROUTE SERVING BARRA AND SOUTH UIST

5.3.1 Contribution to Supporting The Options

Barra

Table 5.8 shows the contribution of this intervention to the options identified for Barra.

TABLE 5.8: A2: CONTRIBUTION TO SUPPORTING OPTIONS FOR BARRA	
Option	**Score**
Increase sailing frequency in the winter	3
Reduce journey time	1
Provide sailings on the days and at the times required by freight traffic	1
Provide sailings at weekends all year round for passenger travel	3
Reduce the connecting time with other public transport at Oban	0
Reduce ferry fares	1

This intervention would significantly **increase sailing frequency in the winter.** It would grow from the existing 3-4 sailings per week to a daily service, with sailings to and from Barra on each day of the week.

There is a mixed picture for **reduce journey time**. As shown at **Chapter 4,** compared to most present sailings there would be an increase of around 30 minutes in total journey time. However, this is based on a comparison to the most common crossing time for a direct Oban-Castlebay sailing. Compared to most sailings during **the winter,** this intervention would reduce the total journey time by seven minutes.

For the requirements of **freight traffic,** this intervention would be positive in that there would be a sailing to and from Barra on each day of the week all year round. However, based on the indicative timetable at **Chapter 4** there would be no improvement in arrival times. Freight traffic would arrive on the mainland at 1330 which would still mean traffic to the central belt arriving there in the late afternoon. The service would arrive at Barra around 2000. This would mean that deliveries could not be made until the following working day.

With a daily service all year round this intervention would **provide sailings at weekends all year round**.

Based on existing bus and train schedules and the illustrative ferry timetable shown at **Chapter 4,** there would be no positive impact on the length of **connecting times with public transport at Oban**. Some connecting times for bus and train would decrease, but others would increase.

As shown at **Chapter 4,** there would be a mixed picture in terms of **reduced ferry fares**. Fares would be reduced for:

- Passengers: £0.10 (1%).
- CV (14m): £31.38 (13%).
- Coach (9m): £28.90 (14%).

However, the car fare would increase by £2.60 (5%).

Any savings would be offset to an extent by the costs of the road trip across Mull. For foot passengers travelling by public transport across Mull this would make their journey more expensive than at present. Survey evidence shows that, on the present Oban-Castlebay service a significant proportion of ferry users are travelling as foot passengers:

- Residents: 18%.
- Visitors 36%.

By way of comparison, the figures for Oban-Lochboisdale are:

- Residents: 39%.
- Visitors 31%.

However, these percentages may decrease following the introduction of RET fares as car accompaniment becomes more financially attractive.

For cars, assuming a marginal cost of £0.15 per mile as per **Chapter 4**, the additional road cost would be £3.15. This would be an additional cost on top of the increase in the car fare shown above. For CVs, assuming a marginal cost of £0.62 per mile, the road cost would be around £13, leaving an overall saving of over £18 per journey.

South Uist

Table 5.9 shows the contribution of this intervention to the options identified for **S**outh Uist.

TABLE 5.9: A2: CONTRIBUTION TO SUPPORTING OPTIONS FOR SOUTH UIST

Option	Score
Increase sailing frequency	3
Reduce the ferry crossing time to the mainland	2
Reduce ferry fares	1

This intervention would significantly **increase sailing frequency**. It would grow from the existing 3-4 sailings per week to a daily service, with sailings to and from South Uist on each day of the week.

There is a mixed picture in terms of **reduce the ferry crossing time**. The use of two ferry services would reduce the total time spent at sea to less than 5 hours, compared to over 5 hours for the sailings to Oban at present. However, in terms of *total journey time*, the landbridge would be around 30 minutes longer than direct Oban-Lochboisdale sailings. On the other hand, this intervention has a total journey time that is 1½ hours faster than the present sailings to Oban via Castlebay. It will be recalled that around half of the present Oban sailings are direct, while the others are via Barra.

The comments made regarding **reduce ferry fares** in the preceding section on Barra also apply to South Uist.

Mull

Table 5.10 shows the contribution of this intervention to the options identified for Mull.

TABLE 5.10: A2: CONTRIBUTION TO SUPPORTING OPTIONS FOR MULL	
Option	**Score**
Allow daily commuting off Mull	0
Reduce fares	0
Provide a longer sailing day	0
Increase the regularity of sailing times	0
Increase sailing frequency to mainland	0
Increase transport links with other islands	3

In most cases there would be no impact on Mull under this intervention. This reflects that all but one of the options relate to the Oban-Craignure service.

For the reasons discussed at **Chapter 4,** this intervention is unlikely to produce more sailings to Oban that would be provided under the Reference Case. However, the need to co-ordinate the Craignure and Mull-Castlebay-Lochboisdale schedules could adversely affect the desire to have a more regular timetable on Oban-Craignure.

5.3.2 Performance Against STAG Criteria

Table 5.11 provides scores for the overall performance of this intervention against the five STAG criteria.

TABLE 5.11: A2: PERFORMANCE AGAINST STAG CRITERIA	
Criterion	**Score**
Environment	-2
Safety	0
Economy	+1
Integration	-3
Accessibility and Social Inclusion	+3

Environment. There would be an increase in road miles travelled which would occur on Mull. Based on the traffic forecasts shown at **Chapter 4,** there would be an additional:

- 382,000 car road miles.
- 25,000 coach/CV road miles.

There would also be additional road miles associated with the provision of bus services to/from Craignure for those travelling without a vehicle.

Further, there would be increased ferry-related emissions from having to deploy a larger vessel and provide more sailings on Oban-Craignure than would otherwise be the case.

This intervention would be neutral in terms of **safety**.

In terms of the **economy** criterion, the following presents an analysis similar to that shown for intervention A1 at **5.2.** Unless otherwise stated, the approach and general assumptions are the same as those adopted at **5.2.**

Table 5.12 presents a high level TEE analysis for changes in generalised costs of trips between Barra and Oban.

TABLE 5.12: A2: TEE BY USER TYPE: HIGH LEVEL ANALYSIS (£): BARRA				
Compared To Direct Sailings In Summer				
Traffic Type	**Ferry Fare**	**Marginal Road Cost**	**Time**	**Total**
Foot Passengers	0.10	-3.00	-3.59	**-6.49**
Car & Passengers	-2.38	-3.15	-8.14	**-13.67**
CV	31.38	-13.02	-7.74	**10.62**
Compared To Direct Sailings In Winter				
Traffic Type	**Ferry Fare**	**Marginal Road Cost**	**Time**	**Total**
Foot Passengers	0.10	-3.00	0.76	**-2.14**
Car & Passengers	-2.38	-3.15	1.73	**-3.80**
CV	31.38	-13.02	1.64	**20.00**

Based on survey evidence the proportion of foot passengers and car occupants travelling in work time was taken as approximately 3%, with car occupancies of 2.24 persons per vehicle.

The results show a:

- Slightly negative impact for foot passengers in both summer and winter.
- Negative impact for car traffic in both summer and winter.
- Positive impact for CVs in both summer and winter.

Table 5.13 provides the same analysis for South Uist.

TABLE 5.13: A2: TEE BY USER TYPE: HIGH LEVEL ANALYSIS (£): SOUTH UIST				
Compared To Direct Sailings to Oban				
Traffic Type	**Ferry Fare**	**Marginal Road Cost**	**Time**	**Total**
Foot Passengers	0.10	-3.00	-3.54	**-6.44**
Car & Passengers	-2.25	-3.15	-12.53	**-17.93**
CV	31.38	-13.02	-7.74	**10.62**
Compared To Indirect Sailings Via Castlebay				
Traffic Type	**Ferry Fare**	**Marginal Road Cost**	**Time**	**Total**
Foot Passengers	0.10	-3.00	9.32	**6.42**
Car & Passengers	-2.25	-3.15	33.04	**27.65**
CV	31.38	-13.02	20.41	**38.77**

Based on survey evidence the proportion of foot passengers and car occupants travelling in work time was taken as approximately 2%, with car occupancies of 3.5 persons per vehicle.

The results vary according to the basis of the comparison. Compared to the current **direct** sailings between Oban and Lochboisdale there are negative impacts for foot passengers and car traffic as a result of the additional time and financial costs. However, when compared to the **indirect** sailings between Oban and Lochboisdale, the value of time savings more than outweigh the additional costs in terms of fares and/or road travel across Mull.

The savings in ferry fares to CVs from the landbridge mean that there is a net reduction in generalised costs compared to all existing sailings-whether direct or indirect.

EALIs would stem from, first, business efficiencies and possible additional custom gained from increased frequency of sailing, notably in the winter. There may be some negative impact from a reduction from eight to seven summer sailings to Barra. However, this is likely to be offset by the introduction of a summer Saturday sailing to and from the island.

Any reduction in freight transport costs, if passed on to customers, would be of particular importance to the primary production sectors. Primary sector employment accounts for over one in ten jobs on each of Barra and South Uist. As noted earlier, transport costs tend to be a significant issue for primary products and their associated inputs due to these cost forming a relatively high proportion of the goods' values.

However, service timings are also important to some producers. As shown earlier, the indicative timetable does not suggest any significant business benefits in terms of timings that would suit freight traffic to/from Barra. The same would appear to hold true for South Uist. There would be some benefits from having an arrival at Lochboisdale during working hours (at 1445). However, arrivals at Oban would be outside the working day (at around 2045).

We would expect that links created between Mull and the Outer Hebrides would be less strong than for those Coll and Tiree (intervention A1). This reflects the:

- Lack of historic links between the islands.
- Absence of some common public service delivery (e.g. health) due to Mull and the Outer Hebrides belonging to separate local authorities and Health Trusts.
- A greater range of goods and services being available in the Uists, which are also accessible to Barra via the Sound of Barra ferry service.

Mull would benefit from expenditure associated with through tourist traffic. However, links to other sectors are likely to be limited, compared to those generated by a service between Mull and Coll/Tiree.

In terms of **integration**, as shown earlier, there is unlikely to be a positive impact on public transport connections at Oban for Barra traffic. Further, while recognising that the timetable shown at **Chapter 4** is only indicative, the arrival and departure times at Oban in conjunction with a Mull-Lochboisdale service would be:

- 0830 (departure).
- 2045 (arrival).

Under the this timetable, there would be no same day connections by either bus or train at Oban.

Survey evidence shows that the percentage using some form of public transport (bus or train) to travel to/from Oban ferry terminal on the day of travel are presently:

- South Uist/North Uist residents: 0%.
- Visitors: 12%.

The figures for users of the Oban-Castlebay service are:

- Barra residents: 2%.
- Visitors: 5%.

Thus public transport usage is relatively low, at least on a same day basis.

In addition to potential poorer public transport connections at Oban, the ferry services between the mainland and Barra and South Uist would become less integrated by use of the landbridge and two sailings rather than a direct ferry from Oban.

Accessibility would be significantly improved by the higher frequency of sailings- notably during the winter. This would include access to Mull. To the extent that these sailings would facilitate access to services not available in Barra or the Uists then there would be a positive impact. Survey evidence shows that on the present ferry service trips for Personal Business are significant among island residents, as follows:

- Barra: 38%.
- South Uist: 25%.

In terms of **social inclusion**, the existing ferry services are important for maintaining links between the two islands and other communities. Survey evidence shows the proportion of trips made for VFR purposes on the present services as being:

- Oban-Castlebay: 14%.
- Oban-Lochboisdale: 19%.

5.3.3 Operational Feasibility, Cost to Government and Likely Public Acceptability

Points regarding these aspects are summarised at **Table 5.14**, over.

5.3.4 Performance Against High Level Objectives

Reflecting the preceding analysis, **Table 5.15**, over, summarises this intervention's performance against the high level objectives set for this study.

TABLE 5.14: A2: FEASIBILITY, COST TO GOVERNMENT AND PUBLIC ACCEPTABILITY	
Category	**Key Points**
Operational feasibility	Castlebay should be suitable as an overnight berth for the service. There would need to be co-ordination of the schedules for Barra and South Uist with that for Oban-Craignure to avoid undue delays for through traffic to/from the mainland
Cost to government	• Capital costs for new facilities/roads would be as follows at the three possible sites: £23.5 million for Aros Bay, Tobermory; £30 million for Tobermory itself; and over £45 million for Croig. This could be reduced by around £6 million if it was assumed that A848 would be upgraded even without this intervention. Costs could be "shared" if intervention **A.1** was also undertaken • There would need to be a slight increase in the capacity of vessels on the Oban-Craignure service to accommodate through traffic between the mainland and Barra & South Uist. This would incur additional capital costs of around £4 million • One of the existing Oban-based vessels could provide the service. No additional vessel would have to be procured • The net cost of vessel operation would be broadly similar to the existing position
Likely public acceptability	There is likely to be opposition from some residents of Barra and South Uist. This would be due to the need to travel between the two ports on Mull when travelling to/from the mainland and, in particular, the impacts on foot passengers. However, our consultations indicated little awareness of this intervention. Therefore, little detailed consideration has been given to it by the relevant communities

TABLE 5.15: A2: PERFORMANCE AGAINST HIGH LEVEL OBJECTIVES		
Objective	**Performance**	**Comment**
Improve affordability to users	Negative	Financial costs would increase for foot passengers and cars although would fall for CV traffic
Improve value for money for government	Negative	If no traffic was stimulated, then carrying the same traffic volumes would require considerable capital investment
Reduce end to end journey times	Mixed	Compared to some existing trips some journey times would be extended. Compared to other existing trips-in winter, and for indirect sailings-overall journey time would fall
Improve integration	Negative	There would be disbenefits from the need to travel between two ports on Mull and particularly for foot passengers. There may be reduced public transport connectivity at Oban
Improve accessibility for island communities	Positive	There would be increased frequency of sailing for South Uist all year round and also for Barra in the winter. There would be a slight reduction in sailing frequency to Barra in the summer
Reduce greenhouse gas emissions	Negative	Increased emissions from both land-based and sea transport

5.4 C: MALLAIG-LOCHBOISDALE FERRY SERVICE

5.4.1 Contribution to Supporting The Options

Table 5.16 shows the contribution of this intervention to the options identified for South Uist.

TABLE 5.16: C: CONTRIBUTION TO SUPPORTING OPTIONS FOR SOUTH UIST	
Option	**Score**
Increase sailing frequency	3
Reduce the ferry crossing time to the mainland	3
Reduce ferry fares	3

It would significantly **increase sailing frequency**. The number of sailings would increase to 14 per week, compared to four per week in summer and three per week in winter at present.

There would be a significant reduction in **the ferry crossing time to the mainland.** A Mallaig-Lochboisdale service would offer a crossing time of 3 hours and 15 minutes. This is:

- Around 2 hours shorter than existing direct sailings between Lochboisdale and Oban. It is over 3 hours shorter than the best time for an indirect sailing via Castlebay.
- Over 4 hours less than the crossing time via Castlebay during the second half of the winter timetable.

As shown at **Chapter 4,** the Mallaig-Lochboisdale service would also **reduce ferry fares**. The reductions would be:

- Passengers: £3.00 (27%).
- Cars: £7.80 (16%).
- CV (14m): £74.00 (30%).

5.4.2 Performance Against STAG Criteria

Table 5.17 provides scores for the overall performance of this intervention against the five STAG criteria.

TABLE 5.17: C: PERFORMANCE AGAINST STAG CRITERIA	
Criterion	**Score**
Environment	-2
Safety	0
Economy	+3
Integration	-2
Accessibility and Social Inclusion	+3

There would be a negative impact on the **environment.** This is, first, because there would be an increase in road miles travelled on the mainland. This reflects the fact that a clear majority of travellers would not have a trip end in Mallaig itself. This is not only due to the relatively limited services available in the village. It is also because at present on the Oban-Lochboisdale service:

- Only a minority (39%) of **residents** of the Uists include an overnight stay in Oban in conjunction with using the Oban-Lochboisdale ferry service. In sum, for 21% Oban is their final trip destination, while a further 18% stay overnight in the town en route to/from elsewhere.
- In terms of **visitor**s, less than half (46%) spend at least one night in Oban in conjunction with using the Lochboisdale service. In sum, 13% spend more than one night in Oban.

Thus it can be expected that the majority of users will be travelling to/from locations other than Mallaig if using a Mallaig-Lochboisdale ferry service.

Second, the deployment of an additional vessel providing an additional service would lead to an increase in ferry-related emissions.

Most will be travelling a reasonable distance. Survey evidence from the existing Oban-Lochboisdale service shows that all **residents** who travelled outside Oban had a destination to the south of the town-principally in and around Glasgow and Edinburgh.

Almost all **visitors** had an ultimate origin or destination to the south of Oban. Again, the main ones included the central belt but also places outside Scotland. The exceptions were a small number of passengers who were travelling to/from Lochaber.

There are few existing travellers for whom Mallaig, in itself, will be a more valued landfall than Oban. Thus it can be expected that there will be an increase in road miles travelled on the mainland.

Further, there would be increased ferry emissions through deployment of an additional vessel.

This intervention would be neutral in terms of **safety**.

In terms of the **economy** criterion, the following presents an analysis similar to that shown for interventions A1 and A2.

Tables 5.18A/B, over, present a high level TEE analysis for changes in generalised costs of trips. It relates to car traffic with one of its trip ends in **South Uist**. Given the preceding discussion the analysis is based on mainland trip ends that would be accessed via Crianlarich, as discussed at **Chapter 4**.

For these and other relevant subsequent Tables, two sets of data are presented. (The reason for this is explained at **Chapter 4**). Those with a suffix "A" use mainland journey times based on data from *RAC Route Planner*. Those with a suffix "B" use mainland journey times based on data from *transportdirect.com*. This affects only the values of time. The values for ferry fare and marginal road cost are constant in the two Tables.

TABLE 5.18A: C: TEE: (£): SOUTH UIST TRAFFIC: CHANGE IN GENERALISED COST FOR TRIPS TO/FROM CRIANLARICH: CARS				
Winter				
Compared to	**Ferry Fare**	**Marginal Road Cost**	**Time**	**Total**
Via Uig	-29.07	19.05	37.98	**27.96**
Oban via Castlebay	18.39	-7.95	70.64	**81.08**
Summer				
Compared to	**Ferry Fare**	**Marginal Road Cost**	**Time**	**Total**
Via Uig	-29.07	19.05	37.98	**27.96**
Oban Direct	18.39	-7.95	23.17	**33.61**
Oban via Castlebay	18.39	-7.95	53.55	**63.99**

Note: Values of time reflect mainland road journey times from RAC Route Planner

TABLE 5.18B: C: TEE: (£): SOUTH UIST TRAFFIC: CHANGE IN GENERALISED COST FOR TRIPS TO/FROM CRIANLARICH: CARS				
Winter				
Compared to	**Ferry Fare**	**Marginal Road Cost**	**Time**	**Total**
Via Uig	-29.07	19.05	50.51	**40.50**
Oban via Castlebay	18.39	-7.95	60.39	**70.83**
Summer				
Compared to	**Ferry Fare**	**Marginal Road Cost**	**Time**	**Total**
Via Uig	-29.07	19.05	50.51	**40.50**
Oban Direct	18.39	-7.95	12.91	**23.35**
Oban via Castlebay	18.39	-7.95	43.30	**53.74**

Note: Values of time reflect mainland road journey times from transportdirect.com

The Mallaig service clearly offers lower generalised costs than any of the alternatives. Compared to:

- Travelling via Uig, ferry fares are more expensive on the Mallaig service. However, this is outweighed by a shorter overall journey time and a reduction in marginal road costs.
- The direct Oban-Lochboisdale service, the Mallaig fares are cheaper and the overall travel time is shorter. This outweighs the additional road travel costs of driving south from Mallaig as opposed to Oban.
- The indirect Oban-Lochboisdale service, the generalised cost for the Mallaig route is significantly lower. This reflects its much shorter ferry crossing time.

Tables 5.19A/B, over, provide the same analysis for freight traffic travelling between South Uist and Crianlarich.

Again, the Mallaig service offers lower generalised costs than the alternative routings.

TABLE 5.19A: C: TEE: (£): SOUTH UIST TRAFFIC: CHANGE IN GENERALISED COST FOR TRIPS TO/FROM CRIANLARICH: CVs				
Winter				
Compared to	**Ferry Fare**	**Marginal Road Cost**	**Time**	**Total**
Via Uig	-77.00	78.74	23.46	**25.20**
Oban via Castlebay	74.00	-32.86	43.64	**84.78**
Summer				
Compared to	**Ferry Fare**	**Marginal Road Cost**	**Time**	**Total**
Via Uig	-77.00	78.74	23.46	**25.20**
Oban Direct	74.00	-32.86	14.31	**55.45**
Oban via Castlebay	74.00	-32.86	33.08	**74.22**

Note: Values of time reflect mainland road journey times from RAC Route Planner

TABLE 5.19B: C: TEE: (£): SOUTH UIST TRAFFIC: CHANGE IN GENERALISED COST FOR TRIPS TO/FROM CRIANLARICH: CVs				
Winter				
Compared to	**Ferry Fare**	**Marginal Road Cost**	**Time**	**Total**
Via Uig	-77.00	78.74	31.20	**32.94**
Oban via Castlebay	74.00	-32.86	37.30	**78.44**
Summer				
Compared to	**Ferry Fare**	**Marginal Road Cost**	**Time**	**Total**
Via Uig	-77.00	78.74	31.20	**32.94**
Oban Direct	74.00	-32.86	7.98	**49.12**
Oban via Castlebay	74.00	-32.86	26.75	**67.89**

Note: Values of time reflect mainland road journey times from transportdirect.com

The following **Tables 5.20A/B** and **5.21A/B,** below and over, provide the same TEE analysis, for traffic between: North Uist and Crianlarich; and Benbecula and Crianlarich. It focuses on a comparison between the proposed Mallaig-Lochboisdale route and the existing **Uig-Lochmaddy** service. There is no comparison to Oban-Lochboisdale. This is because the preceding analysis has shown that this has higher generalised costs than a Mallaig service.

TABLE 5.20A: C: TEE: (£): NORTH UIST TRAFFIC: CHANGE IN GENERALISED COST FOR TRIPS TO/FROM CRIANLARICH				
Traffic Type	**Ferry Fare**	**Marginal Road Cost**	**Time**	**Total**
Car & Passengers	-25.19	6.45	-20.10	**-38.84**
CV	-77.00	26.66	-15.01	**-65.35**

Note: Values of time reflect mainland road journey times from RAC Route Planner

TABLE 5.20B: C: TEE: (£): NORTH UIST TRAFFIC: CHANGE IN GENERALISED COST FOR TRIPS TO/FROM CRIANLARICH				
Traffic Type	**Ferry Fare**	**Marginal Road Cost**	**Time**	**Total**
Car & Passengers	-25.19	6.45	-9.74	**-28.48**
CV	-77.00	26.66	-7.27	**-57.61**

Note: Values of time reflect mainland road journey times from transportdirect.com

Tables 5.20A/B indicate a higher generalised cost of travel for traffic between North Uist and Crianlarich if Mallaig-Lochboisdale rather than Uig-Lochmaddy is used. This reflects the lower ferry fares on the latter and its shorter overall journey time. These outweigh the additional distance to be travelled on the mainland.

However, the Mallaig service would still remain attractive to some North Uist traffic due to its greater frequency than Uig-Lochmaddy.

TABLE 5.21A: C: TEE: (£): BENBECULA TRAFFIC: CHANGE IN GENERALISED COST FOR TRIPS TO/FROM CRIANLARICH				
Traffic Type	**Ferry Fare**	**Marginal Road Cost**	**Time**	**Total**
Car & Passengers	-29.07	12.75	6.46	**-9.86**
CV	-77.00	52.70	3.99	**-20.31**

Note: Values of time reflect mainland road journey times from RAC Route Planner

TABLE 5.21B: C: TEE: (£): BENBECULA TRAFFIC: CHANGE IN GENERALISED COST FOR TRIPS TO/FROM CRIANLARICH				
Traffic Type	**Ferry Fare**	**Marginal Road Cost**	**Time**	**Total**
Car & Passengers	-29.07	12.75	18.99	**2.67**
CV	-77.00	52.70	11.73	**-12.57**

Note: Values of time reflect mainland road journey times from transportdirect.com

Tables 5.21A/B show that generalised costs also would be higher for Benbecula **freight** traffic using Mallaig-Lochboisdale rather than Uig-Lochmaddy. The saving in road miles and shorter overall journey time are insufficient to outweigh the lower ferry fares on the Lochmaddy route. Again, however, the higher frequency on Mallaig-Lochboisdale may make that route attractive to some Benbecula traffic.

The position is less clear for **car** traffic. Based on the RAC data, a routing via Mallaig-Lochboisdale has a higher generalised cost than travelling via the Uig-Lochmaddy service. However, the opposite is true if the transportdirect.com data are applied.

EALIs would stem from, first, business efficiencies and possible additional custom gained from increased frequency of sailing, notably in the winter. This would include increased number of tourists travelling to/from South Uist.

Any reduction in freight transport costs, if passed on to customers, would be of particular importance to the primary production sectors. Primary sector employment accounts for over one in ten jobs on South Uist. However, we understand that some of South Uist's present freight traffic uses Uig-Lochmaddy, such that any reduction in freight costs to the local economy may be less than if all freight traffic was presently routed via Oban.

As noted earlier, service timings are also important to some producers. The indicative timetable suggests that there would be some benefits for freight movements. These would stem from:

- In particular, an arrival in Mallaig at 1115, which would allow drops/pick ups in the central belt from mid afternoon onwards.
- An arrival in South Uist during working hours (at 1445).

In terms of **integration**, based on existing public transport services out of Mallaig then there could be a negative impact. This reflects that:

- There are presently no direct bus services beyond Fort William.
- Based on existing rail timetables, there would be a lower number of same day rail connected sailings compared to those for Oban-Lochboisdale. Further, there would be no significant change in rail connection times at Mallaig compared to those at Oban.

Based on the forecast patronage for the Mallaig-Lochboisdale service and the existing levels of public transport usage at Oban by users of the Oban-Lochboisdale sailings, the potential market for public transport connections at Mallaig could be in the order of 6,000-8,000 passenger trips per annum.

This is unlikely to significantly increase rail patronage through Mallaig station and thus support the case for either service re-timings or additional services. This reflects that around 63,000 passengers used Mallaig rail station in 2007-2008. All things being equal, the introduction of a Mallaig-Lochboisdale ferry service would not lead to a significant increase in rail passenger numbers at Mallaig.

Overall, there would continue to be lower levels of demand for public transport from Mallaig than from Oban. This reflects the former's lower levels of population and visitor activity. In particular, the frequency of bus services would remain below that offered out of Oban.

Accessibility would be significantly improved by the higher frequency of sailings compared to present provision, notably during the winter.

We have been advised by Highland Council that there are restrictions on the height of vehicles that can use the A830 between Mallaig and Fort William. The maximum height that can pass under three of the road's bridges is approximately 4.1 metres. We understand that this would prevent certain loads-such as fully laden hay lorries and full-sized animal transport vehicles-from using the A830 and, therefore, from travelling on a Mallaig-Lochboisdale ferry service.

Information provided to us by HITRANS indicates that if two deck rather than four deck animal transport vehicles had to be used then this would double the cost of transporting sheep off the islands. Such an increase would, all things being equal, make production unviable. The alternative would be to route the animals via Uig-Lochmaddy as opposed to Mallaig-Lochboisdale. However, for some traffic this would increase transit time and also the financial costs of road travel.

In terms of **social inclusion**, as shown at **5.3.2**, the present Lochboisdale service is an important means of residents making Personal Business trips and those for VFR purposes. For some trips presently made to Oban, the comparable services or facilities may not exist at Mallaig. However, as shown earlier, most residents have a mainland destination beyond Oban.

5.4.3 Operational Feasibility, Cost to Government and Likely Public Acceptability

Points regarding these aspects are summarised at **Table 5.22**, over.

TABLE 5.22: C: FEASIBILITY, COST TO GOVERNMENT AND PUBLIC ACCEPTABILITY	
Category	**Key Points**
Operational feasibility	No major operational constraints identified. A vessel of the size required for the service (around 60 cars and 350 passengers) could operate to Mallaig, although there would need to be co-ordination with the schedules of other CalMac ferries using the harbour to secure access to the linkspan. Vessel could not overnight at Mallaig so would overnight at Lochboisdale from where the first sailing of the day would be made
Cost to government	• The service would require an additional vessel compared to the present number based at Oban. If this was new build, the cost would be around £23 million • The additional service would, in itself, result in an annual operating deficit of around £2.3 million per annum, before admin and overheads. The full financial position would reflect: any changes to the operating deficit of the continuing Oban-Barra service; and reduced revenues on the Uig-Lochmaddy route as a result of traffic diversion to Mallaig-Lochboisdale
Likely public acceptability	Likely to be strong support from businesses and the wider community in South Uist. There would also be support from the Mallaig area

5.4.4 Performance Against High Level Objectives

Reflecting the preceding analysis, **Table 5.23** summarises this intervention's performance against the high level objectives set for this study.

TABLE 5.23: C: PERFORMANCE AGAINST HIGH LEVEL OBJECTIVES

Objective	Performance	Comment
Improve affordability to users	Positive	Ferry fares and overall journey costs would fall for existing users of the Oban-Lochboisdale service
Improve value for money for government	Negative	An additional vessel and service would be required, although some traffic would be stimulated
Reduce end to end journey times	Positive	These would fall for South Uist traffic and, to a lesser extent, for Benbecula traffic
Improve integration	Negative	Based on existing provision there would fewer public transport connected sailings at Mallaig than at Oban. Likely levels of demand would not strongly support the case for additional/retimed train or bus services at Mallaig
Improve accessibility for island communities	Positive	Would significantly increase sailing frequency out of Lochboisdale. Would offer a relatively high frequency alternative to the Lochmaddy service for traffic elsewhere in the Uists
Reduce greenhouse gas emissions	Negative	Increased emissions from both land-based and sea transport

5.5 D: MALLAIG-CASTLEBAY-LOCHBOISDALE FERRY SERVICES

5.5.1 Contribution to Supporting The Options

Table 5.24 shows the contribution of this intervention to the options identified for Barra. The analysis for South Uist, shown at **Table 5.16**, also holds under this intervention.

TABLE 5.24: D: CONTRIBUTION TO SUPPORTING OPTIONS FOR BARRA

Option	Score
Increase sailing frequency in the winter	3
Reduce journey time	1
Provide sailings on the days and at the times required by freight traffic	2
Provide sailings at weekends all year round for passenger travel	3
Reduce the connecting time with other public transport	0
Reduce ferry fares	3

This intervention would significantly **increase sailing frequency in the winter**. It would grow from the existing 3-4 sailings per week to a daily service, with sailings to and from Barra on each day of the week.

As shown at **Chapter 4**, compared to most sailings there would be no positive change to the existing journey time. However, this is based on a comparison to the most common crossing time for a direct Oban-Castlebay sailing. Compared to most sailings during the winter, this intervention would slightly reduce the total journey time.

In terms of the requirements of **freight traffic**, the intervention would be positive in that there would be a sailing to and from Barra on each day of the week all year round. Based on the illustrative timetable at **Table 4.42**, there would be a daily arrival at Mallaig at 1145. This would allow drop offs/pick ups in the central belt from mid afternoon onwards. However, the service would arrive at Barra at 2245. This would mean that deliveries could not be made until the following working day.

Based on the existing rail timetable, there would be no significant change in **connecting times** with rail services at the mainland port. Some sailings at Mallaig would have reduced connecting times, while others would increase, compared to the current Oban-Barra ferry service.

As shown at **Chapter 4**, the Mallaig-Barra service would also **reduce ferry fares**. The reductions would be:

- Passengers: £3.00 (27%).
- Cars: £7.80 (16%).
- CV (14m): £74.00 (30%).

5.5.2 Performance Against STAG Criteria

Table 5.25 provides scores for the overall performance of this intervention against the five STAG criteria. This covers both Barra and South Uist.

TABLE 5.25: D: PERFORMANCE AGAINST STAG CRITERIA	
Criterion	**Score**
Environment	-1
Safety	0
Economy	+3
Integration	-2
Accessibility and Social Inclusion	+3

There would be a slight negative impact on the **environment.**

The position for Lochboisdale traffic was explained at **5.4.2**. For Barra a clear majority of travellers would not have a trip end in Mallaig itself. This reflects not only the relatively limited services available in the village. At present on the Oban-Castlebay service:

- Only 45% of **residents** using the Oban-Barra service spend at least 1 night in Oban. In total, only 9% are making a trip solely to Oban.
- Less than half (40%) of **visitors** staying at least 1 night in Oban before or after their ferry journey. Most of these (30% of visitors in total) stay more than one night.

Thus it can be expected that the majority of Barra traffic will be travelling to/from locations other than Mallaig. Most will be travelling a reasonable distance. Survey evidence from the existing Oban-Barra service shows the majority of **residents** who travelled outside Oban had a final destination south of the town. Similarly, almost all **visitors** had an ultimate origin or destination to the south of Oban.

There are few existing travellers for whom Mallaig, in itself, will be a more convenient landfall in terms of its proximity to their mainland trip end. Therefore, it can be expected that there will be an increase in road miles travelled on the mainland.

However, *if an additional vessel was required* to provide the service then there would be an increase in ferry-related emissions and the score for environment would be -2 rather than -1.

This intervention would be neutral in terms of **safety**.

In terms of the **economy** criterion, the following presents an analysis similar to that shown for intervention C. The analysis for South Uist is unchanged from that shown at **5.4**.

Tables 5.26A/B analyse the change in the generalised costs for car traffic using Mallaig-Lochboisdale to travel between Barra and Crianlarich.

TABLE 5.26A: D: TEE: (£): BARRA TRAFFIC: CHANGE IN GENERALISED COST FOR TRIPS TO/FROM CRIANLARICH: CARS				
Compared to Direct Oban-Castlebay Sailing	**Ferry Fare**	**Marginal Road Cost**	**Time**	**Total**
Winter	14.52	-7.95	7.65	**14.22**
Summer	14.52	-7.95	0.25	**6.82**

Note: Values of time reflect mainland road journey times from RAC Route Planner

Compared to the direct summer sailings between Oban and Castlebay, the generalised cost of using the Mallaig service is lower-although only very slightly so if the transportdirect.com data are used. This largely reflects the lower ferry fares.

TABLE 5.26B: D: TEE: (£): BARRA TRAFFIC: CHANGE IN GENERALISED COST FOR TRIPS TO/FROM CRIANLARICH: CARS				
Compared to Direct Oban-Castlebay Sailing	**Ferry Fare**	**Marginal Road Cost**	**Time**	**Total**
Winter	14.52	-7.95	0.99	**7.56**
Summer	14.52	-7.95	-6.42	**0.16**

Note: Values of time reflect mainland road journey times from transportdirect.com

In winter, when Oban-Castlebay crossing times are longer than in summer, use of the Mallaig service offers a lower generalised cost irrespective of the dataset that is used.

Tables 5.27A/B provide the same analysis for freight traffic travelling between Barra and Crianlarich.

TABLE 5.27A: D: TEE: (£): BARRA TRAFFIC: CHANGE IN GENERALISED COST FOR TRIPS TO/FROM CRIANLARICH: CVs				
Compared to Direct Oban-Castlebay Sailing	**Ferry Fare**	**Marginal Road Cost**	**Time**	**Total**
Winter	74.00	-32.86	7.27	**48.41**
Summer	74.00	-32.86	0.23	**41.37**

Note: Values of time reflect mainland road journey times from RAC Route Planner

TABLE 5.27B: D: TEE: (£): BARRA TRAFFIC: CHANGE IN GENERALISED COST FOR TRIPS TO/FROM CRIANLARICH: CVs				
Compared to Direct Oban-Castlebay Sailing	**Ferry Fare**	**Marginal Road Cost**	**Time**	**Total**
Winter	74.00	-32.86	0.94	**42.08**
Summer	74.00	-32.86	-6.10	**35.04**

Note: Values of time reflect mainland road journey times from transportdirect.com

It shows that, as for car trips, there is a lower generalised cost through use of the Mallaig service compared to Oban. Again, the lower ferry fare on the Mallaig-Castlebay service is the key reasons for this.

An outline of the wider economic development impacts for South Uist was shown at **5.4.2.** The high level impacts would be the same for Barra. Business efficiencies and possible additional custom could be gained from increased frequency of sailing, notably in the winter, including tourists.

Any reduction in freight transport costs, if passed on to customers, would be of particular importance to the primary production sectors. Primary sector employment accounts for over one in ten jobs on Barra. As noted earlier the indicative timetable suggests that there would be some benefits for freight movements through a pre-noon arrival at Mallaig.

However, sharing the service between Lochboisdale and Castlebay would mean that only one of the islands would receive inbound freight during working hours, while the other would receive a late morning arrival on the mainland. Thus, the potential freight related benefits for South Uist would be less under this intervention than under intervention C.

In terms of **integration**, based on existing transport services out of Mallaig then there could be a negative impact. This reflects that:

- There are presently no direct bus services beyond Fort William.
- Based on existing timetables, there would be a reduced number of same day rail connected sailings compared to those for the Oban-Castlebay/ Lochboisdale service. Further, there would be no significant change in connecting times at Mallaig compared to those at Oban.

Based on the forecast patronage for the Mallaig-Castlebay-Lochboisdale service and the existing levels of public transport usage at Oban by users of Oban-Castlebay/ Lochboisdale, the potential market for public transport connections at Mallaig could be in the order of 5,500-7,000 passenger trips per annum. This is unlikely to significantly increase rail patronage through Mallaig station and thus support the case for either service re-timings or additional services.

As with intervention C, there would continue to be lower levels of demand for public transport from Mallaig than from Oban. This reflects the former's lower levels of population and visitor activity. In particular, the frequency of bus services would remain below that offered out of Oban.

Also as per intervention C, we understand bridge heights would prevent certain loads-such as fully laden hay lorries and full-sized animal transport vehicles-from using the A830 and, therefore, from travelling on the sailings.

As noted under intervention C, information provided to us by HITRANS indicates that if two deck rather than four deck animal transport vehicles had to be used then this would double the cost of transporting sheep off the islands. Such an increase would, all things being equal, make production unviable.

The alternative would be to route the animals via Uig-Lochmaddy as opposed to via the Mallaig service. However, for some traffic (and especially that to/from Barra) this would increase transit time and also the financial costs of road travel.

Accessibility would be significantly improved by the higher frequency of sailings compared to present provision, notably during the winter.

In terms of **social inclusion**, as shown at **5.3.2**, the present Castlebay and Lochboisdale service is an important means of residents making Personal Business trips and those for VFR purposes. For some trips presently made to Oban, the comparable services or facilities may not exist at Mallaig. However, as shown earlier, most residents have a mainland trip end beyond Oban.

5.5.3 Operational Feasibility, Cost to Government and Likely Public Acceptability

Points regarding these aspects are summarised at **Table 5.28**, over.

5.5.4 Performance Against High Level Objectives

Reflecting the preceding analysis, **Table 5.29** summarises this intervention's performance against the high level objectives set for this study.

TABLE 5.29: D: PERFORMANCE AGAINST HIGH LEVEL OBJECTIVES

Objective	Performance	Comment
Improve affordability to users	Positive	Lower ferry fares and total journey costs for cars and CVs
Improve value for money for government	Positive	More traffic carried than on Oban-Castlebay/Lochboisdale service, with similar overall route financial performance, However, the overall position would depend on the extent of abstraction of traffic from the Lochmaddy service and whether a new vessel was required
Reduce end to end journey times	Positive	Positive impacts for South Uist and Benbecula traffic, and for Barra traffic during winter months
Improve integration	Negative	Based on existing provision there would fewer public transport connected sailings at Mallaig than at Oban. Likely levels of demand would not strongly support the case for additional/retimed train or bus services at Mallaig
Improve accessibility for island communities	Positive	Would increase frequency out of Lochboisdale and Castlebay. Would offer a relatively high frequency alternative to the Lochmaddy service for traffic elsewhere in the Uists
Reduce greenhouse gas emissions	Negative	Given that most mainland origins and destinations would be south of Oban, there would be an increase in road miles travelled

TABLE 5.28: D: FEASIBILITY, COST TO GOVERNMENT AND PUBLIC ACCEPTABILITY	
Category	**Key Points**
Operational feasibility	• It is expected that a vessel of the required capacity (around 70 cars) would be the maximum size capable of being accommodated at Mallaig harbour • There would need to be co-ordination with the schedules of other CalMac ferries using the harbour to secure access to the linkspan. Vessel could not overnight at Mallaig so would overnight at Castlebay or Lochboisdale from where the first sailing of the day would be made
Cost to government	• This intervention could require purchase of an additional vessel. This would cost around £23 million assuming the ship was new build. • Impact on the net cost of operating the service could be broadly neutral compared to the existing Oban-Castlebay-Lochboisdale service. The actual outturn would depend on the extent of loss of revenues on the Uig-Lochmaddy service as a result of traffic diversion to Mallaig-Lochboisdale sailings. It would also reflect whether an additional vessel was required
Likely public acceptability	• Likely to be strong support from businesses and the wider community in South Uist • There would also be support from the Mallaig area • There is likely to be some resistance from Barra, although less from certain sections of its business community. This would reflect the lower level of services, including visitor accommodation for through traffic, at Mallaig compared to Oban

5.6 E: ENHANCED OBAN-CRAIGNURE SERVICE

5.6.1 Introduction

As explained at **Chapter 4**, the Reference Case of RET fares on Oban-Craignure and also Oban-Colonsay has implications for intervention E. The estimated level of trip generation from RET can be expected to require some of the service enhancements that are contained in this intervention. As such, RET could mean that some of these enhancements will happen as a result of lower fares rather than as part of a conscious decision to improve other aspects of service provision.

For the purposes of the appraisal, we have treated RET as distinct from the intervention. However, other aspects-such as enhanced sailing frequency-that are a likely consequence of RET-are appraised in the same fashion as those arising from the other interventions.

5.6.2 Contribution to Supporting The Options

Mull

Table 5.30 shows the contribution of this intervention to the options identified for Mull.

TABLE 5.30: E: CONTRIBUTION TO SUPPORTING OPTIONS FOR MULL

Option	Score
Allow daily commuting off Mull	3
Reduced fares	0 (consequence of Reference Case)
Provide a longer sailing day	3
Increase the regularity of sailing times	3
Increase sailing frequency to the mainland	2
Increase transport links with other islands	0

The indicative timetables shown at **Chapter 4** illustrates that **daily commuting off Mull** could be developed through the use of a two vessel service. There could be two departures from Craignure (0710 and 0810) giving pre-0900 arrivals in Oban. In winter the last return sailing would be at 1820, arriving back on Mull at just after 1900. In summer, the return sailings from Oban would be later-possibly up until around 2100.

For the reasons discussed earlier, there would be reduced fares. However, this is given a score of 0 at **Table 5.30** as it is specifically a consequence of the Reference Case rather than the intervention.

The intervention would see **a longer sailing day**. In winter, sailings from *Oban* would operate between 0710 and 1820. This compares to, at present, most first sailings being at 0800 and last sailings at either 1600 or 1800.

Sailings from *Craignure* would operate between 0710 and 1810. This compares to the first sailing being at 0900 on most days at present, with the last being at either 1700 or 1900.

In summer the first sailing from *Oban* would be at 0710. At present most are at either 0730 or 0745. The last sailing would be up to 2110, compared to 1800 on most days at present.

From *Craignure*, the first sailing would be at 0710, compared to 0845 at present. The last sailing would be up to 2110, compared to at 1900 on most days under the existing summer timetable.

The timetable shown at **Chapter 4**, shows that there would be an **increase in the regularity of sailing times.** Virtually the only disruption to the clockface operation would be if/when one of the vessels was used to serve Colonsay. This contrasts to the variety of arrival and departure times, by day of the week, in the present schedule.

There would be a significant increase in the **sailing frequency to the mainland.** There would be 10 return sailings per day in *winter*. This compares to between 3 and 5 sailings per day under the existing schedule, as shown earlier.

Under this intervention, in *summer* there would be up to 15 return sailings per day. This compares to the current position of 4-7 sailings per day.

This intervention would not **increase transport links with other islands.**

Colonsay

Table 5.31 shows the contribution of this intervention to the options identified for Colonsay.

TABLE 5.31: E: CONTRIBUTION TO SUPPORTING OPTIONS FOR COLONSAY	
Option	**Score**
Reduce ferry fares	0 (consequence of Reference Case)
Reduce the connecting times with public transport at Oban	2
Offer a range of ferry arrival and departure times at Oban	0
Increase sailing frequency	3

For the reasons discussed earlier, there would be reduced fares. However, this is given a score of 0 at **Table 5.31** as it is specifically a consequence of the Reference Case rather than the intervention.

Based on the existing rail and bus times at Oban, this intervention would **reduce the connecting times with public transport** at Oban. This is on the basis of the timetable shown at **Table 4.50**, which would see the Colonsay ferry service depart Oban at 1210 and arrive back in Oban at 1605. There would shorter connecting times for train services. Some connecting times for bus services would increase while others would be shorter than at present.

However, if one of the two Mull vessels was used it is likely that this would be during the same, off-peak times each day. This means that the intervention would not **offer a range of ferry arrival and departure times at Oban**.

Finally, the intervention would offer the opportunity to **increase sailing frequency**. This could be as high as a daily service. This compares to five return sailings per week in summer and three per week in winter.

5.6.3 Performance Against STAG Criteria

Table 5.32 provides scores for the overall performance of this intervention against the five STAG criteria.

TABLE 5.32: E: PERFORMANCE AGAINST STAG CRITERIA	
Criterion	**Score**
Environment	-2
Safety	0
Economy	+3
Integration	+3
Accessibility and Social Inclusion	+3

There would be a negative impact on the **environment.** There would be a significant increase on road traffic on Mull-both resident and visitor-as a result of the increased use of the ferry, accepting that a proportion of this would be a direct result of lower fares under the Reference Case.

Further, there could be increased ferry-related emissions through deployment of two, rather than one, vessels on the service and the operation of more sailings.

This intervention would be neutral in terms of **safety**.

In terms of the **economy** criterion, unlike some of the other interventions there would be no changes in travel time. For the *Mull* service, this reflects the speed limitations in Oban Bay and at Craignure. It is thought that greater value would be had in a regular timetable, rather than a slight reduction in crossing time which would prevent the introduction of a clockface operation.

There would be a value placed on the increased frequency and longer sailing day, but there are no standard values (unlike values of time) that can be applied to quantify this benefit. Further, while fares would be lower than at present this is a result of the Reference Case rather than the intervention itself.

The above comments also generally apply to *Colonsay*.

Without a survey of businesses and other economic interests, it is not possible to be more than general about **wider economic development impacts**. However, for Mull, this intervention has the potential to:

- Provide a wider range of employment opportunities for those who live on Mull through the ability to commute on a daily basis to the Oban area. An extended sailing day offers the opportunity for commuting to work in a range of sectors, some of which may require a relatively early start (e.g. construction), late finish to the working day, or where flexibility is required on a day-to-day basis. This also has the potential to attract new, economically active residents to the island and thus help to address the issue of an aging population.

- Strengthen the key sector of tourism. Data for 2007 show that this sector accounted for over one in four employees in employment in Mull & Iona.
- Increase the potential market for Mull companies providing business services and in construction, through offering a longer working day on the mainland and a return to the island on the same day after business hours.
- Improve Mull companies' access to suppliers whose services may not be available on the island. A longer working day for mainland companies on Mull should reduce the costs of buying in goods and services.
- Offer freight companies and their customer greater flexibility in the timing of deliveries.

In terms of **integration,** there would an increase in the number of public transport connected sailings and also reduced connection times for passengers using Oban-Craignure sailings. As shown earlier, there would also be reduced connecting times for those sailing to/from Colonsay. There would also be an increase in the number of public transport connected Colonsay sailings.

However, survey evidence shows same day public transport use at Oban as being quite low, as follows:

- Oban-Craignure: Residents 3%; Visitors 12%.
- Oban-Colonsay: Residents 0%; Visitors 6%.

Accessibility would be significantly improved by the higher frequency of sailings compared to present provision. This applies to Mull and, potentially, Colonsay. In terms of **social inclusion,** the present services are important for accessing services on the mainland. Survey evidence shows the proportion of residents' trips for personal business as:

- Mull: 38%.
- Colonsay: 36%.

The proportions of all trips (i.e. both residents and visitors) for VFR are as follows:

- Oban-Colonsay: 11%.
- Oban-Craignure: 9%.

5.6.4 Operational Feasibility, Cost to Government and Likely Public Acceptability

Points regarding these aspects are summarised at **Table 5.33,** over.

TABLE 5.33: E: FEASIBILITY, COST TO GOVERNMENT AND PUBLIC ACCEPTABILITY	
Category	**Key Points**
Operational feasibility	• It is assumed that when MV Isle of Mull is replaced on the route this will be with two smaller vessels. The analysis shows that this is likely to be required under RET (Reference Case), such that a two vessel service would not be a direct consequence of this intervention • Use of the second Oban-Craignure vessel to serve Colonsay may be an issue in the summer at times of peak demand as this could create constraints on demand for travel to/from Mull • There could be an issue in berthing one vessel overnight at Craignure during the winter. This may be addressed by shore infrastructure works
Cost to government	• Given that a two vessel service operating an extended timetable is likely to be required with the introduction of RET, the additional costs of any timetable enhancements under this intervention are likely to be limited • Up to around £2 million of capital expenditure could be required at Craignure to ensure a facility suitable for one vessel to berth overnight on Mull. However, this could be required under the Reference Case
Likely public acceptability	• There would be general support for this intervention from residents and businesses on Mull and Iona and also in Oban

5.6.5 Performance Against High Level Objectives

Reflecting the preceding analysis, **Table 5.34** summarises this intervention's performance against the high level objectives set for this study.

TABLE 5.34: E: PERFORMANCE AGAINST HIGH LEVEL OBJECTIVES

Objective	Performance	Comment
Improve affordability to users	Neutral	Lower (RET) fares are part of the Reference Case
Improve value for money for government	Negative	Net cost per unit of traffic moved would increase-although this is largely a function of the Reference Case
Reduce end to end journey times	Neutral	No impact on crossing times
Improve integration	Positive	There would be more public transport connected sailings and reduced connection times at Oban
Improve accessibility for island communities	Positive	Longer sailing day and more frequent service during hours of ferry operation
Reduce greenhouse gas emissions	Negative	Increased emissions from land-based transport. Potential increase in ferry-related emissions

5.7 F: EXTENSION OF OBAN-COLONSAY AIR SERVICE TO ISLAY

5.7.1 Contribution to Supporting The Options

Islay

Table 5.35 shows the contribution of this intervention to the options identified for Islay.

TABLE 5.35: F: CONTRIBUTION TO SUPPORTING OPTIONS FOR ISLAY	
Option	**Score**
Improve transport links without reducing the Kennacraig-Islay ferry service	2
Increase the time available at Oban	3
Increase service frequency	3
Reduce journey time	3

As this intervention is based solely on an extended air service, it would **improve transport links without reducing the Kennacraig-Islay ferry service**.

For travellers from Islay the intervention would also **increase the time available at Oban**. The existing seasonal ferry service offers 1 hour 15 minutes between the ferry arriving from Islay and then making the return sailing. As shown at **Chapter 4**, the air service could offer over 6 hours in summer and around 3 hours in winter, between arrival at Oban Airport and the return flight to Islay.

There would be an **increased service frequency between Islay and Oban.** This would be on a number of days all year round. This compares to the existing once per week connection during summer.

The air service would also **reduce the journey time** between Islay and Oban. Allowing for travel between Oban Airport and the town itself, the journey time would be around 2 hours and 20 minutes faster than using the ferry to travel between Islay and Oban.

Colonsay

Table 5.36 shows the contribution of this intervention to the options identified for Islay.

TABLE 5.36: F: CONTRIBUTION TO SUPPORTING OPTIONS FOR COLONSAY	
Option	**Score**
Improve transport links without reducing the Colonsay-Oban ferry service	2
Offer day trip opportunities from Colonsay to Islay	3
Increase service frequency from Colonsay to Islay	3

As this intervention is solely based on an extended air service, it would **improve transport links without reducing the Colonsay-Oban ferry service**.

The air service would **offer day trip opportunities from Colonsay to Islay** on a number of days of the week. The intervention would also **increase service frequency from Colonsay to Islay** and also in the other direction. There would be a transport link all year round and on a number of days of the week, compared to the existing once per week seasonal ferry link.

5.7.2 Performance Against STAG Criteria

Table 5.37 provides scores for the overall performance of this intervention against the five STAG criteria.

TABLE 5.37: F: PERFORMANCE AGAINST STAG CRITERIA	
Criterion	**Score**
Environment	0
Safety	0
Economy	+1
Integration	+1
Accessibility and Social Inclusion	+2

Given the nature of the aircraft (piston), its low altitude and the limited frequency of flights there would be such a minimal impact on the **environment** that the score would be closer to 0 than 1.

This intervention would be neutral in terms of **safety**.

In terms of the **economy** criterion, it is possible to quantify the value of passengers' time savings. For **Oban-Islay** traffic this has been calculated through:

- Based on previous research we have undertaken for HIE, assuming that the traffic volumes shown at **Chapter 4** are split 30% business and 70% leisure.
- Applying the "rule of a half" convention to the values for generated traffic.
- Applying values of time based on those adopted for previous air-related appraisals by national government.

The result is an annual value of time savings of **£114,000**. A full TEE would need to take other factors into account-notably the additional financial costs of paying air rather than ferry fares. However, as discussed at **Chapter 4**, there is uncertainty over the fares that would be charged. We have not, therefore netted off these financial costs from the value of time savings shown above.

For **Islay-Colonsay** traffic we have assumed that 70% of traffic is generated and that all traffic is travelling for non-work purposes. For this traffic the annual value of time savings is only around **£2,000**. This reflects the:

- Projected low traffic volumes.
- Limited time savings compared to making the trip by ferry.
- High level of generated traffic.
- Assumed absence of business traffic.

In terms of wider economic benefits one of the main ones would be in linking up the two well developed tourism markets of Islay and Oban by providing better access between the two locations. For Colonsay, there would be improved access to the larger tourism market on Islay which could create spin-offs such as that from golfers.

Without further, more detailed research with businesses in the three areas it is difficult to comment further on the scale and nature of business links. Overall, demand for travel-and thus the scale and nature of the wider economic benefits-would be quite sensitive to the air fares that were charged.

Integration impacts would be through the possibility of interlining over Islay for air connections between Colonsay and Glasgow, as discussed at **Chapter 4**.

Accessibility would be enhanced for both Islay and Colonsay by providing more frequent and direct links compared to the present intermittent ones. The impacts on **social inclusion** would, for Islay, depend on the nature of traffic that was developed and, in particular, whether health-related trips would be made.

5.7.3 Operational Feasibility, Cost to Government and Likely Public Acceptability

Points regarding these aspects are summarised at **Table 5.38**, over.

5.7.4 Performance Against High Level Objectives

Reflecting the preceding analysis, **Table 5.39** summarises this intervention's performance against the high level objectives set for this study.

TABLE 5.38: F: PERFORMANCE AGAINST HIGH LEVEL OBJECTIVES

Objective	Performance	Comment
Improve affordability to users	Neutral	Air fares would be higher than existing ferry fares but this reflects day trip opportunities and reduced journey time
Improve value for money for government	Positive	For the new air services, the extent of improvement would depend on fares charged and consequent passenger demand. Would lead to more intensive use of publicly-owned airfields at Oban, Colonsay and Islay. Would make more intensive use of the aircraft providing the Argyll Islands PSO service
Reduce end to end journey times	Positive	Reduced journey times for travel between Islay and Oban and Islay and Colonsay
Improve integration	Positive	Would offer opportunity of air travel between Colonsay and Glasgow via Islay
Improve accessibility for island communities	Positive	More frequent, faster and direct services on links that are presently served intermittently
Reduce greenhouse gas emissions	Neutral	Environmental impact of additional flights would be minimal

TABLE 5.39: F: FEASIBILITY, COST TO GOVERNMENT AND PUBLIC ACCEPTABILITY	
Category	**Key Points**
Operational feasibility	No major operational challenges identified. The main issues to be addressed would be any requirement for revised opening hours at Islay and Oban Airports and the need for PSO status to be granted for the new air services to Islay
Cost to government	Best estimate of under £100,000 per annum additional financial support through a PSO
Likely public acceptability	Would receive support from communities on Islay and Colonsay. However, some residents may argue that if additional resources are available they should be invested in each island's principal ferry route to the mainland

5.8 G: OBAN-BARRA AIR SERVICE

5.8.1 Contribution to Supporting The Options

Table 5.40 shows the contribution of this intervention to the options identified for Barra.

TABLE 5.40: G: CONTRIBUTION TO SUPPORTING OPTIONS FOR BARRA	
Option	**Score**
Increase sailing frequency in the winter	0*
Reduce journey time	3
Provide sailings on the days and at the times required by freight traffic	0
Provide sailings at weekends all year round for passenger travel	0*
Reduce the connecting time with other public transport	0
Reduce ferry fares	0

*Note: There would, however, be positive impacts in terms of overall connectivity

This intervention will not **increase sailing frequency in the winter**. However, it will increase the number of transport services to Oban in the winter. Based on the indicative timetable shown at **Chapter 4**, the number of transport services (i.e. ferry and air) to Oban would increase from 3-4 per week to 7-8 per week. Thus there would be a positive impact on overall connectivity.

The air service would **reduce journey time** between Barra and Oban. Allowing for check in time and bus travel between Oban Airport and the town of Oban the air journey time would be just under 2 hours. This compares to a journey time by ferry of:

- 5 hours and 20 minutes for most of the year; and
- 5 hours and 50 minutes during the second half of the winter.

Strictly speaking, this intervention would not **provide sailings at weekends all year round for passenger travel**. However, it could provide a return flight on Saturdays. At present there are no sailings from Barra to Oban on summer Saturdays. Further, there is none in either direction on winter Saturdays.

The timings of the service are likely to require leaving Oban town at 1015 to catch a flight to Barra at around 1120. This would be too early to connect with existing bus and train arrivals from the central belt.

Inbound passengers from Barra would arrive in Oban itself at around 1400. This would not reduce connecting times with southbound train and bus services from Oban compared to the present connecting times for the ferry service.

Thus, based on the existing rail and bus timetables, the air service would not **reduce the connecting time with other public transport**, compared to existing ferry arrivals and departures at Oban.

This intervention would not **reduce ferry fares**. Passenger air fares would be higher than the existing ferry fares. Nor would the intervention **provide sailings on the days and at the times required by freight traffic**.

5.8.2 Performance Against STAG Criteria

Table 5.41 provides scores for the overall performance of this intervention against the five STAG criteria.

TABLE 5.41: G: PERFORMANCE AGAINST STAG CRITERIA	
Criterion	**Score**
Environment	0
Safety	0
Economy	+1
Integration	0
Accessibility and Social Inclusion	+2

Given the nature of the aircraft (piston), its low altitude and the limited frequency of flights there would be such a minimal impact on the **environment** that the score would be closer to 0 than 1.

This intervention would be neutral in terms of **safety**.

In terms of the **economy** criterion, it is possible to quantify the value of time savings. This has been calculated through:

- Based on information contained in the HIE study referred to at **4.10.3,** assuming that the traffic volumes are split 15% business and 85% leisure.
- Applying the "rule of a half" convention to the values for generated traffic.
- Applying values of time based on those adopted for previous air-related appraisals by national government.

This produces an annual value of time savings of around **£73,000.** A full TEE would need to take other factors into account-notably the additional financial costs of paying air rather than ferry fares. However, as discussed at **Chapter 4**, there is uncertainty over the fares that would be charged. We have not, therefore netted off these financial costs from the value of time savings shown above.

There would be no impacts on **integration** arising from this intervention.

Accessibility would be enhanced between providing additional and faster links between Barra and Oban and some days when no ferry connections are provided. As shown at **5.3.2,** a significant proportion of trips made by Barra residents on the Oban-Castlebay service are for Personal Business. An Oban-Barra air service could help to improve access for such trips, although a proportion of them are presently made via to destinations outside Oban itself.

5.8.3 Operational Feasibility, Cost to Government and Likely Public Acceptability

Points regarding these aspects are summarised at **Table 5.41**, over.

TABLE 5.41: G: FEASIBILITY, COST TO GOVERNMENT AND PUBLIC ACCEPTABILITY	
Category	**Key Points**
Operational feasibility	The timetable that could be provided would be constrained by tidal restrictions at Barra Airport. This would become an issue if this limited/prevented an Oban-Barra service utilising an aircraft that was also used on other routes
Cost to government	Uncertain. This would depend on the fares set for the route and the marginal cost of integrating the service within the fixed cost structure of a wider PSO network. Best estimate is a net marginal cost of under £100,000 per annum
Likely public acceptability	Likely to be acceptable to the Barra community, assuming that it did not result in any significant reduction in ferry services. However, there appears to have been little consideration of the concept of an Oban air service to date within the community

5.8.4 Performance Against High Level Objectives

Reflecting the preceding analysis, **Table 5.42** summarises this intervention's performance against the high level objectives set for this study.

TABLE 5.42: G: PERFORMANCE AGAINST HIGH LEVEL OBJECTIVES

Objective	Performance	Comment
Improve affordability to users	Neutral	Air fares would be higher than existing ferry fares but this reflects reduced journey time
Improve value for money for government	Positive	Extent of improvements would depend on fares charged and consequent passenger demand. Would lead to more intensive use of publicly-owned airfields at Oban and Barra. Could also make more intensive use of the aircraft providing other PSO services
Reduce end to end journey times	Positive	Reduced journey times for travel between Barra and Oban
Improve integration	Neutral	No impact
Improve accessibility for island communities	Positive	More frequent and faster links between Oban and Barra, including on days when no ferry services are provided
Reduce greenhouse gas emissions	Neutral	Environmental impact of additional flights would be minimal

5.9 H: REDUCED AIR FARES ON OBAN-COLL/TIREE AND OBAN-COLONSAY

5.9.1 Contribution to Supporting The Options

This would score "3" in terms of **reduce air fares** which, as shown at **Chapter 3**, are included as options for each of Coll, Colonsay and Tiree.

5.9.2 Performance Against STAG Criteria

Table 5.43 provides scores for the overall performance of this intervention against the five STAG criteria.

TABLE 5.43: H: PERFORMANCE AGAINST STAG CRITERIA

Criterion	Score
Environment	0
Safety	0
Economy	+1
Integration	0
Accessibility and Social Inclusion	+2

There would be no impact in terms of the **environment**. No additional flights would be required. Emissions per passenger would fall due to increased load factors.

This intervention would be neutral in terms of **safety**.

In terms of the **economy** criterion, it is possible to quantify the value of fare savings. This assumes a 30% fare reduction and the level of generated passenger trips set out at **4.10**. Again, the "rule of a half" has been applied to the values for generated traffic. The results are shown at **Table 5.44**.

TABLE 5.44: H: TEE: ECONOMIC VALUE (£) (PER ANNUM) OF FARE REDUCTIONS

Route	Existing	Generated	Total
Oban-Colonsay	5,922	619	**6,541**
Oban-Coll-Tiree	21,827	2,292	**24,119**
Total	**27,750**	**2,911**	**30,661**

The annual economic value of the fare savings, by year 3 of the services' operation, are estimated at around **£31,000**. Most of this is derived from existing users and, within this, mostly from the Oban-Coll-Tiree flights, given their higher fares and greater passenger volumes than on the Colonsay service. As shown at **Chapter 4**, the analysis implies a revenue loss to the service of around £14,000 in year 3.

The fare savings would lead to a degree of additional expenditures within the island economies, although some of the savings would actually be used to undertake additional air trips. Without additional information on existing trip purposes it is not possible to analyse the likely nature of the "pure" generated trips. These are ones that are not diverted from the ferry services and are thus wholly new trips that would not be made in the absence of the fare reductions.

As shown at **Chapter 4**, these are estimated at around 270 single passenger trips per annum. However, in the absence of further information it is uncertain as to the proportion of trips that would be made:

- By island residents or those living elsewhere.
- For work-related or other purposes.

There would be no **integration** impacts arising from this intervention.

Accessibility and **social inclusion** would be enhanced by:

- Reducing the cost of travel for those already using the air services.
- Making some trips presently made by surface transport now affordable by air, with reduced journey times and day trip opportunities.

5.9.3 Operational Feasibility, Cost to Government and Likely Public Acceptability

Points regarding these aspects are summarised at **Table 5.45**, over.

5.9.4 Performance Against High Level Objectives

Reflecting the preceding analysis, **Table 5.46** summarises this intervention's performance against the high level objectives set for this study.

TABLE 5.46: H: PERFORMANCE AGAINST HIGH LEVEL OBJECTIVES

Objective	Performance	Comment
Improve affordability to users	Positive	Fares would be reduced
Improve value for money for government	Positive	There would be increased capacity utilisation of the aircraft on the PSO service and of the four publicly-supported airports
Reduce end to end journey times	Neutral	No impact
Improve integration	Neutral	No impact
Improve accessibility for island communities	Positive	Reducing the cost of travel for those already using the air services. Some trips presently made by surface transport would be affordable by air with reduced journey times and day trip opportunities
Reduce greenhouse gas emissions	Neutral	No additional flights required. Emissions per passenger would fall due to increased load factors

TABLE 5.45: H: FEASIBILITY, COST TO GOVERNMENT AND PUBLIC ACCEPTABILITY	
Category	**Key Points**
Operational feasibility	There are no issues around operational feasibility
Cost to government	There would a reduction in air operator revenues of around £14,000 per annum. There would be no additional operating costs. The impact on ferry revenues from trip diversion to the air service would be very slight-under £5,000 per annum
Likely public acceptability	We would expect this intervention to be acceptable to existing users of the air service and the wider communities of Coll, Colonsay and Tiree

6 CONCLUSIONS

Interventions **A1** and **A2** considered routing traffic between the mainland and each of Coll, Tiree, Barra and South Uist on services via Mull rather than direct to/from Oban. There appears to be sufficient evidence to suggest that both interventions should be discounted for the purposes of further transport planning.

Under **A1** Coll and Tiree would benefit from increased sailing frequency and through a direct link with Mull. However, these benefits are more than outweighed by a number of factors. Overall journey times between the islands and the mainland would increase by around 50 minutes. Generalised travel costs would increase for both passenger and car traffic. Passengers (and particularly those travelling on foot) would have the inconvenience and uncertainty associated with having to change ferry services on Mull.

In addition, significant capital investment would be required. First, to create the port and road infrastructure on Mull. The cost would be between £23 million and over £45 million, depending on the port location. Further, co-ordinating the schedules of the Mull-Coll-Tiree and Oban-Craignure services would require overnight berthing of the vessel at Tiree. To enable this, a breakwater would have to be created at an estimated cost of £15 million-£20 million. In addition, there could be considerable opposition to the new service proposals from residents of Coll and Tiree.

Similar points pertain to **A2**. Under this intervention, there would be increased frequency of sailing for South Uist all year round and for Barra in the winter. In addition, there would be a direct ferry link with Mull. Compared to some existing sailings overall journey time would fall.

Again, however, these benefits are outweighed by negative factors. The financial cost of travel between the mainland and the islands would increase for both passengers and cars. Compared to some existing sailings overall journey time would increase, by around 30 minutes. Again, there would be the inconvenience and uncertainty associated with having to change ferry services on Mull.

There would also be the significant capital cost for port and road infrastructure on Mull. We would also expect there to be opposition from some residents of Barra and South Uist.

Intervention **B** considered providing a fixed link between Coll and Tiree. There appears to be sufficient evidence to suggest that this intervention should be discounted for the purposes of further transport planning. This is principally due to:

- A number of "showstopper" environmental designations in the relevant areas.
- Low levels of public acceptability.
- A likely capital cost of the order of tens of millions of pounds.

Interventions **C** and **D** considered serving South Uist (**C**) or both South Uist and Barra (**D**) from Mallaig rather than Oban.

Intervention **C** would generate a number of benefits. These include, first, economic development gain from a significant increase in sailing frequency. Second, a reduction in overall journey costs for existing users of the Oban-Lochboisdale service. Total journey times would fall for South Uist traffic (in some cases quite significantly) and also for Benbecula traffic.

However, there would be a significant cost associated with providing a Mallaig-Lochboisdale service. An additional vessel would be required. A new build ship would cost in the order of £23 million. The service is forecast to incur an annual operating deficit of over £2 million. Further, for those travelling on foot there would fewer public transport connected sailings at Mallaig compared to Oban. Further, high vehicles would not be able to use the service due to bridge height restrictions on the road from Mallaig.

Further research would be required to more fully understand the scale and nature of economic development benefits from a Mallaig-Lochboisdale service. In addition, these could be compared against the benefits of investing in an enhanced Uig-Lochmaddy service. The conclusions should consider the issues from perspective of the Uists as a whole.

Similar points pertain to intervention **D**. There would be economic development gain from an increased frequency of sailing to both islands. There would also be benefits from lower total journey costs for cars and CVs. Again, total journey times would be reduced for South Uist and Benbecula traffic, and for Barra traffic during winter months.

However, it may be that an additional vessel would be required and if a new building it would cost in the order of £23 million. Again, for those travelling on foot there would fewer public transport connected sailings at Mallaig compared to Oban. High vehicles would not be able to use the service due to bridge height restrictions on the road from Mallaig. This is more of an issue for Barra traffic given that, unlike South Uist, there is no alternative direct ferry service to/from the mainland. There is likely to be some resistance to the proposal from some parts of the Barra community.

Again, further research would be required to more fully understand the scale and nature of economic development benefits. In addition, there would need to be cognisance of the role of the Uig-Lochmaddy service in the context of development of transport services for the Uists as a whole.

The research findings suggests that intervention **E** is worthy of further development work. The benefits to Mull from an extended timetable and increased frequency could be significant given the island's economic potential. In addition, this intervention could also provide greater sailing frequency for Colonsay. Further research could be used to compare these benefits to the:

- Additional vessel capital and operating costs required.
- Cost of capital investment required at Craignure pier.

Each of the air service-related interventions (**F, G, H**) is worthy of further development work. There are potential economic and social benefits through the improved connectivity that the interventions would provide. These could be achievable at relatively limited cost and mostly through using existing aircraft and airports.

In each case, there is a need to more fully understand the nature of market demand and, in particular, the sensitivity of demand (and hence the level of benefits) to air fare levels.