St Helena Access Feasibility Study

Final Report

APPENDICES – VOLUME 1

Reference: 5029253/V3.0

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APPENDIX A: TERMS OF REFERENCE FOR THE FEASIBILITY STUDY

ST HELENA

Terms of Reference for a Feasibility Study into Access Options

1. Background

General

1.1 The island of St Helena, an overseas territory of the United Kingdom (UK) is of volcanic origin and covers 47 square miles in the South Atlantic Ocean. St Helena is over 4,000 miles from the UK, 700 miles southeast of Ascension Island, and 1,700 miles from South Africa. The Island's total population is around 5,000 persons, of whom 1,300 live in the capital, Jamestown. The climate is kept mild and equable by the southeast trade winds and temperatures range from 14-32 degrees centigrade in the summer and 14-26 degrees centigrade in winter. The economy is small and is mainly based on offshore employment, agriculture, fishing and more recently a small but growing volume of tourism. Most commodities are imported and St Helena relies heavily on UK Aid to support the standard of living of the population.

1.2 The UK Government, through the Governor, is responsible for St. Helena's external affairs, internal security and safety, and defence. The St Helena Government operates through an Executive Council (ExCo), which takes decisions on operational and policy matters, and a Legislative Council (LegCo), which reviews and approves laws. The St Helena Government has responsibility for providing a wide range of publicly-funded services, including: health, education, social welfare, housing, lands and agriculture, transport, road maintenance etc. Constitutional reform is currently taking place, with the view of moving the St Helena Government to a two-tier ministerial government, headed by an elected Chief Minister. The next elections are due in July 2005, and it is envisaged that the new constitution will be in place by then.

1.3 St Helena has no airfield and the only regular mode of access to the Island is via the Royal Mail Ship (RMS) St Helena. The RMS St Helena has in recent years made four round voyages from the UK and South Africa per year and also makes shuttle sailings between St Helena, South Africa and Ascension Island. Voyages currently take a minimum of two days from Ascension Island or five days from South Africa. Imminent changes in the schedule will see the ship operating a shuttle service between St Helena, Ascension, Cape Town and Walvis Bay, with no voyages to the UK. These may be reinstated in future if there is demand.

1.4 All goods and equipment are transported by sea and the maximum size and weight of any single component are limited by the ship's cargo space and capacity of its cranes. St Helena's steep narrow roads, combined with a lack of heavy transport, limit the size and weight of equipment that can be transported on the island.

DFID assistance

1.5 The shared goals of the St Helena and UK Governments are sustainable improvements in social and economic well-being for 'Saints' and reduced aid dependence. However the opportunities for increased economic self-sufficiency are

limited due to St Helena's isolation, lack of natural and other resources and its small domestic market.

1.6 The DFID programme in St Helena is wide-ranging, providing budgetary aid (about £5 million annually to meet the recurrent budget deficit), approximately £1.5million per annum for shipping costs, development assistance for education, health, governance and infrastructure and the provision of key technical and management staff for key posts in the St Helena Government. DFID's annual spending over the last decade has averaged £8-£10 million.

Air Access

1.7 As early as the 1940's investigations were carried out into the possibility of air access for St Helena. In the 1950's, 1970's and 1980's different parties have investigated this possibility, to no effect. As a result the island remains one of the few very remote places in today's global village, with a minimum of five days travel from London or Cape Town required to reach St Helena. The possibility of economically viable air access and associated economic developments came closer in 1999 with technology change associated with long-haul business jet travel. A report by High Point Rendel on air access to St Helena, prepared in 2000, highlighted the changes that had taken place in this arena and the possibilities for St Helena.

1.8 Since then various approaches have been considered around the concept of using other private sector development on the island to subsidise the construction of an aerodrome and commencement of air services. Following exhaustive investigations, the St Helena Government and DFID have concluded that this approach presents unacceptable levels of risk and uncertainty, and now wish to carry out full feasibility work.

1.9 These terms of reference set out the requirements for a multi-disciplinary team (hereafter referred to as "the Consultant") to undertake a feasibility study to look at options for maintaining access to St Helena following the withdrawal from service of the current RMS St Helena, expected in 2010.

2. Purpose of the consultancy

2.1 The purpose of the consultancy is to carry out a full feasibility study to determine the options for maintaining access to St Helena, assess their value for money in relation to the joint aspirations of the St Helena Government and DFID of promoting social and economic development and reducing aid dependency. The study will clearly recommend a preferred option to St Helena and Her Majesty's Government.

2.2 The consultancy will:-

- Identify options for maintaining access to St Helena, and agree a short list for detailed analysis;

- confirm the technical feasibility of access options, and provide robust cost estimates for short listed options;
- estimate the maximum annual budgetary aid cost to DFID of continuing with sea access, and establish the level of budgetary support required following the implementation of any air access project;
- determine the likely level of economic development that would result from providing access by air, and from continuing to provide access by sea; and on the basis of this to what extent there is a clear economic justification for air access over sea access;
- outline the management and institutional structure and capacity needed to sustain each of the short listed options;
- list the environmental issues associated with each option and comment on whether it is possible to adequately mitigate against any negative impacts; and
- assess the likely social impacts of each option;
- agree with the St Helena Government and DFID a preferred option for maintaining access to St Helena, and advise on procurement for that option.

3. Outputs of the consultancy

3.1 The consultants will prepare:-

- a Full Feasibility Report with clear recommendations including a clearly identified preferred option for maintaining access to St Helena; and

following agreement to the preferred option by the St Helena Government and DFID:-

- a Draft Project Memorandum; and
- documentation to support the Gateway Review process, including a Business Case, Project Governance Framework, Communications Strategy, Procurement Strategy.

4. Scope of Work

4.1 Sections 4.2 to 4.9 below set out the scope of work to be carried out in the feasibility study to develop the options, and address the key technical, financial, economic, institutional, social and environmental issues.

Development of Options

4.2 The Consultants will be required to identify all practical options for maintaining access to St Helena by sea and by air. All options must address take into account both passenger and freight requirements.

4.3 The Consultant will carry out an initial qualitative comparison of these options against the key technical, financial, institutional, environmental and social issues detailed in Sections 4.5 to 4.9 below, drawing where appropriate on the work of others, and agree with the St Helena Government and DFID a shortlist of up to four options for more detailed analysis.

4.4 Following agreement with the St Helena Government and DFID, the Consultant will carry out a detailed analysis of the short-listed options as set out in Sections 4.5 to 4.9 below.

Technical Analysis

4.5 The technical analysis will:-

- identify viable technical solutions to address access to St Helena
- provide cost estimates, including any premium associated with working in a remote location, for use in economic and financial analysis

Economic Analysis

4.6 The economic analysis will:-

- provide considered analyses of future population numbers and structure under each option
- develop a critical assessment of potential tourism demand to St Helena for air and sea access options, detailing supply and demand issues;
- provide a robust and considered financial analysis of air and sea access options;
- derive and model the maximum budgetary aid cost for air and sea access options, highlighting the main assumptions;
- estimate the level of confidence that air access will deliver the estimated increases in tourism numbers.
- assess the skills in St Helena to deliver on tourism development on a sustainable basis.
- analyse the costs of providing the necessary ancillary development to fully reap the benefits of air access, consistent with the economic, environmental, social, governance and institutional objectives of the St Helena Government, and the likelihood of such development taking place.
- provide quantified analysis of the downside risks to government revenues of each option;

- quantify the long-term changes to St Helena's GDP, aggregate incomes and aggregate impact on government and the private sector for each option;
- identify key assumptions that must be fulfilled for each of the options to be a success;
- provide an economic comparison between air and sea access using sea access as a base case.
- Provide a probability distribution of the impact of each option on government revenues.

Governance and Institutional Analysis

4.7 The institutional analysis will:-

- identify institutional arrangements, such as governance structures, roles and responsibilities, for managing and monitoring each option ;
- assess current capacity to govern, manage and monitor effectively and efficiently the implementation of each option;
- propose measures to address any long term capacity constraints for managing and monitoring each option;
- assess capacity of private sector/ market environment to take advantage of each option;
- identify gaps in legal, institutional, fiscal and other frameworks, which need to be addressed to support each option, and propose measures to address these.

Environmental Analysis

4.8 The environmental analysis will:

- identify, document and review all available environmental information relevant to consideration of options for access, both to inform the feasibility study and in preparation for the implementation of a full environmental impact assessment once a preferred option has been selected;
- identify, or confirm, the key environmental implications, both positive and negative, associated with each of the options, and identify the scope of mitigating measures for any adverse environmental effects;
- inform the preparation of draft terms-of-reference for an environmental impact assessment of the preferred option, at both strategic and project levels;

Social Analysis

4.9 The social analysis will:-

- identify likely short, medium and long-term social impact associated with each of the options on different stakeholder groups (both on and off island). Longer term considerations should include, *inter alia*, impact of rise in tourism on traditional way of life, affordability of land/property etc.
- in the event that air access emerges as the preferred option, assess the likely impact on indigenous community of (i) migrant labour; (ii) local employment; (iii) provision of public services, in particular health and social services; (iv) loss of livelihoods owing to location of airport.
- assess the capacity of the Island (i) to cope with adverse impacts both in the short and long term; (ii) to scope out measures that should be taken to mitigate them; (iii) to manage social and economic change among different stakeholder groups and; (iv) to engage in forward planning (e.g. provision of training to equip local population with skills to play active role in emergent tourist market)

Procurement Strategy

4.10 Once a preferred option has been agreed with the St Helena Government and DFID, the Consultant will examine and report clearly on the implications of different procurement strategies (for example, PFI, public procurement, private finance etc.), on costs, the attribution of costs (for example to DFID, SHG, private sector partners etc.), cash flow and institutional governance.

DFID Project Documentation

4.11 The Consultant will prepare a draft Project Memorandum to support the preferred option. Guidelines for the preparation of a Project Memorandum are attached as Annex B.

Gateway Review Process

4.12 The Consultant will prepare documentation to support the following Office of Government Commerce Gateway Reviews:-

- Gateway Review 1 – Business Justification
- Gateway Review 2 – Procurement Method and Sources of Supply
- Gateway Review 3 – Investment Decision

5. Main Tasks

5.1 Sections 5.2 to 5.28 below set out key tasks that must be completed by the Consultant during the feasibility study. These are not intended to be exhaustive, and the Consultant will carry out other work as required in order to fully address the scope of work detailed in Section 4. The consultant will identify such additional work in their response to these terms-of-reference.

General

5.2 A great deal of research has already been carried out into assessing access options to St Helena, and where possible full use should be made of existing analysis. The Consultant will therefore carry out a full review of all existing documentation. A list of key documents is provided in Annex C.

5.3 Within two weeks of commencing the work, the consultant will prepare and agree with SHG/DFID outline structure and table of contents of the feasibility report.

5.4 The consultants will need to liaise closely with the St Helena Government, DFID and other key stakeholders throughout the course of the study. Key contacts within the St Helena Government and DFID are given in Section 9 of these terms of reference. However, the consultants will need to identify early on in the work other key stakeholders and their potential role in the addressing access issues. This work will be presented in the form of the Communications Strategy in 3.1 above.

5.5 The consultants are required to make a presentation of preliminary findings to DFID and the St Helena Government before finalising recommendations for the preferred option. This may take the form of a videoconference, or may require a visit to St Helena.

Development of Options

5.6 In developing options the consultants will take into account work done previously. These will include, but will not be limited to: replacement of the RMS St Helena with another vessel to the specification given in the 2001 High Point Rendel Report “St Helena – Comparative Study of Air and Sea Access”; the introduction of a “fast ship” service; construction of an airport capable of supporting flights to Ascension Island (taking into account all restrictions relating to the use of Wideawake Airport); and construction of an airport capable of support flights to South Africa and London.

5.7 In the case of air access options, the Consultants will need to assess the viability of arranging shipping for bulk freight on a commercial bais.

5.8 The Consultant will prepare an options paper following initial qualitative analysis, with clear recommendations for short-listing of options for more detailed analysis, and present this to the St Helena Government and DFID for formal agreement prior to undertaking more detailed feasibility analysis of the short listed options.

5.9 Following detailed feasibility analysis of the short listed options, the consultant will prepare and present a decision paper to the St Helena Government and DFID with clear recommendations for a preferred option for maintaining access to St Helena.

Technical Analysis

5.10 In examining possible sea options the consultants will review work carried out at the time of construction of the current RMS St Helena, and work carried out by Three Quays Marine and High Point Rendel in recent years.

5.11 In examining possible air options, the consultants will:-

- establish appropriate meteorological data recording facilities on Prosperous Bay Plain;
- undertake a full topographic survey to cover the likely footprint of any aerodrome, potential access roads and borrow areas;
- carry out appropriate ground investigation and soils testing;
- prepare outline designs for the aerodrome option(s) which comply with ICAO regulatory requirements. In preparing the designs, the consultants will liaise closely with Air Safety Support International and any other relevant bodies.
- scope out likely configuration for air services to support the air options, liaising where appropriate with the Department for Transport and Foreign and Commonwealth Office.
- prepare cost estimates

Economic Analysis

5.12 The economic analysis will be carried out in 2 distinct stages, and will need to address the following areas.

<u>Stage 1</u>

5.13 Economy

- Construct an aggregate expenditure model of the economy with linkages between government and private sector development explicitly modelled – an aggregate expenditure model includes private consumption, government expenditures, revenues, exports and imports;
- Derive and agree the main expenditure and revenue elasticities for the model;
- Using appropriate proxies, develop a critical assessment of the growth in potential tourist demand with the introduction of air access to the island;;

- Provide a detailed analysis of the assumptions underlying St. Helena's future revenue base with and without the potential that air access offers;
- Assess long term GDP growth and changes in the balance of the economy between government and the private sector.

5.14 Scenarios

- the most likely long-term outlook for government finances given continued sea access and no change in the economy's make up;
- the long-term outlook for government finances (in NPV terms) for St Helena with air access to a major international hub;
- the outlook for government finances (in NPV terms) under a publicly funded airport scheme which only provides access to the nearest reasonable mainland airport;

5.15 Supporting Analysis

- the level of private sector development anticipated, with consequential increases in government revenue, under the different air access scenarios,
- the impact of the different scenarios (in NPV terms) on the DFID contribution for the project and future budgetary aid levels for the next 30 years, relative to those for maintaining sea access;
- a critical/quantitative analysis of the likely effects on inward investment and remittances under different scenarios;
- rate of growth of the private sector, from its current base, and the shift away from a government dominated economy;
- a critical assessment of all assumptions including, population size, the level of revenue from private sector development, impacts on inflation, affects on property prices, employment and effects on the poor; and,
- growth in the tourism sector, based on appropriate proxies.

<u>Stage 2</u>

5.16 Once the preliminary analysis has been completed, using assumptions derived by the consultants from experience on similar work and available data, the consultants will need to consult closely with SHG and DFID to refine these assumptions for use during sensitivity modelling.

5.17 Risk Analysis

- modelling of the distributional effects on government revenues (using Monte Carlo analysis) under 5 scenarios that have an impact on the main agreed assumptions and under 5 systemic scenarios (to be devised in consultation with DFID and SHG flowing completion of Stage 1).

5.18 In completing 5.9 to 5.13 above, the consultant will carry out the following:

- a brief review of the existing literature on the risk quantification of similar projects;
- using appropriate proxies, and a review of similar developments, to establish likely growth rates, an assessment of the likely growth in the tourist market and in tourism numbers.

5.19 The consultants will:-

- analyse and test robustness of all the critical assumptions;
- identity the main systemic risks;
- model the distributional impact of different scenarios using Monte Carlo;
- assess the impact on government finances of the different scenarios;
- value and incorporate any rights to revenue the government gives away to any private sector partner. (One way of doing this might be to use Real Options Theory);
- provide a model (@RISK or similar)- and supply the software to run the model - so that SHG and DFID are able to the model the impact of slight variations in the main assumptions; and,
- provide an analysis of the economic policy options available to governments under the different scenarios to achieve a reduction in budgetary aid. Assumptions made in regard to policy changes in St Helena required to enable each scenario should be made clear.

5.20 The economic analysis will specifically quantify the effect of any private sector involvement on government revenues.

5.21 In carrying out the economic work, the team will be expected to work very closely with the St Helena Government Economist and Financial Secretary.

Institutional Analysis

5.22 The Consultants will carry out all tasks necessary to complete the scope of work detailed in Section 4.7 above. These should be outlined in the inception report and agreed with DFID and the St Helena Government.

Environmental Analysis

5.23 In addressing the scope of work set out in paragraph 4.8 above the consultants will, among other things:

- consider the extent to which any environmental screening and/or scoping studies that may have been previously undertaken, form an adequate basis for proceeding with an EIA, and make recommendations accordingly;

- liaise closely with DFID and with the St Helena Government so as to ensure that no previous work of relevance to the study - whether formally published or not - is overlooked;
- recommend, in the absence of specific legislation in St Helena, an appropriate approach to, and protocols for, the implementation of strategic and project level EIA in accordance with international best practice;
- recommend at what stage(s) in the project implementation schedule the EIA of the preferred option should be carried out, so that advantage may be taken of opportunities for integration with other project components (eg design);
- provide a cost estimate for a combined strategic and project level environmental impact assessment.

Social Analysis

5.24 The Consultants will carry out all tasks necessary to complete the scope of work detailed in Section 4.9 above. These should be outlined in the inception report and agreed with DFID and the St Helena Government.

Procurement Strategy

5.25 Once a preferred option has been agreed by the St Helena Government and DFID, the Consultant will carry out an analysis of potential procurement strategies for that option. Comparison of the various procurement strategies must include:-

- projected cash flows for the different scenarios;
- clear attribution of costs throughout the lifetime of the project;
- specific implications for legislative and institutional requirements for each option.
- assessment of the bank-ability of the various elements of the preferred option; and
- in the case of any private sector involvement, clear advice on likely concessions and duration of concession that may be required by the private sector (eg monopoly rights, tax etc.).

5.26 In the case of any Private Finance Initiative, the Consultant should prepare a draft concession agreement.

DFID Project Documentation

5.27 The Consultant may wish to review Project Memoranda for other Overseas Territories project (for example Gerald's Park Airport, Montserrat) to gain a fuller understanding of the requirements.

Gateway Review Process

5.28 The Consultant will review the documentation available on the Office of Government Commerce website (www.ogc.gov.uk), both in relation to the individual Gateway Review guidance, and guidance provided for the implementation of large civil engineering projects, and ensure that documentation required for the review follows with OGC recommendations.

6. Location and duration of the consultancy

6.1 The main consultancy will be based in the UK.

6.2 The Consultant will be required to visit St Helena to undertake topographical and ground investigation surveys, and to consult over social issues.

6.3 The consultancy is expected to be for a period of up to six months, and the Consultant will need to manage the multidisciplinary nature of the tasks to ensure that this timeframe is met.

7. Consultation

7.1 The Consultant will be required to work very closely with the St Helena Government and DFID. It will be necessary to consult with and involve a wide range of stakeholders in St Helena. This will need to be carefully managed to ensure that the process remains on track, while providing sufficient information and opportunities for input to retain support for the project on the island. Development and implementation of an appropriate communications strategy will be essential.

7.2 The Consultant will chair regular progress meetings (weekly or fortnightly) held by telephone link with DFID and St Helena.

8 Qualifications and experience

8.1 The make up of the team to undertake the work is the responsibility of the Consultant, but it will draw on expertise in the fields of engineering, airport and air services regulation and licensing, macro-economic modelling, risk modelling, social science, law, economics and finance, governance, institutional development and environmental analysis. This expertise may either be procured in-house or contracted in, and will be subject to the approval of SHG/DFID.

8.2 The consultant must be able to field a study team that includes individuals with the following essential skills:

- proven track record of working in small island states;
- airport and air service design and operation;
- good knowledge of the economics of development;
- experience of assessing the impacts of economic and policy changes on island economies;
- knowledge and experience of working with small island economies;
- experience of analysing project risk;
- ability to decipher covariance risk of the project on the economy;
- able to use Monte Carlo techniques to model scenarios; and
- critically, an understanding of how to produce robust results using **weak data**.
- analysis of broad governance environment, institutional development;
- assessing and designing management and governance frameworks for operation of air services;
- strategic and project level environmental impact assessment of marine and air transport infrastructure projects;
- experience in conducting social analyses especially in the area of feasibility studies;
- facilitation of consultative processes;

8.3 The Team Leader will have demonstrated expertise in leadership and management of multidisciplinary teams, including the management of external resources, and will have highly developed organisational skills.

8.4 The Consultant will be required to demonstrate a high level of communication skills, and be able to put these to effective use in St Helena.

8.5 It is also desirable that the consultant has knowledge of DFID and the ability to write documents according to DFID standards.

9. Reporting requirements

9.1 The consultant will prepare an inception report within two weeks of commencing work. This will include a clear work plan for the study, including proposed visits to St Helena, and will list resources against all main tasks. The inception report will also include the outline structure and table of contents for the final report.

9.2 The consultants will report formally to SHG/DFID on a monthly basis, or more frequently as required. Regular monthly reporting will take the form of a written report (copied to SHG and DFID) and a briefing meeting in London. The report will include an analysis of work carried out in the reporting period against each of the tasks, clearly identifying the resources used.

9.3 The consultant will provide press briefing notes at key stages in the analysis.

9.4 The consultant will prepare a progress report at the end of Stage 1 of the economic analysis, clearly setting out any inputs required from SHG and DFID to validate or amend assumptions, and seeking clarification on the precise requirements of the Monte Carlo analysis

9.5 The consultant will prepare a well-structured draft final report clearly covering the full scope of work detailed in Section 4 above.

9.6 The consultant will deliver a clear presentation of the draft report and findings. This presentation will be made in DFID's office in Palace Street, London, with teleconference link to St Helena.

9.7 The statistical data arising from the economic analysis, together with any modelling, will be submitted in the form of an Excel spreadsheet together with the necessary software and coding to SHG and DFID.

9.8 SHG/DFID will provide feedback on the report within two weeks of receipt.

9.9 The consultant will produce a final report, taking into account comments made within two weeks of receiving comments.

9.10 If requested, the consultant may need to prepare and present the results to an external audience.

9.11 All reports will be submitted in both electronic and hard copy. The reports will be prepared using Microsoft Word using Arial 12 point font, single line spacing and 3 cm margins. Spreadsheets should be compatible with Microsoft Excel.

10 Contractual arrangements

10.1 The contract will be with DFID under standard DFID contract terms. It is emphasised the Consultant will be supporting both SHG and DFID who are co-principles of this project.

10.2 The first point of contact between the Consultant and SHG will be Sharon Wainwright, St Helena Air Access Co-ordinator.

10.3 The DFID Lead Adviser for this consultancy will be Nigel Kirby, Engineering Adviser and St Helena Access Project Manager, Overseas Territories Department.

10.4 The consultant will liaise directly with Ajay Sharma, Economic Adviser, Overseas Territories Department and Adrian Green, St Helena Government

economist on issues relating to the economic analysis. All correspondence should be copied to both the Lead Adviser and the Project Officer.

10.5 The DFID Project Officer for this consultancy will be Andrea Woodrow-Bennett, Deputy Programme Manager (St Helena), Overseas Territories Department.

11 Additional information

11.1 SHG/DFID will provide all documents, data, reports, statistics and information at their disposal. This will include reports of earlier studies into the provision of air services to St Helena and the feasibility of constructing an airport on the island.

APPENDIX B: DEMOGRAPHIC DEVELOPMENTS

CONTENTS

1 INTRODUCTION

CONTEXT

1.1 This paper responds to the requirement set out in the Terms of Reference for the Access Feasibility Study to make considered estimates of the development of the St Helena population in the context of each of the short-listed Access Options.

1.2 The estimates of the population are an input to the financial economic model and inform the social impact and institutional impact assessment of the Access Options.

OBJECTIVES OF THIS PAPER

1.3 The aim of this paper is to review the existing demographic information relating to St Helena. Specifically, its objectives are:

- to establish the recent levels and trends in fertility, mortality and migration
- to create considered estimates of the possible future development of the population.

SCOPE

1.4 This paper studies the size and structure of the population of St Helena, its previous behavioural patterns and its propensity for change in response to externalities, principally the growth of tourism and its impact.

1.5 The paper draws on information generated by the Tourism[1] and Proxy Island[2] studies but is a stand-alone review, which takes account of the effects implied for the population by the Access Option 'scenarios', and which produces inputs to the economic modelling.

SOURCES OF INFORMATION

1.6 A census of the island of St Helena was undertaken in 1998, and information was also collected about St Helenians residing and working in Ascension Island and the Falkland Islands. The previous census was undertaken in 1987.

1.7 Information from the registration of births and deaths is presented in the annual statistical Yearbooks for St Helena. At the time of writing the most recently available was Yearbook 2002. Quarterly summaries of the numbers of births and deaths, and arrivals and departures, from the time of the 1998 census to mid-2004 have been supplied by the statistics staff of the Department of Development and Economic Planning. In addition, anonymised, individual-level information on arrivals and departures between the periods January 2003 to June 2004, and December 2002 to February 2004, respectively, has also been provided by the Immigration Service.

[1] 5303 Tourism Market Study v6, issued 6th September 2004
[2] 5309 Island Proxies V1.0, issued 18th September 2004

1.8 It is noted that while the data on births and deaths may be regarded as essentially accurate, it is necessary to make certain assumptions in order to infer numbers of migrants from the available data on persons entering and leaving the island.

1.9 Information on current numbers of St Helenians working on Ascension Island and in the Falkland Islands was provided locally. Information on the numbers of St Helenians enumerated in the UK 2001 census was obtained from the UK Office of National Statistics.

1.10 We have been advised that official population projections have been made in the past but, in view of demographic developments in the last few years, these are now regarded as out-of-date and have been withdrawn by SHG.

2 PRINCIPLES OF POPULATION PROJECTION

2.1 Changes to the size and composition of the population are generated by three factors: mortality, fertility and migration. Future trends in fertility and mortality are conditioned by current levels and patterns. St Helena has passed through the demographic transition and is characterised by low fertility and low mortality, which are unlikely to change dramatically. Migration is the most flexible and unpredictable component and migratory flows may be stimulated, curtailed or reversed very rapidly by changes in economic conditions or social policy, and political decisions.

2.2 All population projections attempt to predict the outcome of the basic equation:

Population change = natural increase + net migration (1)

which may be expressed as:

$P(1) = P(0) + B - D + (I - E)$ (2)

where:

P(1) = the population of the study area at the end of the projection period

P(0) = the population of the study area at the start of the projection period

B = births in the period

D = deaths in the period

I = immigration to the area during the period

E = emigration from the area during the period.

2.3 Population projections may vary from simple deterministic models, such as exponential growth curves, to complex simulations based on sophisticated demographic models.

2.4 One consideration which should be held in mind when undertaking population projections and using the results is the relationship between population change and the planning process. Depending upon circumstances population change may be viewed as an independent phenomenon which must be reacted to, in terms of the provision of services, etc. However, population change may equally be regarded as being reactive to policies and developments that affect both natural increase and levels and patterns of migration. The latter is clearly appropriate in the case of St Helena and the effect of changes to access to the island.

COHORT COMPONENT PROJECTION

2.5 For this study a cohort component model has been adopted. This approach permits simultaneous variations to be made to the levels and patterns of mortality, fertility, and net migration influencing the population within the study area.

2.6 The principle underlying cohort component projection is straightforward and can be thought of as an extension of the basic demographic equation (1). The equation can be applied not only to the population as a whole but to the component sub-groups determined on the basis of age and sex. While the principles of component projection are simple, the practical application of the method rapidly becomes complex since the number of calculations required is very large, irrespective of the numbers in the population.

2.7 The application of this method requires three inputs: (i) the base population from which the projection commences, (ii) sets of assumptions about the course of demographic events during the period of the projection, and (iii) mathematical relationships through which the assumptions are applied to the base population.

2.8 In addition to information about the size and structure of the population for the base year of the projections (total population numbers, broken down into 5-year age groups by sex) information is also required about the levels and age- and sex-specific patterns of mortality, fertility and migration (both immigration and emigration), both at the start and during the course of the projected period.

EXCEPTIONAL CIRCUMSTANCES

2.9 It must be stressed that the population of St Helena is very small. The island has been subject to major fluctuations in migratory patterns over the past 50 or so years, and has passed through the demographic transition to a position of low fertility and low mortality. Information about fertility, mortality and migration is based on extremely small numbers of demographic events (births, deaths, etc.) and period rates are relatively unstable.

2.10 Consequently it has been necessary to apply professional judgement to determine the characteristics of the base population, and to choose the fertility, mortality and migration patterns and trends used in the projections. In making these judgements we have taken account of the sources outlined above, together with information provided through discussions with members of the SHG Department of Public Health and Social Services, and the statistical staff of the SHG Department of Development and Economic Planning.

MODELS AND SOFTWARE

2.11 These projections were constructed using the software package, *PEOPLE* v3.0, which was developed through joint technical co-operation between the UK Overseas Development Administration (now the Department for International Development) of the Government of the United Kingdom and the Economic Planning Unit of the Government of Malaysia. The package can be used to project any size of population, and allows a wide choice of fertility, mortality and migration parameters including those suitable for St Helena.

3 REVIEW OF EXISTING INFORMATION

POPULATION NUMBERS

3.1 The most recent census of St Helena was undertaken in 1998. A resident population of 4971 was enumerated. This figure excludes visitors present on the island at the time of the census but includes expatriate residents and residents in transit on the RMS St Helena. This was a considerable reduction from the comparable figure of 5,500 enumerated in 1987 (Table 3.1).

Table 3.1: Comparison of enumerated resident population of St Helena, 1987 and 1998

St Helena	1998	%	1987	%
Total number of residents	4971		5500	
Male	2511	50.5	2669	48.5
Female	2460	49.5	2831	51.5
Age groups				
0-15	1176	23.7	1664	30.2
16-64	3223	65.0	3371	61.3
65+	562	11.3	485	8.8

Source: The 1998 Population Census of St Helena

3.2 Data provided by the Statistics Office indicate that the population fell to around 4,100 in the five years following the census (Table 3.2). The population of St Helena has declined by approximately 1400 people, or 25%, between 1987 and 2003.

Table 3.2: Vital events, estimated net migration and de facto population 1998-2003

Year	Births	Deaths	Estimated net migration	De facto population
1998 (post census)	37	33	-104	5057
1999	52	45	-103	4961
2000	56	53	-301	4663
2001	36	41	-168	4490
2002	39	52	-120	4357
2003	37	44	-164	4085

Source: Department of Development and Economic Planning

3.3 Information about numbers of St Helenians living away from the island can be drawn from these two censuses and from the UK census of 2001. These offer useful insights into the age and sex structure of St Helenians living in the Falkland Islands, Ascension Island and the UK. There are also communities of St Helenians in other countries, including South Africa and the United States, but no statistics are available about their numbers or composition.

3.4 It is noteworthy that the history of migration to the United Kingdom is long-standing. Many St Helenians who came to the UK have married non-Saints and there are substantial numbers of second and third generation Saints whose country of birth is the UK, but who maintain family and cultural links with the island.

3.5 On this basis it is currently estimated that the Saints community in the UK numbers around 10,000[3]. The number of Saints on Ascension Island is relatively stable; 722 in 1987 and 712 in 1998. The current figure is estimated to be around 800. On the Falkland Islands the numbers have increased over recent years in response to employment opportunities and are currently estimated at around 600.

EVALUATION OF CURRENT LEVELS AND TRENDS

Mortality

3.6 The numbers of deaths presented in recent Yearbooks are very small, particularly at young ages, and it is not therefore remarkable that the resulting life tables show some evidence of inconsistency. Following careful consideration of numbers of deaths in the period 1998 to 2003, the life tables based on data from St Helena for the past 20 years, the sex differentials in expectation of life at different ages, model life tables[4] (particularly the Coale and Demeny series), and recent life tables produced by the UK Government Actuary's Department, it is suggested that a realistic level of current mortality is represented by a life expectancy at birth of 71.5 years for males and 78 years for females. Life expectancy at birth is commonly designated by e(0).

Fertility

3.7 A low fertility regime has been established on St Helena for some time. Family planning services are free and available to all. Indeed the low number of births on the island in recent years is now giving rise to concern. However attention has focused on absolute numbers of births and crude birth rates, which are heavily influenced by the age structure of the base population. Currently age-specific fertility rates are not routinely available.

3.8 The number of births in relation to the numbers of women of childbearing age estimated to be on the island in the period 1998 to 2003 indicates that the Total Fertility Rate[5] (TFR) has been around 1.5 - 1.6. This is below the level of fertility required for replacement of one generation by the next, which would be represented by a TFR of approximately 2.05, but is by no means unusual compared to recent and current levels of fertility in Europe and the rest of the developed world. Indeed 1.5 is the TFR assumed for the period 2000 onwards in the low variant of the UN series of population projections for the United Kingdom.

[3] Personal communication from Kedell Worboys (29.8.04)

[4] Model Life Tables, United Nations, New York, 1982

[5] Total Fertility Rate is a period-related synthetic measure of lifetime fertility which can be interpreted as the number of children a woman would have during her lifetime if she were to experience the fertility rates prevailing in that period at each age.

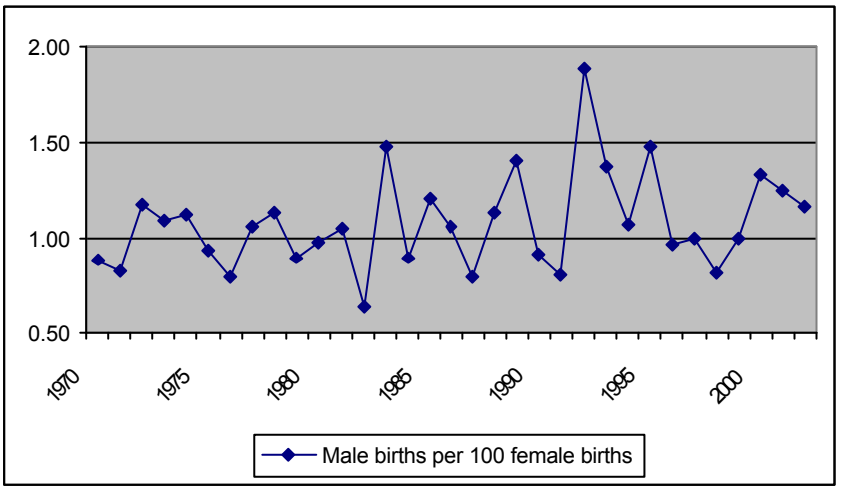
3.9 The absolute number of births on St Helena has been small not only because of fertility rates at this level but also because recent patterns of migration mean there are very few women in the peak childbearing age range present on the island.

Sex ratio at birth

3.10 The sex ratio at birth is calculated as the ratio of male births to female births. It is normally assumed to be between 1.03 and 1.07, varying to some degree with ethnicity. A widely used average figure is 1.05[6]. However these ratios are central values derived from millions of observations. It is not uncommon for considerable random variation to be observed in small communities, and this is the case for St Helena.

3.11 Over the period 1970 to 2002 the sex ratio in any single year fluctuated between 1.89 and 0.64. It is notable that in each 5-year period from 1970 to 1984 the average sex ratio at birth was below 1, and the average for the whole period was 0.97, i.e. there were notably more girls born than boys. More recently the opposite has been true: from 1985 to 2002 the average ratio has been 1.13. Details are shown in Figure 3.1.

Figure 3.1 – Sex ratio at birth 1970 – 2002



3.12 While this level of variation is not remarkable in statistical or demographic terms, it can mean that, within a small community, it is difficult for some people to find marriage partners in the socially conventional age range, and can be a factor which promotes migration.

[6] Shryock and Siegel (1976) p.109

MIGRATION AND THE EFFECTS ON AGE-SEX STRUCTURE

3.13 Comparison of the numbers of males and females in the 1987 and 1998 censuses shows that the sex ratio (males / females) shifted from 0.94 in 1987 to 1.02 in 1998. It is unlikely that this effect would have arisen naturally, through variation in fertility or mortality. Developed country populations are normally characterised by an excess of females, because on average women live longer than men.

3.14 High levels of net migration can have a dramatic effect on the age-sex structure of the population, and have significant consequences for demographic momentum.

3.15 It is widely acknowledged that voluntary migrants are not usually representative of their population. The propensity to migrate is commonly highest among young adults and declines in middle age, although there may be resurgence around the time of retirement. The young children of young adults may move with them, but older children tend to move less as their parents are less willing to disrupt their education. There may be sex differentials in migration. Migrants are usually healthier, better educated, and more ambitious than other members of the community which they leave.

3.16 Among St Helenians living on Ascension Island and the Falkland Islands in 1998 there were significantly more men (642) than women (384), but the position is reversed among St Helenians living in the UK. Data from the 2001 UK census show 1275 women but only 830 men stating their country of birth as St Helena.

3.17 Recent estimates suggest that the sex ratio among St Helenians on Ascension and the Falklands is now closer to 1.0. Anecdotal evidence indicates that this reflects trends towards equal opportunity of employment for men and women, and a decline in the proportion (although not necessarily the numbers) of people who are employed on unaccompanied contracts.

3.18 Analysis of the departures data for the period 22 December 2002 to 8 February 2004, showed St Helenians departing to take up, or return to, employment in Antarctica, Ascension Island, Dubai, Falkland Islands, Germany, Ghana, New Zealand, South Africa, Tristan da Cunha, and the UK. By far the largest numbers were travelling to Ascension Island (477), Falkland Islands (277) and UK (277).

3.19 Comparison of the 1987 and 1998 censuses, together with the numbers of births and deaths in the inter-censal period 1987-98, suggests that net migration in the period was an outflow of some 730 persons. An estimate of the age-sex profile of migrants can be derived from comparison of the five year age and sex cohorts between the two censuses. A more refined estimate can be obtained by projecting the 1987 population to 1998 using the mortality schedule appropriate to the period, but assuming no migration, and then comparing the numbers 'expected' to be present with the numbers observed in the 1998 census.

3.20 The intercensal period is 11 years so the comparison is properly confined to the 15-19 to 70-74 age groups. To estimate the age at migration it is also necessary to consider the pattern of migration over the period. A simple approximation is achieved by assuming that the level has been relatively steady, but a little higher at

the end of the period than at the beginning, which permits the assumption that over the eleven years the average point of migration was 5 years previously (Table 3.3).

3.21 The accuracy of the age-sex structure of migration indicated by this comparison depends on an assumption of good coverage and comparability in both censuses. Although there are probably some minor differences, there is no reason to assume that this assumption is not met.

Table 3.3: Estimated age-sex distribution of out-migrants 1987-1998

Age in 1998	Estimated 1998 population assuming no migration		Observed 1998 population (census)		Estimated numbers migrated in intercensal period			Approximate age at migration
	Male	Female	Male	Female	Male	Female	Total	
15-19	229	255	217	236	12	19	31	10-14
20-24	266	262	155	146	111	116	226	15-19
25-29	300	338	185	188	115	150	264	20-24
30-34	159	247	152	183	7	64	70	25-29
35-39	189	226	183	213	6	13	18	30-34
40-44	201	195	183	156	18	39	57	35-39
45-49	181	172	177	170	4	2	6	40-44
50-54	192	132	204	152	-12	-20	-31	45-49
55-59	113	109	127	113	-14	-4	-18	50-54
60-64	113	94	127	75	-14	19	5	55-59
65-69	66	102	88	105	-22	-3	-26	60-64
70-74	50	87	51	93	-1	-6	-7	65-69

3.22 Table 3.3 shows that over this age range there has been a significantly larger outflow of women than of men and also demonstrates the extent to which migrants have been concentrated in the key age groups 15-29. This pattern of age and sex migration has a substantial impact on the future capability of a population to reproduce. A very large proportion of the people who would otherwise have been the parents of the next generation have left.

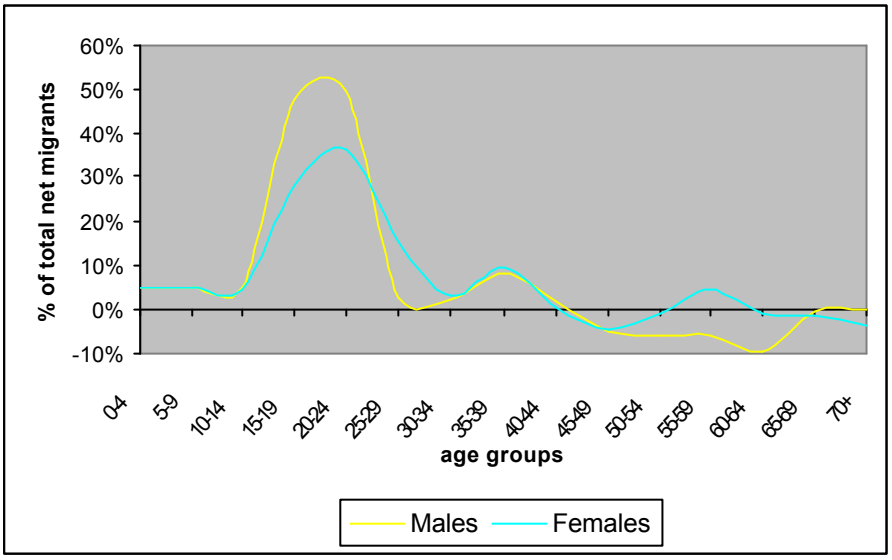
3.23 Comparison of the numbers in the 0-4 age group in the 1987 with the numbers aged 11-15 in the 1998 census shows a reduction from 250 boys and 237 girls in 1987 to 225 boys and 215 girls in 1998. There are few deaths in this age range and it must therefore be inferred that this 10% decline is attributable to migration.

3.24 There is evidence of return migration in the over-45 age groups but these figures should be treated with caution. The absolute numbers are small, and older age groups are more likely to be affected by the mortality schedule assumed in the projection than younger age groups. Fluctuations between positive and negative net migration in the later age groups could also be attributable to differential accuracy in age reporting among older people between the two censuses and between the sexes.

3.25 Nonetheless, it is reasonable to infer a small level of net in-migration in these older age groups. A pattern of return migration would be entirely consistent with similar trends observed elsewhere among populations which have a history of labour migration. For example, data from Barbados in the 1970s and 80s showed substantial return migration starting around age 50 and peaking at age 65, consistent with retirement.

3.26 An estimated age distribution of migrants derived from these inter-censal figures is shown in Figure 3.2.

Figure 3.2: Estimated age distribution of migrants 1987 – 1998



3.27 Data on recent migration indicate that the period 1998 to 2003 was characterised by net outward migration of at least 800 people. This is around twice the level between 1987 and 1998 and far higher than the average level of around 50 per year during the 1970s and 1980s, which are shown graphically in the 1989 Yearbook.

3.28 Anecdotal evidence gathered during the island Visit and group discussions suggests that the age profile of migrants in the 1998-2003 period has been broader than in earlier periods, and that there have been more equal numbers of men and women leaving the island. There is no doubt that a large number of people leaving have been young adults, but it seems likely that at older ages the net flow has also been outwards.

3.29 It is also proposed that the rate of outflow has slowed substantially in the past year and that the peak of outward migration is past. It is suggested that a number of people, of all ages, may return having found that their prospects elsewhere are not as rosy as they thought. However, it has also been noted that some people recently arrived in the UK would find it hard to save the money for the fare in the short run.

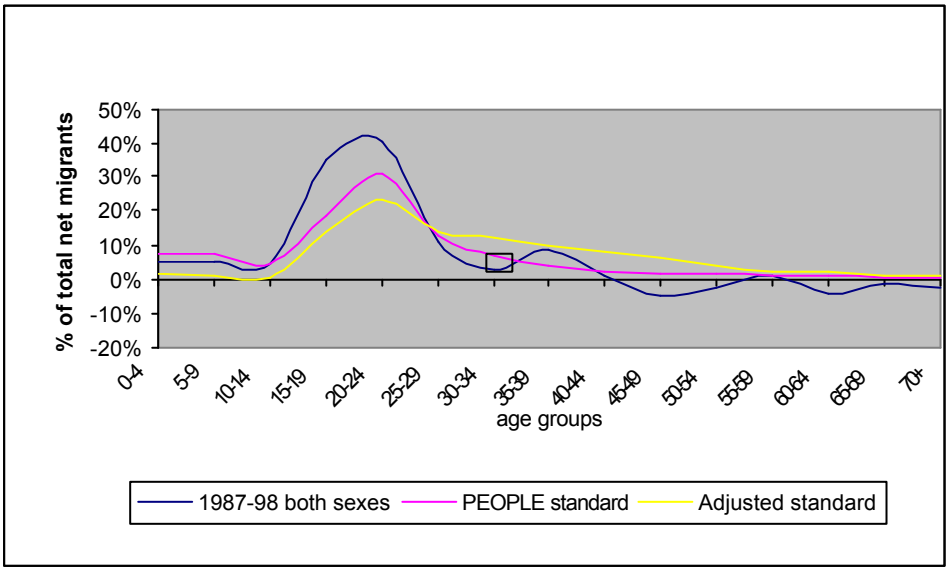
3.30 Examination of the numbers of children enrolled in school in the academic year 2002-3 demonstrates that relatively few children seem to have been included among the recent migrants. However it is noted that in 2004 there were some 150 children living on the island whose parents were absent abroad. This is perhaps one of the particular characteristics of demographic behaviour in St Helena.

3.31 Figure 3.3 shows the age-sex migration profile derived from the intercensal comparison (modified to include an estimate of childhood migration) compared with a 'standard' pattern of age-specific migration provided by the *PEOPLE* software, and an adjusted distribution based on this standard which takes account of the observed low numbers of children under 15.

3.32 This shape of this adjusted standard age distribution may be regarded as a conservative estimate of the likely age pattern of migrants during the period after 1998. The age-sex distribution of the St Helena population is not very symmetrical and it is important to avoid exaggerating this effect.

3.33 The age-sex structure of the population in 2003 has been estimated using this age pattern and assuming male and female migrants in proportion to the population aged under 45 in 1998.

Figure 3.3: Estimated age distribution of net migrants 1987-98 and *PEOPLE* standard age pattern



BASE POPULATION FOR PROJECTIONS

3.34 The age sex structure of the population estimated for mid-2003 is given in Table 3.4. These numbers have been adjusted to reflect a mid-year population to be compatible with other data used in the economic model. This has been done by reference to the average growth rate (-3.6%) for the previous five years. The preponderance of males in the early age groups is the effect of the variation in sex ratios at birth discussed above.

3.35 These figures are used as the base population for the projections which follow.

Table 3.4: Age and sex structure of base population, mid 2003

Age group	Male	Female	Total
0-4	106	103	209
5-9	167	134	301
10-14	200	165	365
15-19	138	112	250
20-24	119	141	260
25-29	94	88	182
30-34	133	137	270
35-39	108	139	247
40-44	146	178	324
45-49	153	130	283
50-54	153	149	302
55-59	185	139	324
60-64	109	100	209
65-69	108	66	174
70-74	68	90	158
75+	76	157	233
Total	2063	2028	4091

4 PROJECTIONS

DURATION OF THE PROJECTION PERIOD

4.1 These projections cover the period from 2003 to 2048. Demographic conventions are based around the 5-year age structure and projections for long periods are normally undertaken in 5-year blocks. A reasonable estimate of the population, based on census data and vital events, can be made for 2003.

COMPONENTS OF PROJECTIONS

Mortality

4.2 The most likely prospect for the development of mortality over the projection period is one of no change. Life expectancy is fairly high at the moment, reflecting significant improvements in the past. Although there will undoubted be improvements in health care in the future these cannot be quantified. Equally concern has been expressed that the current population of St Helena is characterised by a high level of diabetes and hypertension. There is no real basis for assuming any significant change. Therefore mortality is assumed to be constant throughout the projection period, with life expectancy at birth equivalent to 71.5 for males and 78 for females. The age-specific patterns of mortality are based on the Coale and Demeny West series of model life tables.

Fertility

4.3 Projecting fertility requires assumptions about the current level and age-specific pattern of childbearing, and future changes to this level and pattern. In the low fertility regimes that characterise modern developed societies there is potential for large fluctuation in period-based rates to occur because of voluntary changes in the timing of childbearing. There is a 30-year period in which most women can realise a desired family size of two children.

4.4 Changes in both the propensity to have children and the timing of childbearing are associated with changes in economic opportunity, social expectations, trends in marriage and consensual unions, migration, the ethical climate, and confidence in the future.

4.5 It seems unlikely that the current level of fertility will fall further. If the conditions are right it could rise. A key factor may be confidence in the future. This is not to say that people will necessarily change their preferred family size but if conditions change people may feel better able to make the commitment to starting a family or having another child. They may feel that they can afford to do this because of better job prospects and a secure income[7]. Existing residents may feel confident that they are settled in St Helena rather than at risk of having to make a new home

[7] M Meron and I Widmer, Unemployment leads women to postpone the birth of their first child, Population, vol 57:2, March-April 2002. pp 301-330.

elsewhere or take an unaccompanied overseas employment contract. People may be motivated to return to the island both to take advantage of job opportunities and because they regard St Helena as a good place to bring up children.

4.6 In the following projections the fertility assumptions are influenced by the expectations for economic growth and prosperity. The replacement of the RMS is associated with the assumption that the current level of low fertility is maintained throughout the projection period. Moderate and steady growth, characterising the medium runway options, is associated with an increase represented by the TFR rising to 2.05 (the approximate replacement level) and then remaining steady for the rest of the period.

4.7 Rapid growth, as evidenced through the rapid development of tourism and job creation, is associated with a surge in confidence leading to a rise in fertility to a level above replacement (characterised by a TFR of 2.3) which is maintained for a while, but then falls back to the approximate replacement level (TFR = 2.05) and remains at that level until the end of the period. This assumption is used with the long runway option.

4.8 These particular values of the TFR have been selected because they are also the values assumed in UN low, medium and high projection variants for the United Kingdom and reflect the likely range of future fertility behaviour.

Migration

4.9 Migration is likely to be more important than either fertility or mortality in determining population change in St Helena. It is most likely to be influenced by the same factors as influence fertility behaviour. Job opportunities will play an important role. It is probable that economic growth, prosperity and confidence will attract both people in the working age range and people in retirement.

4.10 It should be noted however that even if net migration is positive over the age range as a whole (i.e. people are moving in to the island), young people will continue to move out. They will leave to pursue education and training, and generally to see the world. This is not to say that they will not return later bringing with them the experience, skills and new ideas which they have learned overseas. By doing so they contribute to the island.

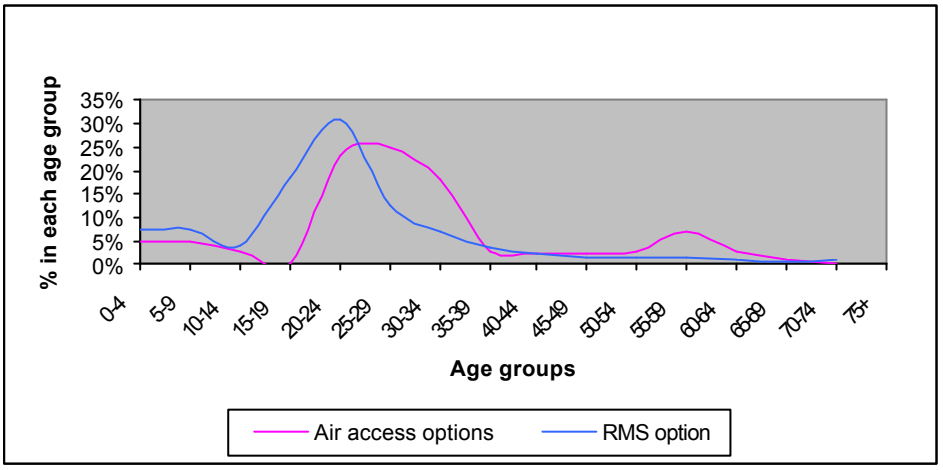
4.11 With a very small population it is unrealistic to make forecasts of the numbers or proportions entering or leaving in any one period or age group in great detail. The most effective approach is to adopt an age-sex pattern of net migration which smoothes out local variations and gives a reasonable picture of the overall development of the population over the projection period.

4.12 Three factors have been taken into consideration in selecting the age profile of migration to be used in the following projections: the effect of young people leaving to pursue education, etc., the general age profile of people moving in search of employment, and the effect of older people returning to the island or taking up residence there around the time of retirement.

4.13 The age distribution of net in-migrants for the air access options is shown in Figure 4.1. This is distinguished by the assumption that the flows of people moving in and out in the 15-19 age group are compensatory. The benefits of air access and the consequences of growth and prosperity are also likely to attract people choosing to retire to the island, and the age pattern includes a rise in the percentage of incomers around ages 50-65.

4.14 The age distribution of net outward migrants used in the RMS replacement option is the same as the *PEOPLE* standard shown in Figure 3.3. In this distribution the 15-19 age group make up a significant proportion of the people moving out.

Figure 4.1: Age distributions of net migrants assumed in the projections



4.15 The scale of inward migration for the air access options is estimated by reference to the rate of job creation and the numbers of migrants needed to maintain the workforce. The Island Proxy Analysis describes the relationship between tourism and job creation, and discusses the direct and indirect multipliers linking the stock of hotel and self catering accommodation to employment. The relationship between numbers of visitors, accommodation, and job creation through direct and indirect multipliers is described further in Section 6.2 of the main report.

4.16 The estimate of new jobs created in each time period is the basis for the calculation of net inward migration for each of the air access options. This is an iterative process with a fresh calculation made for each 5-year time period using the following steps:

(i) The number of new jobs created in each time period is calculated.
(ii) The available labour force on the Island is calculated from the age-sex structure of the population at the beginning of time period using appropriate estimates of male and female labour participation rates, and unemployment rates (these have been derived from information in the 1998 census and recent Yearbooks).
(iii) the number of jobs available by the end of the time period is calculated by carrying forward the number of jobs from the end of the previous time period and adding the new jobs estimated in step (i).

(iv) the available labour force from step (ii) is compared to the number of jobs available from step (iii).

(v) migrants are added to the population according to the adopted age structure until the numbers in the available labour force matches the number of jobs available.

4.17 This is a simple process used to estimate the scale of migration. It does not attempt to model the labour force directly. An allowance of 100 jobs is made in the first time period to reflect a likely increase in long-term employment generated by the construction and preparatory activities associated with air access developments. The participation rates do not distinguish between full-time, part-time or self- employment. However, these rates are assumed to increase and unemployment to fall during the projection period to reflect the fact that the majority of new arrivals are assumed to be entering employment.

UNDERSTANDING THE EFFECT OF DEMOGRAPHIC MOMENTUM

4.18 A key to understanding the future development of the population of St Helena is awareness of the demographic momentum which is built in to the existing age-sex structure and which inevitably leads to a declining and aging population[8].

Table 4.1 – The effect of demographic momentum

Year	Total Population	% aged under 15	% aged 60 and over	Average annual growth rate in 5 year period
2003	4100	21	19	-
2008	4050	17	22	-0.25
2013	4000	14	24	-0.30
2018	3900	14	26	-0.29
2023	3850	15	28	-0.37
2028	3750	15	28	-0.59
2033	3600	15	28	-0.74
2038	3450	14	26	-0.83
2043	3300	13	27	-0.87
2048	3200	13	28	-0.81

Assumptions for table 4.1	
Fertility	TFR remains constant at 1.63
Mortality	Remains constant: e(0)M 71.5; e(0)F 78
Migration	No migration

[8] SH Preston and M Guillot, Population Dynamics in an Age of Declining Fertility, Genus, Vol. LIII 3-4, December 1997

4.19 Table 4.1 shows the projected population under the simple assumption of fertility and mortality constant at 2003 levels with no migration. This is not a projection associated with any of the access options; it is a hypothetical exercise designed to illustrate the potential for ageing and decline in numbers. It shows clearly that simply stopping outward migration would not be enough to prevent a continued decline in population numbers. The existing age structure coupled with continued below replacement fertility would cause the population to decline and to age.

PROJECTIONS FOR ACCESS OPTIONS

4.20 Throughout the projections which follow, population numbers have been rounded to the nearest 50, and numbers of net migrants to the nearest 10, to guard against spurious accuracy in interpretation

Replacement of the RMS

4.21 The option of replacing the RMS assumes no significant change in other areas of the economy or island life. To reflect this, the population projection is based on the assumptions of fertility continuing at a relatively low level, constant mortality, and continued net outward migration.

4.22 Fertility is assumed to be constant around recent levels with a TFR of 1.63. Out-migration is assumed to continue. One third of respondents to the Saints on-island survey stated that it was their intention to go and live/work away from St Helena in the foreseeable future. However, the net number of migrants leaving in the first period is substantially lower than in the 5 years before 2003, reflecting both a smaller pool of potential migrants and the belief that the rate of migration has already slowed. The rate of migration (i.e. the proportion of the population leaving) is assumed to decline in each time period and to be zero in the final two periods.

4.23 The result is a pattern of continued decline in numbers to just about 2000, together with a steadily increasing proportion aged 60 and over, and a falling proportion who are children (Table 4.2).

Table 4.2 – replacement of the RMS

Year	Total population	% aged under 15	% aged 60 and over	Net number of migrants leaving in 5-year period	Average annual growth rate (%)
2003	4100	21	19		
2008	3800	17	23	240	-1.44
2013	3550	14	27	190	-1.45
2018	3300	13	30	140	-1.43
2023	3050	13	34	110	-1.44
2028	2850	13	35	70	-1.60
2033	2600	13	37	60	-1.71

2038	2400	12	36	40	-1.78
2043	2200	12	36	-	-1.50
2048	2050	13	34	-	-1.42

Assumptions for Table 4.2	
Fertility	TFR remains low TFR = 1.63 throughout
Mortality	Remains constant: e(0)M 71.5; e(0)F 78
Migration	Rate of net out migration slows to zero

Air access – medium runway variants

4.24 Air access under the medium runway options would provide the benefits of access for residents and provide the opportunity for development of tourism. Both these variants presume economic growth, job opportunities, and the conditions to encourage confidence in the future. The assumed rate of growth of tourist numbers is much stronger under the 737-based option.

4.25 An increase in fertility to replacement level (comparable to the assumptions of the medium variant for UK fertility) is assumed for both variants together with constant mortality. The levels of net migration for each of the two variants are determined through the relationship between job opportunities and the available labour force, described above. The assumed numbers of jobs created, workforce required, participation rates, etc. are set out in the Assumptions panel to Tables 4.3A and 4.3B.

4.26 The results of the projections are shown in Tables 4.3A and 4.3B.

Table 4.3A – air access: medium runway 19-seater

Year	Total population	% aged under 15	% aged 60 and over	Number added through net migration	Average annual growth rate (%)
2003	4100	21	19		
2008	4150	17	22	80	0.23
2013	4150	16	24	40	0.12
2018	4200	17	24	20	0.14
2023	4500	19	24	270	1.41
2028	4650	20	23	130	0.66
2033	4850	20	20	190	0.83
2038	4900	22	21	70	0.30
2043	5100	19	20	150	0.66
2048	5350	20	19	190	0.95

Assumptions for Table 4.3A

Fertility		TFR rises steadily from 1.63 in 2003-08 to 2.05 by 2018-23 and then remains constant				
Mortality		Remains constant: e(0)M 71.5; e(0)F 78				
Migration		Positive net inflow, variable responding to employment				
Year	Jobs created in period	Workforce required	Migrants aged 15-59 added	% aged 15-59 economically active		% econ. active employed
				male	female	
2003		1705		0.9	0.65	0.9
2008	102	1807	66	0.9	0.65	0.925
2013	5	1812	28	0.925	0.675	0.925
2018	57	1869	16	0.95	0.7	0.95
2023	81	1950	224	0.95	0.7	0.95
2028	124	2074	108	0.95	0.7	0.95
2033	117	2191	160	0.95	0.7	0.95
2038	130	2321	58	0.95	0.7	0.95
2043	110	2431	126	0.95	0.7	0.95
2048	133	2564	160	0.95	0.7	0.95

4.27 The estimated number of jobs outstrips the size of the available labour force in each of the 5-year periods. The average level of net inward migration determined by these employment requirements does not exceed 50 per year. The steady growth of employment opportunities is reflected in the assumptions of constant labour force participation and employment rates for the latter part of the projection.

4.28 Overall, the estimated resident population rises to approximately 5,350, which approaches the number enumerated in the 1987 census. The percentages in the dependent age groups remain relatively steady. The net inflow of in-migrants is the major contributor to this population growth.

Table 4.3B – air access: medium runway 737

Year	Total population	% aged under 15	% aged 60 and over	Number added through net migration	Average annual growth rate (%)
2003	4100	21	19		
2008	4150	17	22	80	0.23
2013	4250	16	23	120	0.57
2018	4450	17	23	180	0.98
2023	5100	20	22	530	2.64
2028	5700	21	20	470	2.18
2033	6350	22	19	510	2.14
2038	6850	22	17	390	1.60
2043	7400	21	16	370	1.48
2048	8050	21	16	480	1.76

Assumptions for Table 4.3B						
Fertility		TFR rises steadily from 1.63 in 2003-08 to 2.05 by 2018-23 and then remains constant				
Mortality		Remains constant: e(0)M 71.5; e(0)F 78				
Migration		Positive net inflow, variable responding to employment				
Year	Jobs created in period	Workforce required	Migrants aged 15-59 added	% aged 15-59 economically active		% econ. active employed
				male	female	
2003		1705		0.9	0.65	0.9
2008	102	1807	66	0.9	0.65	0.925
2013	60	1867	100	0.925	0.675	0.925
2018	153	2020	146	0.95	0.7	0.95
2023	240	2260	442	0.95	0.7	0.95
2028	354	2614	390	0.95	0.7	0.95
2033	334	2948	422	0.95	0.7	0.95
2038	373	3321	318	0.95	0.7	0.95
2043	315	3636	310	0.95	0.7	0.95
2048	380	4016	396	0.95	0.7	0.95

4.29 Tourism grows faster and reaches higher annual visitor numbers by the end of the period under this variant. Hence the estimated number of jobs grows proportionately and outstrips the size of the available labour force in each of the 5-year periods. At the peak the average level of net inward migration determined by these employment requirements is in excess of 100 people per year, but the numbers of migrants to be absorbed in each 5-year period is relatively steady. The growth of employment throughout the period is reflected in the assumptions of constant labour force participation and employment rates for the later part of the projection.

4.30 Overall, the estimated resident population rises to over 8,000, which is close to a doubling of the 2003 population and considerably greater than has been seen in recent decades. The net inflow of in-migrants is the major contributor to this population growth. The addition to the population of substantial numbers of migrants, who are predominantly in the labour force age range, is reflected in a decline in the proportion aged 60+ while the proportion of children aged under 15 remains relatively steady.

Air access – long runway

4.31 The long runway option is characterised by forecasts of rapid growth in tourism and substantial job creation. This scenario would present many opportunities for entrepreneurs and job seekers, making the island very attractive to returning Saints and newcomers from other countries.

4.32 Growth of opportunity on this scale may be accompanied by a surge of confidence in the future and local prosperity. For these reasons a rise in fertility to above replacement, over a short period, is assumed. The TFR increases from 1.63 in 2003-08, to 1.9 during 2008-13, and to 2.3 during 2013-23, after which it falls back to 2.05 (effectively replacement) and thereafter remains constant. A TFR of 2.3 is unlikely to be sustained for a long period since it is assumed to result largely from changes in the timing of childbearing. As with the previous scenarios, mortality is assumed to remain constant.

4.33 The growth in employment would substantially exceed the labour force available on the island in each 5-year period until the assumed 'cap' on the number of tourists[9] is reached. This scenario is therefore distinguished by a substantial level of net in-migration. The levels of net migration are determined through the relationship between job opportunities and the available labour force, described above. Zero net migration is assumed after 2033 when growth in tourism has reached the 'capped' maximum assumed in the economic model and few new jobs are subsequently created. The results are shown in Table 4.4. The assumed numbers of jobs created, workforce, required, participation rates, etc. are set out in the Assumptions panel to Table 4.4.

Table 4.4 - air access: long runway

Year	Total population	% aged under 15	% aged 60 and over	Number added through net migration	Average annual growth rate (%)
2003	4100	21	19		
2008	4150	17	22	80	0.23
2013	4300	16	23	140	0.76
2018	4850	19	22	420	2.44
2023	5900	22	20	800	3.82
2028	7150	24	17	1040	3.95
2033	8300	24	16	850	3.00
2038	8600	23	15	0	0.62
2043	8750	22	15	0	0.40
2048	8900	20	15	0	0.35

Assumptions for Table 4.4	
Fertility	TFR rises from 1.63 in 2003-8 to 2.3 in 2008-13, remains at 2.3 during 2013-18 and then declines to 2.05 where it remains constant

[9] The economic modelling makes use of policies applied on other islands and investigates application of a cap on tourist numbers in the context of St Helena's ability to absorb them, all else being equal.

Mortality		Remains constant: e(0)M 71.5; e(0)F 78				
Migration		Positive net inflow, variable responding to employment				
Year	Jobs created in period	Workforce required	Migrants aged 15-59 added	% aged 15-59 economically active		% econ. active employed
				male	female	
2003		1705		0.9	0.65	0.9
2008	102	1807	66	0.9	0.65	0.925
2013	135	1942	118	0.925	0.675	0.925
2018	286	2228	354	0.95	0.7	0.95
2023	449	2677	664	0.95	0.7	0.95
2028	662	3339	860	0.95	0.7	0.95
2033	626	3965	710	0.95	0.7	0.95
2038	154	4119	0	0.95	0.7	0.95
2043	2	4121	0	0.95	0.675	0.925
2048	2	4123	0	0.925	0.675	0.925

4.34 Under these assumptions there is strong growth in the total population, which rises to nearly 9,000, higher than it has been since the early years of the 20th century when the island was home to prisoners from the Boer War. The proportions in the dependent age groups remain relatively steady, and during the latter part of the period there is a gentle decline in the proportion of the population aged 60+.

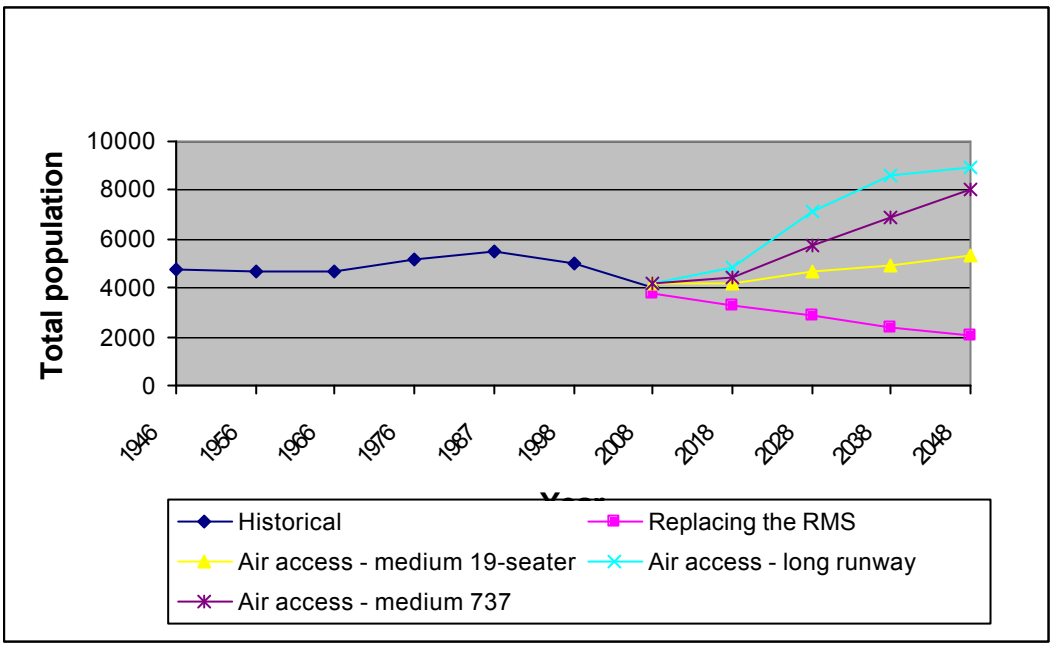
4.35 However, it must be noted that the major contributor to this population growth is migration, with in excess of 3,000 people being added to the population over the period through net in-migration. In the peak period it is assumed that on average more than 200 people per year are added in this way.

4.36 As a result of the abrupt slowing in the growth of tourist numbers when the 'cap' is reached, the labour force starts to 'overshoot' the assumed numbers of jobs available. An adjustment of the participation and employment rates in the last 10 years of the projection period partly compensates for this, but at the end of the projection period there are around 150 in excess of the requirement. However, it must be noted that this is 150 in the context of a working population of over 4000, and the assumptions about male and female labour force participation and the employment rate, while necessary for the calculations, cannot reflect the reality of flexibility in the labour force.

SUMMARY

4.37 The results of each projection are shown in the historical context in Figure 4.2. It should be noted that this figure is illustrative only; in the historical period the intervals between censuses, and the comparability of data at different points are not exact.

Figure 4.2 – Total population, historical and projected (1946 – 2048)



5 CONCLUSIONS

5.1 The potential for decline in population numbers and an increasing proportion of people over 60, as a result of the existing age-sex structure of the population, is strong. It is also clear that within reasonable expectations for fertility and mortality the trend of population decline will not be reversed without a significant and sustained inflow of people.

5.2 The air access options with their presumption of the development of tourism and consequent job creation have the potential to generate employment in sufficient numbers to achieve this.

5.3 The scenario based on replacement of the RMS is one of continuing decline, and an aging population.

5.4 The medium runway (19-seater) option, generates moderate, sustained levels of net in-migration which, by the end of the period, result in a projected total population of 5,350. This is close to the number of people on the island at the time of the 1987 census. The average numbers of people presumed to be added each year are relatively small and, all else being equal, it seems likely that they could be accommodated, both physically and socially, without much difficulty.

5.5 The medium runway (737) option generates much stronger levels of net in-migration, and by the end of the period the population has exceeded levels seen in recent decades to reach more than 8,000. The numbers of people assumed to be moving in to the Island are relatively steady throughout the latter part of the period, and may be regarded as being on a comparable scale to a reverse of the numbers of people who have been leaving in recent years.

5.6 The long runway option is characterised by rapid growth in tourism numbers and economic growth. Meeting this requirement demands a rapid influx of people, concentrated in the period 2023-38, to keep pace with the level of job creation arising from rapid year-on-year increase in the number of tourists visiting the island. At the peak this rises above an average of 200 people a year. This level of new people arriving might be harder to accommodate. Since a cap on tourist numbers has been assumed, the growth of employment stops abruptly. However by this time there is sufficient potential with the population that it continues to increase.

5.7 The size and structure of the populations shown in Tables 4.2, 4.3A, 4.3B and 4.4 will be taken forward into the economic model.

5.8 Full details of all the data supporting these projections are included as an Annex to this report.

APPENDIX C: ASSUMPTIONS - GENERAL

APPENDIX C – ASSUMPTIONS

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Demographic and Social Effects					
Population forecast for each option	Table c.1	These tables set out our assumptions about the total population, and the population of children and elderly people. These derive from our demographic model, which operates as a stand-alone piece of software outside the main economic model. The requirement for contract workers has been estimated within our demographic model, a separate calculation, on the basis of tourism and business travel and hence job creation, and is included in the figures. The demographic model involves assumptions about the key drivers of demographic change, being fertility, mortality, and net migration.	Attitudes to immigration must change to encourage young skilled workers.	Sensitivity has been analysed and documented in main report.	(6) Demographic Assessment
Employment	Tables c.21 and c.22.	Linkage established between tourism growth and size of population, on basis of jobs created by increased tourism.	In order for the jobs to be created and the demand from tourists met in the runway options, it will be necessary to implement pro-active measures to ensure that Saints are well-placed to respond to new employment opportunities as they occur. Resources must be made available in an appropriate time-frame to support new entrepreneurs.	These figures inform the population projections. An additional job creates approx. 2 additional head of population. Therefore an additional 100 jobs leads to ~200 additional people on the island. This is equivalent to approx. 2% of the 2048 long runway population projects, which is well within the range investigated in our sensitivity analyses.	(8) Employment

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Health	Tables c.12 and c.19.	Real per capita expenditure increases. Expenditure takes account of changes in age structure of population. Potential cost savings arising from air access are offset against rising expectations and changes in medical practice.		An increase to 2% p.a. real per capita growth (from 1%) raises the long runway forecast of net present cost from ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ . This would be less significant for the medium runway or RMS replacement options as the population is lower in those, but we would regard 2% p.a. as a very high figure to be applied consistently for over 40 years. Health is the largest element of public expenditure (other than the access choice investment).	(8) Health
Education	Tables c.12 and c.19.	Expenditure takes account of changes in age structure of population but no other sources of movement in main education budget. Vocational training treated separately - see comment.	No other specific resources made available within main education budget but vocational training included within institutional costs. Vocational training / accreditation schemes should be aimed at allowing Saints to take maximum advantage of new employment opportunities.	We have not investigated the impact of alternative growth formulae, and consider a consistent per child level to be reasonable.	(8) Vocational Training

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Social Welfare	Tables c.12 and c.19.	Expenditure takes account of changes in population.	No specific changes to welfare system included in model e.g. changes to structure / level of pensions provision, relief for unemployment.	Employment and social services is the third highest element of recurrent expenditure (after health and education) at the outset of the model. We have trended it with total population changes. If a power of 1.2 is applied to the population change in a year (in our forecast a factor of 1 has been used), the resulting net present cost for the long runway rises to ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ , and for the other options it moves less because the population does not change as much.	(8) & (9)
Disaster Relief	n/a	UK and/or neighbouring countries render prompt aid to STH in the event of natural disaster or other emergency			(7) Emergency Relief
Services provided by private sector	n/a		E.g. banking, telecommunications, etc. Services aimed at meeting the expectations/demand of tourists will also be available to residents at reasonable cost. Investment required, assume private sector but facilitated by SHG policy	We have not quantified every element of private investment of this nature. However, the investment function is based on historic data for the proxy islands covering a period during which they have experienced growing tourism so is therefore regarded as reflecting the occurrence of these investments.	(8) Private Sector
Access to flights	Table c.25	We have based the average ticket prices on assumptions about the split of Saints between Ascension Island flights and Cape Town. We have assumed that 36% of Saints fly to/from Ascension and the remainder to/from Cape Town.	Agreement with air service operator to ensure an appropriate number of seats available to Island residents at reasonable cost.	Sensitivity to ticket prices is mostly significant for the final model outputs in terms of the consequent effect on tourism levels. This has been included within the main sensitivity analysis.	(6) Ticket prices Appendix (I) Ticket Prices - Approach

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Institutional and Policy					
The base case is essentially one of no change from an institutional viewpoint. Initiatives such as the new constitution and modernising government agenda have institutional implications, but these do not materially affect access, nor differ between the short listed options. The following assumptions are made under the air access options.					
Immigration institutions / policy	Costs included within institutional costs - table c.14. Greater detail in section	Transparent, efficient and fit for purpose institutional arrangements for immigration assumed in place.	Changes required include the legislation itself, the policy for implementing it, the process for enacting the policy, (i.e. dealing with applications) and an appropriate level of efficiency with which the process operates.	The policy element of this is crucial for achieving the objectives of the access investment. However, the cost is not significant for the outcome of the analysis.	(8) Immigration & Work Permits
Customs institutions	Costs included within institutional costs - table c.14. Greater detail in section	Customs are provided by SHG and other services to be provided by contract.		As for immigrations policy, not a significant cost element.	(8) Operational Airport Staff

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Inward Investment institutions / policy		We have not included FDI as distinct from investment by islanders, although it is likely that the new hotel and villa investment would be financed externally.	Inward investment is necessary in order to achieve the forecast private investment levels, particularly in the early years. This will be facilitated by a streamlined, non discretionary process covering immigration / work permits and land availability, and encouraged by a proactive SHDA, by planning policy and by additional financial incentives, namely exemptions from import duties on: aviation fuel construction materials, plant and equipment during airport construction hotel materials, plant and equipment during construction.	As for immigrations policy, not a significant cost element.	(8) Land use Planning (8) SHDA

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Private Sector Development institutions / policy			Support for local business will be delivered by a strengthened SHDA, greater availability of loans, and planning policies encouraging local business development. Additionally that vocational training for St Helenians will deliver more trained workers for the changing jobs market, who together with returning Saints and other incoming workers, will fill the new jobs created	As for immigrations policy, not a significant cost element.	(8) SHDA (8) Vocational Training (8) Planning
Legal institutions / policy			That any legislation needing to be drafted/adapted will be in place by the appropriate time. This may relate to aviation bye-laws relating to airport operation, immigration law, procurement-related law including the management of the construction contract or the airline operations contract	As for immigrations policy, not a significant cost element.	(8) Legal Drafting Capability

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Planning policy	Costs included within institutional costs - table c.14. Greater detail in section		That planning policy be updated as appropriate to ensure sufficient land is available for private and business development – and is sufficiently flexible to strike a practical balance between preserving St Helena's environment/open space/AONBs and the need to provide sites for development and housing and to keep land prices affordable	As for immigrations policy, not a significant cost element.	(8) Planning

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Regulation			We have assumed the stated ticket price levels. This will require regulation of some form, depending on how the air service is procured. In addition, regulatory capacity will be required in order to ensure suitable air operations (safety, standards). ASSI will be responsible for regulation and safety oversight of aerodrome. The CAA of the country of residence of the air service provider will be responsible for regulation and safety oversight of air services provider(s). ASSI would be partly responsible for the latter if the air service provider was registered in an OT.	As for immigrations policy, not a significant cost element.	(8) Regulation
Procurement and contract management institutions	Costs included within institutional costs - table c.14. Greater detail in section	Costs are included within capital investment costs. We have assumed overall levels of ¦¦¦¦¦¦¦¦ for conventional public procurement, ¦¦¦¦¦¦¦¦ for a Design-Build-Operate-Transfer contract, and ¦¦¦¦¦¦¦¦ for PPP/PFI. Assumed that SHG contract management capability can grow to support management of the construction and operational contract (monitoring, payments and dispute settlement).	For the comparison of the options we have assumed a conventional public procurement managed by the public sector. The analysis of the procurement approach considers this in greater detail. Costs include technical assistance for construction of an aerodrome, also capacity building to allow SHG to	As for immigrations policy, not a significant cost element.	(8) Contract Management

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
			develop capacity to manage future operations contracts		
Tourism policy and delivery	Costs included within institutional costs - table c.14. Greater detail in section		It is assumed that a stronger, more professional tourism department will be developed, interfacing with the private sector on St Helena, tour operators, overseas marketing expertise and SHG overseas representatives. However the private sector should bear the costs of marketing the island as much as possible. We have also assumed that a cap will be applied to the tourist numbers, of 1,300 visitors on the island at any point. This is a policy decision which we anticipate would be taken. We have not made any assumption about how this would be applied in practice although precedents do exist elsewhere in the world.	As for immigrations policy, not a significant cost element.	(8) Tourism

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Permanent Staffing	Table c.2 contains the core airport operating costs (i.e. facilities management), and table c.14 contains the surrounding costs such as customs.	Costs attributed to the Access project. There is provision for training of local staff prior to commissioning and the Senior air traffic controller is the airport manager.	New roles to be established. Airport contractor will employ staff to undertake tasks where practicable – including firemen, security guards, air traffic control staff [to clarify] .Further permanent SHG posts are minimised, and maximum use is made of staff flexibility – for example the reduced passengers arriving by sea will mean customs and immigration staff will be readily available for airport duties. As tourist volumes increase, further staff will be needed; the model allows for this.	As for immigrations policy, not a significant cost element.	(8)
Technical Assistance Requirements	Some costs included within institutional costs - table c.14. Core TC assumptions in tables c.17 and c.19, and c.26 for cut-off date where appropriate.	Core technical cooperation (TC) costs are assumed to stop at a certain point in the airport options. This is stated in table c.26. TC includes secondments to strengthen departments. It is assumed that the staff required in the years leading to and immediately following airport operations, can be sourced and perform adequately.		The total net present cost becomes ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ for the long runway and ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ for the medium runway if TC costs are assumed to continue throughout the forecast period on the same basis.	(8)

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Economic Growth and SHG Budget					
RMS revenue & operating costs, used as basis for opex of RMS replacement	See table c.3 & 5	Information from the AWLS Ltd budget for 2004/05.	Based on historical costs	If RMS operating costs are increased by ¦ ¦ ¦ ¦ p.a., the impact on the RMS replacement option is to increase the net present cost to ¦ ¦ ¦ ¦ ; if reduced by ¦ ¦ ¦ ¦ the cost becomes ¦ ¦ ¦ ¦ , each from the central case of ¦ ¦ ¦ ¦ .	(6) RMS Replacement
RMS replacement capital expenditure	See table c.4	Sourced from Three Quays Marine Ltd, Report Feb 2004	The total capital costs represent a replacement RMS in 2009 and in 2029, at the same capital cost on each occasion.	If the cost of replacing the RMS is increased by ¦ ¦ ¦ ¦ for each of the two replacements during the forecast period, the NPC is increased to ¦ ¦ ¦ ¦ , an increase of ¦ ¦ ¦ ¦ .	(6) RMS Replacement
Government tax revenues from airline operations	Landing fees at STH ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ for large aircraft and ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ for small aircraft. Passenger tax at ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ /head. These figures are included in the data shown in tables c.16 and c.25.	These rates have been based on rates charged at similar airports around the world.		We have increased the passenger tax from the current level of ¦ ¦ ¦ ¦ per head, for both the RMS and airport options (not applied to non-resident Saints). We have considered the impact of doubling the passenger tax - the long runway NPV moves to ¦ ¦ ¦ ¦ , the medium to ¦ ¦ ¦ ¦ , and the RMS to ¦ ¦ ¦ ¦ . However, it would also slightly reduce the tourism demand which would offset this slightly. Table c.25 contains details of the landing tax, which is a smaller overall figure than the passenger tax (eg 20 passengers @ ¦ ¦ ¦ ¦ ea. is a total of ¦ ¦ ¦ ¦).	(4) Reducing Budgetary Support (9) Use of Model

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Inflation	n/a		Inflation is likely to be largely demand-pull, not cost-push; effects initially from wage distortions due to imported Saints who may re-settle but who demand external rates; later effects from property price rises as tourism accommodation demand rises and existing stock is refurbed; new imports will cause pressure.	We have not modelled inflation within the model i.e. we have assumed that the impact on real economic activity can be managed effectively.	(4) Inflation Issues
Tourists, business travellers and Saint Helenian visitors to the island - details of expenditure	See tables c.6 to c.9.	These figures have been obtained from consideration of experience elsewhere in the world for tourism markets of a similar nature to St Helena.	The proportion of Saints visitors which is comprised of non-residents is used for expenditure and imports calculations, and for passenger tac. It is not used for medium runway ticket subsidy calculations (where relevant). The visitor numbers are discussed below.	Tourism and business traveller expenditure is one of the sensitivities in the main report body. The expenditure of Saints is much less significant given the lower levels. If the tourism imports figures are allowed to rise, by ten percentage points in each case, this reduces the economic gain to St Helena, and changes the net present cost of financial support to ¦¦¦¦¦¦¦¦¦ for the long runway, ¦¦¦¦¦¦¦¦¦ for the medium runway, and ¦¦¦¦¦¦¦¦¦ for the RMS replacement. It can be seen that these effects are limited.	(4) reducing Budgetary Support (9) Use of Model (11) Various
Business traveller numbers	See table c.10	Business travellers have been estimated using historic information, and assumed to grow at a fixed annual rate which depends on the option and has been based on an assessment of the GDP growth over the period.		The level of business travellers is low and therefore the impact on the outputs of the model is not significant.	Appendix (F) Survey of Saints

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Government revenue forecasts	See table c.11 and c.31.	These have been provided by the Financial Secretary and DFID, and used as inputs to the model	The model can apply or disapply (i.e. use internal forecasts). We have applied these forecasts in our calculations. We have performed a regression analyses on the model forecasts to determine how overall SHG revenues, other than those deriving from HMG, respond to changes in GDP, and the results of this are presented in table c.31.	We have run the model with these figures disapplied except for the first year to illustrate their impact. This results in net present cost of ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ for the long runway, ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ for the medium runway, and ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ for the RMS replacement option. These indicate that the forecasts do not have enough significance to impact on the recommendation.	(9), (11)
Government expenditure, assumptions about how government expenditure changes over time.	See table c.12 and c.13.	Assumptions about what classifies as revenue and investment are standard. In terms of the growth factors, we have based the assumptions on what are considered by Atkins to be the key drivers of each item. The split of development aid between revenue and investment is based on estimates of figures for 2001/02, and are considered by Atkins to be a reasonable guide to the future.		See discussion of individual items above.	(4) Reducing Budgetary Support (11) Results of Modelling
Institutional and other costs	See table c.14.	These have been based on discussions on-island and with DFID. They comprise a range of costs including those discussed under distinct policy areas above.		The quantum of these costs is not significant in the overall context.	(8) Institutional Costs under Air Access

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Direct taxes as proportion of consumption	See table c.15	Direct tax as a result of private consumption is assumed to grow. It grows at the stated annual rate (this is percentage of rate not percentage points), until a maximum is reached. This maximum depends on the option under consideration - see below for option-dependent inputs. The growth rate and maximum have been determined on the basis of an assessment by Atkins of the likely changes in the makeup of the economy.		Direct taxes as a percentage of consumption is as set out in tables c.15 and c.26 (the latter table contains the option-dependent element, being the maximum level reached for tax as a percentage of private consumption). We have run the model with the growth rate increased to 3% p.a. and the cap removed. The tax %ge reaches ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ in 2048, and the NPV falls to ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ for the long runway. In the medium runway it falls to ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ , and in the RMS replacement to ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ . This represents a fairly significant upside risk, at least for the long runway with its higher GDP and consumption.	(4) Reducing Budgetary Support

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Other economic assumptions	See table c.16	These figures relate to a variety of different areas, and explanation is included in the table.		Import duties are the most significant indirect tax, reaching ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ p.a. in the long runway option. If the rate is dropped from ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ to ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ , the impact on net present cost is the following: long runway rises to ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ , medium rises to ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ , and the RMS to ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ . This indicates that although the order is unchanged, together with other effects this could be significant. It is possible that if there is pressure to lower import duties this could have an impact on the support required from HMG. Against this, there may be scope to raise other taxes e.g. direct taxes. Tourism imports are discussed above. If portfolio income is set to zero, NPV for the long runway rises ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ , ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ for the medium runway, and ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ for the RMS replacement.	(9), (11)

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Non-tax government revenue assumptions - the remaining elements of government revenue	See table c.17	These factors determining the changes in revenue over time have been determined by Atkins		The only significant items are TC, Development Aid, and reimbursements. If these are all simply held constant, the NPV changes to ¦¦¦¦¦¦¦¦¦ for the long runway, to ¦¦¦¦¦¦¦¦¦ for the medium runway, and ¦¦¦¦¦¦¦¦ for the RMS replacement option.	(9), (11)
Historic information used within the model	See table c.18	This information has been based on projections by Atkins based on historic data from the Statistics Yearbooks. Remittances have been assumed to be inversely proportional to total population on the island.		We have considered the impact of changing the significant assumptions which have been based on this historic information in the appropriate section of the assumptions book.	(9), (11)
Government expenditure - starting point for 2003/04	See table c.19	Expenditure for 2003/04 has been estimated on the basis of the latest expenditure figures, being 2002/03, pro-rated upwards in line with the increase in the revenue forecast for the later year. The revenue forecast has been obtained from Financial Secretary forecasts. This approach assumes that the budget is approximately balanced in both years.		N/a	(9), (11)

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Economic relationships - consumption, investment, imports	See table c.20	These figures have been derived from regression analysis of historic St Helena data, in the case of the consumption function; from proxy islands in the case of the investment function (the £100k de minimis is our estimate), and from our own estimates and a regression analysis of St Helena data in the case of imports.	Regression analysis of St Helena data has been preferred where possible. However, for the investment function we consider that as changes in the economy are likely to take place, the experience of other islands is a better guide. Moreover the quality of fit of data from regression analysis is very poor compared to the consumption function. We have used the historic information with which we have been provided, in particular from the Statistics Yearbook.	Table c.20 contains details of sensitivity analyses.	(9), (11)
Job creation relating to visitors to the island - underlying assumptions	See table c.21	These figures have been determined by Atkins, on basis of general understanding of the tourist industry		See comment above re employment - the sensitivity analysis for population gives insight into the significance of these assumptions, which is that the significance is quite limited in terms of the final model outputs.	(9)
Job creation relating to visitors to the island - multipliers	See table c.22	These figures are obtained from research on proxy islands.	The multipliers are applied to the numbers of beds required by tourist and business traveller visitors, in order to generate jobs and hence inform population changes.	See comment above re employment - the sensitivity analysis for population gives insight into the significance of these assumptions, which is that the significance is quite limited in terms of the final model outputs.	(9)

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Cruise ship and yacht visitors - numbers, spend, and tax revenue	See table c.23 & c.24	The visitor numbers have been obtained by analysis and projection of historic data.	We have assumed that the numbers are invariant by access option. In reality there may be differences, but the markets are largely distinct, for example cruise passengers are commonly using St Helena as a stopping point on longer journeys, and yacht visitors are not likely to be affected by flight access except at the margins.	The outputs of the model are not sensitive to small changes in the numbers of these visitors as the total spending is small.	(6) Tourism Market (9)

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Engineering and Utilities					
Public Works and Services, and investment in public infrastructure - including water, wastewater, electricity generation, roads maintenance.	Tables c.12 and c.19 contain the numerical assumptions behind public works investments.	It is assumed that operational capability can grow to maintain the islands roads under increased use etc, (or, that this will in time be outsourced to suitable private providers). Capital costs will be borne wholly by SHG/DFID (under public procurement). The demands of tourists implicit in the visitor forecasts (ie that standards are broadly comparable with those on proxy islands over period used to derive growth patterns) will be met.	Costs include electric power generation at airport, which must be a guaranteed s ource for flight safety reasons. Three generators included: one running, one on standby, one in maintenance. Could sell spare power to grid. It is assumed that water, wastewater, electricity generation and roads maintenance will be planned and maintained by PWSD.	See comments elsewhere on expenditure assumptions - other elements e.g. health are more significant and their effects have been quantified and do not affect the model ranking of options. The public infrastructure has not been modelled in detail, but the overall level trends with GDP (with movements raised to a power 1.1), therefore we consider that this is sufficient for the runway options because the growing GDP will cause this to increase significantly. SHG public works investment reaches ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ p.a. in the long runway case, and ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ in the medium runway, compared to ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ for the RMS replacement option. These compare to a figure of ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ as the starting point for the first year.	(7) Cost Estimates
Sea access during construction	Included within capital expenditure costs.	Adopted method of landing materials at Rupert's / Prosperous is not significantly hampered by sea state / weather conditions	Decision on which route is left to detailed planning stage		(7) Cost Estimates

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Environment					
Environmental regulation	Table c.14	Sufficient resources to ensure that following production of an EIA and Environmental Management Plan SHG can (i) develop a construction contract with sufficient detail to provide environmental protection and (ii) ensure that the EMP is implemented and contract details adhered to.		Costs not significant.	(8) Environmental Issues Appendix (S) Environmental Scoping Report
Invertebrates, Wirebirds and other flora and fauna	Table c.14	It is assumed that mitigation measures will be undertaken to minimise impact and to expand suitable habitats where possible. It is assumed that the significance of the central basin of PBP for invertebrates does not attract international concern/objection.		Costs not significant.	(8) Environmental Issues Appendix (S) Environmental Scoping Report
Traffic levels/congestion/parking	n/a	Operational access routes to be decided at detailed design stage and take into account requirements of Land Use and Control Plan, as for haul routes either Prosperous or Ruperts. A traffic forecast should be developed at this time. Bus traffic to reflect aircraft rotation; 1 rotation = 4 buses + taxis, inbound and outbound		Costs not significant.	(8) Environmental Issues Appendix (S) Environmental Scoping Report
Wear on walking paths	n/a	Not significant within overall model. Planned and maintained by Tourist Board		Costs not significant.	(8) Environmental Issues Appendix (S) Environmental Scoping Report

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Maintenance of historic buildings	n/a	Not significant within overall model. Planned and maintained by Tourist Board		Costs not significant.	(8) Environmental Issues Appendix (S) Environmental Scoping Report
Long Runway: Air Access					
Principle is open skies. Basis of operation: partnership with an airline; airline flies its own aircraft, with sole or certain exclusive rights on the routes contracted. Others can use airport.		ETOPs would apply. Types of aircraft operated: B737-600, -700, -800; Airbus 319, 320 as alternative. Seating: -700 & A319: 124 seats; -800 162 seats; A320 150 seats; -600 110 seats. We have performed the modelling using 737-800 capacity as this is the most common size and most likely to be the one used in practice.	All of the long-haul part of the passage is undertaken by long haul carriers. ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ .		(7) The Long Runway (7) Open Skies Policy

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Fares adopted in model are on CPT - STH - CPT & STH - AI - STH routes. Other SA hubs are equally possible e.g. Johannesburg.	Fares see table c.25.	¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ .	The B737-800 would be load-limited on STH - JBURG leg as flight is c.30 mins longer: shed 5 - 10 pax, possibly push up fare; not significant as other 737 variants unaffected. Fuel price used is average of US & UK prices for 'shoulder selling price' by private supplier.	We have agreed these fares after substantial discussion and modelling in several ways, and have a high degree of confidence in terms of their reasonableness in current market conditions. However, it is possible that significant fuel fluctuations could impact on prices, as could significant developments within the industry, eg technological developments in the longer term. The impact on the model results would largely be via tourism demand.	Appendix (K) Ticket Prices
Medium length Runway: Air Access					
Basis of operation: SHG underwrites the cost of providing aircraft but operations are let to the contractor, including their own marketing and ticketing operation. The airline would have a public service obligation and would have certain rights on the route. Open skies, provided financially viable: Others can use airport.		Business jet configured for service: Falcon 900, 19 seats. The runway would need to be widened from this Code 3 Option definition to accommodate B737 variants on the medium runway - see discussion of sub-options in [xxx].	All of the long-haul part of the passage is undertaken by long haul carriers.	Widening the Option runway to accommodate B737 variants would incur additional capex and allow limited use of B737 variants or similar Airbus. This is discussed in consideration of the sub-options.	(7) The Medium Runway

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Fares adopted in model are on CPT - STH - CPT & STH - AI - STH routes. Other SA hubs are equally possible e.g. Johannesburg.	Fares see table c.25.	No underwriting of risk - this is modelled as a purely private operation. There is scope for offering a subsidy to Saints using the service, owing to the higher ticket prices. This has been considered within the discussion of sub-options but is not included in the main medium runway option.		As for long runway.	Appendix (K) Ticket Prices
Sub-options: Air Access					
Medium length runway with 19-seater business jet and subsidy - additional assumptions	Tables c.25 to c.30 detail the quantitative assumptions.	¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ . This is then reflected in higher Saints visitor numbers, which have been derived using the same principles as in the Saints visitor numbers for the main options.		The investigation into sensitivities documented elsewhere in the assumptions book, and the conclusions regarding the significance of the various inputs to the model, would apply similarly to this sub-option.	(11) Sub Options

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Medium length runway with 737 variants - additional assumptions	Tables c.25 to c.30 detail the quantitative assumptions.	The key difference from the main medium runway option is that 737s are assumed to use the aerodrome. This is based on a slightly higher capital expenditure, to allow for a wider runway pavement, and there is additional capital expenditure, as described in the analysis of the sub-options, for the runway to be extended later in the forecast. The ticket price is lower than for the business jet, and this is manifest in higher traveller numbers and hence a higher rate of economic growth.		The investigation into sensitivities documented elsewhere in the assumptions book, and the conclusions regarding the significance of the various inputs to the model, would apply similarly to this sub-option.	(11) Sub Options
Long and Medium-length Runways: Common characteristics					
Flight planning	In fuel calcs	CPT as hub; Island Holding; AI in emergency; Walvis Bay for very occasional refuelling	Agreement with USG and MOD for use of AI must be ratified	Island-holding principle factored into aircraft performance.	(7) Fuel Estimates
Flight frequencies	See table c.25	1/week CPT, 1/fortnight ASI, to start.	Other African destinations are possible e.g. Abidjan, Ghana, Windhoek, Kinshasa, Nairobi. We have not included these or flights to Europe or the US in the model, and regard this as a conservative approach allowing a recommendation to be made without taking a view on how the market might develop in these areas.	The stated amounts are starting points, and are increased as the load reaches the figures stated in table c.25.	(7) Air Service Provision (7) Methodology for combining demand inputs

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Airport facilities	Capex & opex stated in table c. 2.		Provision for FCO fisheries patrol is a capex allowance for space only, no opex included; includes fuelling provision, between 8% and 10% of total estimated depending on runway option	Variation on capex is a source of significant effect, is sensitivity-tested and is a key risk to be closely managed as part of the procurement process.	(7) Buildings and Supporting Facilities (7) Construction and Design
Airline and airport option assumptions	See table c.25	These figures set out the costs and revenue for each option	Includes CAPEX allowance for limited public bus service to airport	The key factors are capital expenditure and costs hence prices hence tourism demand. Capital expenditure and tourism demand are subject to sensitivities and included in the risk modelling.	(7) Cost Estimates
Load factor and cost assumptions	See table c.25	Load factors in practice will increase as tourism takes off, then when move to two aircraft/week, will fall, then build up again, etc. The stated factor is a maximum used when forecasting flight numbers.		As above.	(7) Ticket prices
Income from airfreight not modelled		Not possible to forecast: makes model conservative	Full air cargo facilities are only available with the long runway option	We consider that it is likely that air freight revenue would be able to bolster the financial position of the operator. This is likely to be minimal for the 737 on medium runway sub-option, where there are capacity constraints as discussed in the main report.	Appendix (L) Air Cargo

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Access to Aerodrome		The permanent access road is positioned to link with the existing roads.	Emergency/disaster relief assumes Hercules aircraft operating to Military Operating Standards. Medium only - long runway civil as well as military		(7) Aerodrome Cost Estimation (8) Environmental Issues Appendix (M) Technical Feasibility
Construction-related assumptions	Bulking factors have been assumed to be in the region of ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ when placed in embankments. As a conservative approach we have adopted a factor of ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ for runway construction.	Standard and commonly used methods of construction are achievable for the building of the aerodrome and access roads. Fine aggregate sands and cement for use in production of concrete and mortars would be imported.	Haul road assumptions do not differ significantly for long or short runway. There are operational advantages in using Prosperous Bay and future access benefits in using R/Bay route. The route build costs are nearly the same. An allowance of ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ is made for importing construction related items/developing P Bay or R Bay under long runway option and ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ under medium runway option.	Bulking factor is consistent with result of physical testing but assumed worst level of the banding. The bulking factor used for runway construction is consistent with the result of physical testing. We are assuming a grooved runway to improve performance for wet landing, and the costs of laying this type of wearing course been included in capital costs	(7) Construction & DesignAppendix (M) Technical Feasibility

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Topography		Longitudinal alignment of runway is governed by the need to mitigate effect of mountainous landmarks. Terminal location is positioned to avoid conflict with the sites of ecological interest.	Other technical & specification-related assumptions are discussed in Tech Feasibility paper and associated design documents e.g. TORA, TODA, ASDA, LDA and Instrument approaches		(7) Runway Alignment Topographic Report
Weather effects on service		Runway designed for wet landing case, grooved, cost of grooving has been included	Technical and specification related assumptions and design numbers appear in the base document (1-way runway paper)	Tailwinds on St Helena do not significantly disrupt the service and hence have no material affect on the cost of service provision.	(7) Construction & Design
Fuelling assumptions include provision of pumps and bunding but not the associated cost of bulk storage or the operational costs or bulking costs.	Fuel storage design assumes 3 months usage and one month's reserve with bulking every 3 months	There is no pipeline provided for the fuel and the transfer from Rupert's bay to the aerodrome is by bowser (costs of bowser are allowed). No allowance is made for other flight operators' needs: assumed covered by taxes/fees levied on them.	Modifications to operations at R Bay not part of scope but ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ allowance made for long runway option (¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ for medium). If R/Bay access route is selected that it should be possible to construct further fuel storage in Rupert's Valley. H&S and other environmental issues to be investigated by others.	Fuel storage estimates are dependent on frequency of flights, size/type of aircraft, flight planning basis.	(7) Cost Estimates Appendix (J) Fuelling Arrangements

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
	2000 gall or 5000 gall aviation fuel bowsers 2 / 3 times per week to aerodrome; rising to 6 / week by year 40	Base assumption: detailed specs to be decided		Fuel price subject to fluctuation	(7) Cost Estimates Appendix (J) Fuelling Arrangements
Long and Medium-length Runways: Sea-borne Cargo Access					
Demand	None	21,000t/year to start. Cost and term of chartering is variable and flexibility is high: vessel size range, frequency of service are sufficiently variable to permit up to say, 30,000t/yr.	AWSL plans 25,000t/year in S Atlantic but not all is into STH	Tourism demand has been included within the sensitivity testing and risk modelling.	Appendix (R) Sea Cargo Arrangements
Solution	None	¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦	¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦		Appendix (R) Sea Cargo Arrangements
Routes / frequency	None	STH - CPTN - STH - ASI - STH = 1 voyage South Atlantic based; or UK - AI - STH - CPTN - STH - AI - UK, UK-based. South Atlantic based: 11-17 voyages per year, 33 - 51 calls at STH; UK-based: 7 voyages per year, 14 calls at STH; or mix			Appendix (R) Sea Cargo Arrangements
Passenger accommodation facilities	None				Appendix (R) Sea Cargo Arrangements

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Handling facilities	None	Able to handle 20ft and 40ft containers on vessel and at Jamestown: on-island upgrades assumed part of other works, i.e. no harbour investment; capacity at Jamestown is less of a constraint if landings are more frequent but smaller		40 ft containers cannot be handled at St Helena at the moment. This implies that cargo handling facilities on shore would need to be upgraded in the event of air access (may not be essential)	Appendix (R) Sea Cargo Arrangements
Effects on tourism	None	Continuing to land cargo at Jamestown will inhibit development of waterfront for tourism, therefore must have alternative = Rupert's Bay, which will require development	For future, not part of project. Similarly, employment generated by handling of cargo has not been treated separately within the model.		Appendix (R) Sea Cargo Arrangements
Landed cost/tonne effect	None	Purchase costs of goods + insurance all passed on to consumer. All cost of carriage is passed on.	Try variations in sensitivities	Cif landed goods costs should be less than current RMS ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ approx, hence pass through all costs to customer	Appendix (R) Sea Cargo Arrangements
Effects of air freight	None	Assume no reduction in sea cargo; rather, increased means of access will stimulate independent demand for air freight. Easter Is is reference for this assum ption.	Plausible prices are: air freight at ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ; sea freight: ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦	Model is not sensitive to this assumption as no sea cargo or air freight costs are modelled	Appendix (R) Sea Cargo Arrangements

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Tourism and Visitor Numbers					
Tourism and Visitor Numbers	Table c.28.	FITs, specialist operators, small, sending 15 each in 1st yr; doubling yr on yr in first 5 yrs. Small operators make 2-3 trips per annum or an average of 30 tourists per operator. Large operators generate 160-500 trips per annum. Sources of demand assumed from UK, France, Germany, RSA. Airline service growth rates:Year 6-17 15%, Year 17-26 7%, Year 27 1%. Assume future cap of visitor numbers as 1500; 40% of demand in Dec-March; the rest spread evenly over rest of the year. For the RMS replacement, tourist numbers have been based on an annual growth of 5.5%, from World Tourism Organisation 2020 forecasts for the Africa region (was 5.4% for worldwide long-haul), subject to capping at the capacity of the upgraded RMS (which takes place in the year 2039). Cap has been applied as discussed in tourism policy assumptions above.	Policy in line with other islands. For independent travellers from UK Fr and SA the demand is as per operator demand. For independent traveller from Germany the demand is 2/3 of operator demand. Demand projections based on airfares for long runway option being ¦¦¦¦¦¦¦¦ CPT - STH. Assumed that active marketing is undertaken to operators and information is freely available e.g. on the internet. Facilities are made available on the island to an acceptable international standard.	The visitor numbers is one of the key drivers of the model and is subject to sensitivity analysis and inclusion in the risk modelling in detail.	(6) The Tourism Market
Saints visitor numbers	See table c.29	Saints continue working on contract in Ascension and Falkland Islands, with annual trips to STH paid by employers, plus travel at start and end of contract. For interval until airport opens, Saints' travel patterns are predicted based on existing data, as are travel patterns under the base case.	The travel by Saints is affected by ticket prices, and by the growth in the economy.	Changes in size of Saints population in UK could make a significant difference to overall estimate of travel demand by Saints. However, the tourist demand is more significant for the runway options and the impact of this is illustrated and gives an insight into the approximate impact of demand changes in relation to Saints.	Appendix (F) Survey of Saints

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Required on-island accommodation development. Investment is all private sector.		The number of tourists is not linked directly to type of hotel accommodation. However, we have assumed that there will be increased occupancy in existing rooms and investment in them to meet the demand with an adequate supply.	Policy will be required to consider position of indigenous accommodation owners if other investors are free to build.	The investment in upgrading accommodation is included within the overall private investment figure.	(8) SHDA (9) Use of Model
Investment in a significant new hotel development and complex of villas	Table c.27	These inputs relate to a new hotel and / or villa investments in the early years. We have based the costs, imports amounts, capacity, and utilisation, and the timing of new investment, on advice from our own consultants and from review of the tourist demand levels and the state of the island's economy.	The imports relating to their construction are assumed to be exempt from import duty.	These have a significant effect on the economy and have therefore been treated separately. If they are excluded the long runway net present cost rises as a consequence of the reduced economic activity to ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ , and the medium runway to ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ . This demonstrates that these factors are not as significant in straight financial terms as they are in terms of investor sentiment (which is not included in the model).	(8) Role of Private Sector (7) Potential for Investment in Tourism
RMS replacement - Specific assumptions					
Routes		STH - AI - STH - CPTN - STH = 1 voyage, potentially with additional stops on African mainland.			(7) RMS Replacement
Frequency	95% x 180 berths filled on 15 voyages	Therefore the total number of visitors which can be carried to St Helena is 95%*180*15*2 = 5,130. This must include tourists, business, and Saints.			(9), (11)

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Passenger accommodation facilities		Assume specs per HPR 2001 study: 180 pax; Plus: self-help to full service, all aspects			(7) RMS Replacement
Costs / revenue	Table c.5	These have been based on the budgeted costs for the current RMS - see above.	The current RMS costs are applied in all cases, whereas the costs of the upgraded RMS are only relevant to the replacement RMS option.	See above for illustration of the impact of changing these costs.	(7) RMS Replacement
Freight facilities		Assume specs per HPR 2001 study			(7) RMS Replacement
Landing facilities for passengers and freight		Upgrade current only, i.e. no harbour investment; capacity at Jamestown is less of a constraint if landings are more frequent but smaller			(7) RMS Replacement
Other option-dependent assumptions					
General option-dependent assumptions	See table c.26	These comprise four items - cessation of import duty exemption on the access choice capital expenditure; selection of demographics figures within the model (which figures are chosen); the maximum level for direct tax as a percentage of private consumption (reflecting the development of the economy in the relevant option), and the year in which technical cooperation costs cease (if any; note that this excludes specific institutional costs identified by Atkins).		The option-specific tax and cessation of TC assumptions are investigated above.	(9)

Description of assumption	Values in economic model	Rationale for adoption of specific values	Comments	Confidence and assessment of sensitivity	Reference to section in report
Land sales, to Saints and non-Saints	See table c.30	We have made assumptions about land sales. Policy change is required if outside entrepreneurs are to make these.		These are included for completeness but are not significant overall; e.g. for long runway the total SHG revenue is only ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ . (Nonetheless, there may be affordability impacts in the shorter-term.)	(8) Planning
Procurement assumptions					
Cost and time implications of DBOT and PPP procurement routes	Cost: the works costs are assumed to be ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ higher than conventional separate non-fixed price contracts. Fees are in the range indicated in table 12.3. Additional time for procurement is in the range indicated in table 12.4.	These assumptions have been based on our experience with large capital projects. The fee and timescale elements have a number of discrete parts and reference is therefore made to section 12 where these issues are discussed in detail.		We are confident in the direction of these changes and fairly confident in their approximate values. It is therefore clear that the DBOT and PPP options would have a higher middle-of-expectations cost, but the impact of uncertainties and risks in the context of these price / time differences is more open to challenge.	(12) Procurement quantitative assessment

ANNEX A TO APPENDIX C

CAPITAL COSTS FOR AIR ACCESS SOLUTIONS

This appendix has been redacted as it contains information that is commercially sensitive.

ANNEX B TO APPENDIX C

QUANTITATIVE ASSUMPTIONS

This appendix has been redacted as it contains information that is commercially sensitive.

APPENDIX D: OPTIONS PAPER

CONTENTS HEADING

SUMMARY

1. This paper is the first deliverable of the St Helena Access Feasibility Study. It has been prepared following desk research into air and sea access alternatives, from which emerged a 'Long List' of notional options. This list was condensed to a 'reduced Long List' on grounds of satisfying minimum conditions (maintain access, offset subsidies, practicality). This second list was then further condensed by applying a set of criteria (e.g. political, economic, social, technological, environmental), themselves the subject of a separate approval process. These criteria were applied to each of the reduced Long List options by each of the key Atkins consultants charged with leading and taking lead roles in the various streams of work. This exercise resulted in a Short List, which is now submitted for consideration.

2. The preliminary Short List offers two air access options and one sea option as worthy of investigation.

3. It is recommended that these options be considered for further discussion.

Structure of this document

4. The paper is presented in seven sections:

- Section 1 describes the background to the project and the purpose of the feasibility study
- Section 2 outlines the process of creating a Long List of access options and selecting and eliminating options
- Section 3 presents the Long List
- Section 4 describes the method of eliminating options and prioritising the remainder, to arrive at the Short List
- Section 5 presents the results of the application of the selection method
- Section 6 discusses the results
- Section 7 presents the recommended way forward

5. The paper is accompanied by several appendices, listed in Contents above.

1 BACKGROUND

THE FEASIBILITY STUDY

The setting

1.1 The island of St Helena, an overseas territory of the United Kingdom (UK), lies in the South Atlantic Ocean, is of volcanic origin and has an area of 47 square miles. It is over 4,000 miles from the UK, 700 miles southeast of Ascension Island, and 1,700 miles NNW from South Africa. The Island's total population is around 4,000, of whom 1,300 live in the capital, Jamestown. The climate is kept mild and equable by the southeast trade winds and temperatures range from 14-32 degrees centigrade in the summer and 14-26 degrees centigrade in winter. The economy is small and is mainly based on offshore employment, fisheries licences, agriculture, fishing and more recently a small volume of tourism. Most commodities are imported and St Helena relies heavily on UK Aid to support the standard of living of the population.

1.2 St Helena has no airfield and the only regular mode of access to the Island is via the Royal Mail Ship (RMS) St Helena. The RMS St Helena makes four round voyages from the UK and South Africa per year and also makes shuttle sailings between St Helena, South Africa and Ascension Island. As of September 2004 the RMS makes its last UK visit for a year's trial period during which it will stay in the South to try and stimulate the island's declining economy.

1.3 All (dry) goods and equipment are transported by sea and the maximum size and weight of any single component are limited by the RMS' cargo space and capacity of its cranes. Landing infrastructure on the island is limited, with no breakwater or mooring facilities at the sea front (Jamestown). The ship anchors off, cargo is transferred ashore using towed barges, and passengers are ferried to and from the ship by small launches. These transfer processes are subject to ocean swells that often appear out of the North East (in the opposite direction to the SE Trades – which are continuous). Cargo transfer by this method is slow – it takes over two days to cycle around 30 containers (20ft type). Containers are unloaded on the sea front and returned to the ship. There is a restrictive archway leading into the main street of Jamestown from the sea front, and the roads out of the settlement are narrow, meandering along steep inclines. Combined with a lack of heavy transport, there is a limit on the size and weight of equipment that can be transported on the island. Fuel (diesel and petrol) is supplied via a commercial arrangement with a separate shipping agency and is landed via a pipeline at Rupert's Bay, immediately to the north of James Bay.

The goals

1.4 The primary goal of the feasibility study is to identify that type of access that helps to unlock potential for development of the economy. The shared goals of the St Helena and UK Governments are sustainable improvements in social and economic well-being for 'Saints' and reduced dependence on UK aid. However the opportunities for increased

economic self-sufficiency are limited due to St Helena's isolation, lack of natural and other resources and its small domestic market.

1.5 In May 2004, following the failure of the April 2003 international invitation to attract an outline proposal to develop air access to St Helena that was acceptable to SHG and DFID, Atkins Management Consultants were commissioned to undertake a feasibility study to establish the most practical and affordable means of access to St Helena.

1.6 While overall economic development, and a reduction in the dependence on bilateral aid, remains the objective of both governments, the feasibility study will look at access options and their likely impact on economic development, but without the direct cross-link inherent in the earlier invitation between the access and the development of the economy. It is essential that options be affordable, practical, and attractive to St Helenians, other travellers and inward investors alike. The feasibility study is required to show beyond reasonable doubt which type and specification of access would satisfy these conditions.

1.7 This feasibility study has as its first milestone to arrive at a Short List of access options, for debate in a workshop with SHG and DFID. It is intended that the study will then develop around the accepted Short List, examining each access option in some detail to determine the extent to which it could be taken forward as a recommended objective for procurement, as the principal output of the study. This options paper summarises this process and presents the consultants' short list, from which the final list will be chosen.

The Study

1.8 The feasibility study will examine the technical aspects of the access options chosen by this process, to identify and quantify the costs that each would incur.

1.9 It will examine demand for travel from Saints by consulting with Saints in the UK, Ascension Island, Falklands Islands, Cape Town and St Helena. The UK element of this interface with Saints will include an e-survey. This work will also yield a better understanding of the price elasticity of ticket prices.

1.10 It will study the international tourism industry, consulting tour operators and promoters, particularly those operating in niche markets but also those operating in mass tourism, to establish likely visitor numbers and growth rates, and to develop tourist-related economic and financial projections. The survey will identify the competing factors in the tourism market and the extent that St Helena can differentiate itself positively from other 'exotic' destinations. It will yield guidance on the amount and type of hotel accommodation expected by likely visitors and a better understanding of the price elasticity of ticket prices.

1.11 It will identify islands with similar or analogous characteristics, to use them as 'proxies' for studying the impact that improved access has had on development of tourism. Of interest are the responses that those islands' administrations have had to make, such as investment in infrastructure, changes in policies governing development and fiscal areas such as taxation, and in response, building their institutional capacities.

1.12 A team of consultants will visit the island to study the views of Saints about issues such as how the propensity of Islanders to leave would be affected by improved access and their views on change brought about by economic development. The team has four areas of

enquiry around this theme of change: social (views and issues), economic (costs and prices), institutional (machinery of government) and environmental (protection).

1.13 Separate teams will focus on the engineering aspects of improved access, particularly air access. Surveys are being undertaken of potential runway alignments and access routes from the sea for construction and also routes for servicing its operational requirements. These include gathering earth samples to determine ground conditions and the construction design, and the consequential cost of construction, which also could be made available in the event of a public competition for supply of air access for the purpose of informing bids.

1.14 The study will deliver the costs of the various types of access selected, both capital investment and on-going operational costs.

1.15 For air access this includes the cost of constructing various types of runway solutions and alternative access routes from the sea to enable construction, also access roads for operational purposes and airport buildings and installations. Air access includes provision of an air service. The study will consider all viable solutions, proving them through consultation with air service providers, both international carriers and specialist charter operators. It will consult with aircraft manufacturers for performance information and maintenance costs and requirements.

1.16 For sea access, capital and operational costs will be estimated for various solutions of passenger and cargo combinations, gathering information about mix and volumes of cargo and for passengers, minimum standards and on-board needs. The reviews for this stream of work will consult with ship operators, including the operators of the RMS, Andrew Weir Ltd, ship brokers who arrange ship sales, purchases and charters, and other parties such as freight forwarders who arrange for consolidation and delivery of cargoes. It will address both dry goods and fuels. It will call upon the services of a ship design firm to ensure full and proper appreciation of issues of a technical and operational nature and it will advise on implications for landing infrastructure on the island. Substantial investment in landing infrastructure, e.g. construction of a set of breakwaters, would add considerably to costs but improve the reliability of getting tourists ashore by sea.

1.17 When all this information is available, the study will model the various possible outcomes. Financial modelling (revenues, costs, sensitivities) and economic modelling (revenue and price elasticities, investment and institutional effects on GDP growth) will use the data gathered by and assumptions suggested by the various surveys to project effects on the island's economy and infrastructure and to indicate how the UK Aid contribution could be reduced over time through adoption of the most promising type of access. Formal risk modelling will be carried out to assist the understanding of the effects of differences in emphasis of development, e.g. timing of investment in relation to build-up of tourist demand. The modelling will help decide which type of access will maximise benefits while minimising costs. The modelling concept is based on a 40-year projection of the effects on the St Helena economy.

1.18 The study will also examine alternative sources of procurement: public, private and variations and suggest the best path for procurement.

1.19 This study is not a design study but rather one that will illustrate feasibility – technical, developmental, financial, economic and practicable – of an access option that best meets the key objective of minimising dependency on UK Aid. It therefore has to balance degree of detail against time in which to assess it - while also establishing robust arguments. It is due for completion in October 2004.

Significance of this paper

1.20 The choice of options for detailed study is important because it both eliminates, on a once-for-all basis all other types of access (and closes many decades of debate about the subject), and establishes the number of 'packages' (number of access options) of detail to be gathered. It is crucial that these decisions are made in the most informed manner possible. All known previous studies on the subject of access to St Helena and on various other aspects of its development are being taken into account here and an extensive list has been compiled. This material (the 'reading list') yields many facts and proposals, and provides a backdrop of reference for further fact-finding. It contributes greatly to the assembly of ideas for the Long List and will help to guide the search for detail related to the final short list. Maximum value is therefore obtained from earlier studies, including Atkins' own work.

1.21 This study as outlined is one that requires the continuous involvement of the three principal protagonists – DFID, SHG and the consultants. This Options Paper sets the scene for a feasibility study that is being managed and carried out by the consultants but which is informed, supported and directed by DFID and SHG. It therefore presents a cohesive and continually updated collective set of objectives and method of study.

2 IDENTIFICATION OF OPTIONS

THE PROCESS ADOPTED

2.1 The process used to identify possible options was as follows.

Compilation of the Long List

2.2 The consultants leading the various streams of work that constitute the Feasibility Study were asked to refer to and digest all available information describing previous efforts to provide various types of access to St Helena (the reading list). The list is presented in Appendix A.

2.3 In several brainstorming sessions involving the consultants, 'Long Lists' of possible forms of access were created, for both air and sea. For the purposes of short-listing, some key assumptions had to be made. Naturally, once the selected options are allowed to go forward for detailed study, these assumptions will be tested, re-assessed and their implications fully explored.

2.4 A key assumption is that capital costs will be borne wholly by SHG/DFID. A second key assumption is that the on-island supply side of the demand generated by residents, visitors and inward investors would be met (to permit economic development). The latter assumption is necessary so as not to fetter the range of thinking in compiling the Long List. For example, in relying on sea access as the principal means of achieving the key objective (reduction of reliance on subsidy) one would be free to envisage a number of cruise ships, passenger liners and assorted cargo ships calling at the island. That this scenario might then be shown to be impractical, for a variety of reasons, was not material in creating the Long List. It was important to get down on paper all possible means of access, regardless of restrictions (but excluding the out-and-out ridiculous).

2.5 Subsequent exclusion of ideas in this list by the consultants at this stage does not mean that others might be prevented from re-considering them at some future point, at their own expense, within conditions that might be imposed by SHG and HMG.

2.6 The Long List was reduced to a Short List by a process described in section 4 below.

Approach to performance and cost estimation for Long List

2.7 In compiling the Long List the consultants carried out desk research, looking at technical, performance and cost aspects. Atkins possesses knowledge in both aeronautical and marine disciplines, also in civil and geotechnical disciplines, including port development. Where additional depth is required for the feasibility study these are backed up with external specialists in specific areas.

2.8 The combination of this technical knowledge, encompassing both design and operational aspects, and the management consultancy skill sets and experience, enables the consultants to arrive at comparative capital costs for use in broad comparison of Long List options. Professional judgement was called upon when estimating capital costs; the

balance of performance considered for each option and the cost of providing, operating and maintaining it needed to be both realistic, i.e. the access function could be provided by present technology, and applicable to the levels of demand in mind (current and future). Sufficient additional research needed to be carried out to ensure that costs were selected from a middle range, as opposed to proposing extremes. This gives a basis of confidence that should others undertake the same process, in the same time period, no significant differences would be likely, i.e. other reasonably-minded, experienced practitioners, supported by an equivalent range and depth of capital project experience would come to similar conclusions of access options and associated capital costs.

2.9 In addition in some cases, cost estimates were available from previous work, whether by Atkins or others.

2.10 Of course, these comparative costs are then left behind once the process of creating a Short List is complete. The feasibility study will concentrate on the chosen options and as stated in section 1 above, will estimate costs in appropriate detail.

Note on the role of Ascension Island in supporting access to St Helena

2.11 There is no agreed provision in the treaties and Notes on the subject of the use of the aerodrome at Wideawake on Ascension Island between the UK and US governments that can be counted upon when considering access to St Helena. We include a discussion on this topic in Appendix B that summarises clearly the position and identifies the risks to making unbased assumptions. For the purposes of this Options Paper it is assumed that Ascension Island would serve two key purposes.

2.12 The first is that it could be used as a planned diversion for an aircraft that, arriving in the vicinity of St Helena, finds itself unable, for whatever reason but in particular, low cloud base, to land there. This is a requirement of international civil aviation legislation.

2.13 The second is that it could be used as the main point of air access to St Helena, as at present but to operate international air services by operators other than the RAF.

GENERAL APPROACH TO CONSTRUCTING THE LONG LIST

Scope

2.14 Since this feasibility study must answer all known ideas for providing access to St Helena and at the same time find access solutions that facilitate the economic objectives, it must therefore be exhaustive while also being realistic and rigorous. When generating ideas for access, the consultants were encouraged to be creative and receptive toward all known proposals for access.

2.15 In this paper, air access is treated first, followed by sea access.

Air Access – the setting

2.16 Air access is primarily concerned with providing passenger in/egress, though it offers potential for moving some cargo.

2.17 This paper draws on work carried out previously by Atkins in connection with studying air access to St Helena, which included reviewing previous reports on air access, including CAA reports from 1974 and 1984, and the High-Point Rendel (HPR) report from 2001. Air access options are arrived at by first considering the use of Ascension Island, which is used by the RAF but is under the control of the US Department of Defence (US DoD). Air access is then extended further through applying various combinations of runway length (indicates cost), aircraft type (indicates cost and identifies international regulations), and destinations (regional hub, international).

2.18 Air access to St Helena is limited by the small number of locations it offers that can host a runway. These locations are influenced significantly by the rapidly changing topography of this extinct weather-worn volcano, in particular by its steeply changing elevations. The paucity of flat land on the island sufficiently unaffected by this hilly feature, when taken together with the need to adopt the Standards and Recommended Practices (SARPS) detailed in the annexes to the Chicago Convention, makes siting a runway difficult. This difficulty is compounded by the number of variables of modern commercial flight, such as range, payload capacity and meteorological requirements. Some aircraft types require longer runways than others. Extending the length rapidly runs up against topographical limitations and so the selection becomes an iterative process of requirement for aircraft type against costs of construction.

2.19 Others have previously considered this problem and some solutions have been proposed. These are discussed first, so that the subject of aircraft type is informed by the understanding that arises.

Sea Access – the setting

Passenger access

2.20 In the case where St Helena has no airport, passenger access by sea is required by means which would fulfil the key objective, i.e. economic development on St Helena sufficient to offset the annual subsidy by HMG. Replacement of the RMS St Helena (as envisaged by the HPR report, reference EP1034 of June 2001, page 2-14) is considered to be the minimum and is adopted in this paper as the 'base case comparator'. However, to meet the key objective of economic development questions will inevitably arise around whether the RMS could be replaced without significant changes to the specification.

Meeting demand for cargo

2.21 St Helena will always need to be provisioned by sea, whether it has an airport or not. Air freight is quite specialised, is weight-sensitive and carries a price premium over surface transport. Also, bulk cargoes such as fuels, vehicles and building materials, cannot be air-freighted in commercial quantities. The definition of 'sea access' is therefore taken to include provision of goods and fuel, including aviation fuel.

3 DESCRIPTION OF OPTIONS ON THE LONG LIST

DISCUSSION OF RUNWAY LIMITATIONS ON AIR ACCESS

High-Point Rendel concept

3.1 The HPR report (2001) and the responses to the request for Expressions of Interest (issued April 2003) identified two possible areas on St Helena suitable for airport development. These were:

- Deadwood Plain
- Prosperous Bay Plain.

3.2 Deadwood Plain is 450m (1476ft) above ordinance datum (AOD) and there is meteorological evidence to show that for around 10% of all occasions in the year the cloud base is 500ft or less over the plain (with reference to the elevation of the plain). This is unacceptable in relation to the construction and operation of an airport as the principal source of access to the island. Deadwood Plain was therefore rejected as a possible site.

3.3 The HPR report and responses to the EoI identified two possible runway locations on Prosperous Bay Plain. These were:

- Prosperous Bay/Robinson
- Prosperous Bay North/South.

3.4 Prosperous Bay, at 320m (1050ft) AOD enjoys a better weather regime than Deadwood Plain (anecdotal evidence).

3.5 The Prosperous Bay/Robinson alignment (roughly East/West) would take advantage of the prevailing winds (South East Trade Winds). However, the approach to this runway would be over the high points in the centre of the Island. The validity of this approach was tested against the requirements detailed in Annex 14 to the Chicago Convention (1944). The approach was found to be unacceptable. By way of examining all possible applications of the proposed alignment, we considered the adoption of a non-standard approach slope (i.e. approximately 5.5° or more as opposed to the conventional 3°). This was then rejected for two reasons:

- Aircraft such as the Boeing B 737 cannot fly a 5.5° approach into a short runway.
- There is no evidence that ASSI[1] would license such an approach.

3.6 Prosperous Bay Plain remains the preferred site for the construction of an airport to serve St Helena, but for the runway to be orientated on (an approximately) North/South or North West/South East axis. Options based on this alignment are discussed further below.

[1] Air Safety Support International (ASSI), the aviation regulating body for the Overseas Territories

North West / South East access runway (Basil Read)

3.7 A North West / South East access runway on Prosperous Bay Plain was evaluated. The approaches to the runway would be over Deadwood Plain. The major weakness of this proposal is that the approach would be over high ground which has a history of low cloud cover. Further, the proposal required that steep approach slopes (i.e. greater than 3.5°) would be required. An Instrument Landing System (ILS) would have to be installed to ensure safe and frequent air operations. Analysis shows that a CAT(egory) I ILS would be insufficient and that a much more expensive CAT II ILS would be required. Further, the proposal meant that considerable earthworks would need to be undertaken in the area between Middle Point and Bradley's to enable such an approach to be used. These earthworks would have had serious impact on the island and added greatly to cost. Even then, it was unclear whether a suitable approach angle, with associated requisite decision heights, could be achieved. This option was therefore rejected.

AIR ACCESS OPTIONS BASED ON A NORTH-SOUTH RUNWAY ON PROSPEROUS BAY PLAIN

3.8 There are many variables to consider in arriving at descriptions of various types of air access. It will be helpful to the reader at this point to refer to the data sheet covering air access options shown in Appendix C. Air access options constituting the most sensible Long List are now described.

3.9 Four concepts (and their derivatives) were developed for serious consideration based on a North-South Runway on Prosperous Bay Plain. These were:

- Option 1: A short runway - a Code 2B instrument runway 1199m long and 23m wide with the aircraft, a turboprop, based on Ascension Island
- Option 2: A short runway with extension for take-offs – a Code 2B instrument runway 1199m long and 23m wide but with a starter strip to give enhanced take off capability and with the aircraft, a turboprop, based on St Helena
- Option 3: A medium length runway - a Code 3B instrument runway extended for take-offs and with a Landing Distance Available of 1399m plus up to another 300m, 30m wide, with an air service provided by a 19 seat business jet or turboprop aircraft
- Option 4: A long runway - a Code3C instrument runway up to 1799m long, 30m wide, with extension to take-off run which would enable up to B737 size aircraft to operate.

3.10 The four options outlined above are summarised as follows.

Option 1 – Short runway, Ascension Island-based aircraft

Concept

3.11 This option is based on operations centering on Ascension Island. There would be no direct flights to St Helena other than from Ascension Island. Renegotiation of the UK/US agreement on use of Wideawake Airfield by civil aircraft would be necessary to enable a

Cape Town link to be established. Further, it would be necessary to operate a London – Ascension Island – Falkland Islands charter on at least a weekly basis.

3.12 Capital cost: ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ , runway on St Helena. Note that in this and subsequent air access options, the cost of providing the aircraft (capital and operating) is assumed to be for the account of others, i.e. they would be leased, not owned, by SHG.

Description

3.13 This assumes a short range aircraft based on Ascension Island flying to and from St Helena (i.e. it is housed, locally maintained and fuelled on Ascension Island). The St Helena runway is 'Code 2B' (i.e. 1199m x 23m) and only limited facilities for servicing the aircraft are provided on St Helena. The access to St Helena would be dependant on the use of Ascension Island as a gateway. An air service to serve the Falkland Islands, Ascension Island and St Helena would need to be set up (with agreement of the USA/UK military authorities).

Advantages

3.14 The long haul would be undertaken by a suitable aircraft, in line with USA/UK Ascension Island agreement. This could be a regular charter and there is evidence of sufficient passenger-route demand at present for this to be viable. This is the cheapest option in terms of airport construction and provides the least environmental impact on St Helena.

Disadvantages

3.15 The air access would be totally dependant on the use of Ascension Island and the continued agreement of the MoD and the US authorities. Expansion would be subject to lengthy negotiation with the MoD and the US DoD. There would be poor utilisation of the aircraft resulting in relatively high ticket costs. Freight would be by sea, except for light packages and evacuation of casualties (CASEVAC[2]) via Ascension Island only. There would be very limited disaster relief capability. This option would probably require long term subsidy support. Reliance on a single aircraft can cause schedule disruption. It would require approval under extended twin-engined operations (ETOPS) air service regulations.

Option 2 – Short Runway with extension for take-off, St Helena based

Concept

3.16 This option still relies on the use of Ascension Island for a degree of access to the Falkland Islands and by using the capacity of the RAF or other Ascension Island Charter. However, the runway has a starter extension which would enable a Twin Turboprop aircraft to fly to Cape Town via Walvis Bay. The aircraft are based on St Helena.

3.17 Capital cost: ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ – airport on St Helena.

[2] Casualty Evacuation (CASEVAC); in this analysis includes Medical Evacuation

Description

3.18 This is much the same as option 1 above but with the important difference that that St Helena would have greater fuel storage capacity (option 1 would require minimal fuel storage). A 50-seat twin turboprop could operate a service to the African Coast and to Cape Town via Walvis Bay (for re-fuelling). The runway is still 1199m x 23m 'Code 2' but has a starter extension.

Advantages

3.19 Long haul would be by suitable aircraft out of Cape Town and Ascension Island (RAF / other charter in the future). The service would not be totally dependant on Ascension Island as a gateway but still be limited in terms of freight capability. This is the second cheapest option in terms of airport construction. CASEVAC could be via Cape Town and Ascension Island. This option offers minimal environmental impact to St Helena.

Disadvantages

3.20 Slow air service which would not be overly attractive to tourists. Freight would be by sea except for light packages. Limited disaster relief capability. This option would probably require long term subsidy support. Reliance on a single aircraft can cause schedule disruption. ETOPS air service.

Option 3 – Medium length runway

Concept

3.21 This option is based on the use of a modern business jet carrying a maximum of 19 passengers. It is designed to meet the requirements of catering for initially small volumes of traffic and provides the flexibility of growing the air service capacity in line with demand. It provides good route coverage connections to Cape Town and Africa generally but would not be able to fly to the Falkland Islands direct; it therefore relies on the Ascension Island link to achieve this.

3.22 Capital cost of airport: ¦¦¦¦¦¦¦¦¦¦¦¦. The principal reason for the increase over and above that of option 2 is the cost of civil engineering to accommodate the 300m extensions for the type of service.

Description

3.23 This option envisages a Code 3B runway but takes advantage of a concession on runway strip widths given in Civil Aviation Publication (CAP) 168, Chapter 3, Paragraph 4.3.3. In consequence a Code 3 runway can be built for landing purposes but with reduced runway strip width with associated cost reductions. The use of a business jet carrying a maximum of 19 passengers avoids the need for ETOPS certification (certification which adds to the expense of providing the air service for both operational and technical reasons). The service would be a regular shuttle to Cape Town, Ascension Island, and other African Airports ('OAF'). Long-haul passengers would be accommodated via established links to operators such as BA, SAA, Air France, Varig.

Advantages

3.24 The capacity of the aircraft enables the concept to match the current and 15-year demand forecasts (from HPR and others). As capacity grows, other aircraft could be added to cater for increasing demand. This could provide a regular and frequent access to the island. A twin turbojet freight capability could be provided under charter. This is a relatively cheap option in terms of airport construction. It is a non-ETOPS air service. There would be fast access for CASEVAC to a number of destinations and reasonable disaster relief could be provided by RAF C 130 Hercules type aircraft. It offers medium environmental impact. Air service could be subsidy-free after an initial period of operating (say 5 years).

Disadvantages

3.25 The ticket costs would be relatively high but still comparable with sea passage rates. Our estimations of ticket costs are based on assumptions given in the data sheet in Appendix C and are only for the purposes of this Options Paper, i.e. they remain to be proven. The estimates do not include subsidies. Freight would be mainly by sea. The runway and facilities would need to be expanded if an 'open skies' competition policy was adopted, requiring the use of larger aircraft. Costs of extending the runway to accommodate larger aircraft could be as high as ¦¦¦¦¦¦¦¦¦¦¦¦ at some point in the future, thus costing more than the cost of constructing a long runway now.

3.26 Reliance on a single aircraft can cause schedule disruption, leading to the possibilities of inconvenienced travellers and compensation payments.

3.27 This option would probably require on-going subsidy of the air service in the early years and some subsidy for the airport.

Option 4 – Long Runway

Concept

3.28 The long runway (1799m long x 30m wide) would enable a number of air services to be operated and is the most flexible solution, taking future demand and larger aircraft into consideration). The types of air service that could be used include:

- Long Range Business Jet, 19-seat Non ETOPS world-wide coverage
- Long Range Business Jet, 20-plus seat ETOPS world-wide coverage
- Charter to Demand, a regular charter B737 Combi or equivalent with freight capability Cape Town and Ascension Island
- A schedule service from the start, using a B737 Combi or equivalent London OAF, Cape Town and Ascension Island.

3.29 A depiction of some of these variations is given in Appendix C as Option 4, variants 4a to 4f. It is important to realise that the nature of the air service provision could change over the forty-year period. For instance one scenario could be to start the service with a charter based aircraft and as traffic increased, progress to a full scheduled service.

3.30 Capital cost of airport: ¦¦¦¦¦¦¦¦¦¦¦¦ .

Advantages

3.31 A variety of air service options could be adopted to meet the requirements of St Helena. These range from limited services to Cape Town and Ascension Island, to be extended to reach other African destinations. Depending on the choice of aircraft the route coverage could be extended to include the Falkland Islands, London, Europe, Southern USA and South America. There could be access for CASEVAC to any destination as well as Cape Town and Ascension Island. Full disaster relief could be provided by RAF C 130 Hercules and other civilian aircraft. A freight service could also be provided by chartering a L 100 Hercules (say, one per fortnight - yields 90 tonnes per year inbound). B737-700 Combi operations could generate a freight capability of between 60 and 500 tonnes per year depending on the air service option. The air service might be virtually subsidy-free from the outset if the 'charter to demand' variation is selected.

Disadvantages

3.32 The major disadvantages of this option are the high cost and the increased risk associated with the engineering of the extremities of the runway.

THE ALTERNATIVE AIRPORT

Concept

3.33 This proposal is to use the airport on Ascension Island as a hub facility with flights to Europe, USA, South America, Africa and the Falkland Islands. A passenger terminal would be constructed at Wideawake airfield on Ascension Island to support these operations. In the longer term it requires heavy aircraft to fly from Ascension Island internationally, with a frequency far exceeding the current agreed quota of two rotations per week. Land would need to be acquired from either the MoD[3] or the US DoD as a site for the terminal.

3.34 This concept also requires sea transfer to St Helena. The ship would need to be available to match the flight schedule, so would most likely be unable to be put to other uses, such as the Cape Town run.

3.35 Capital cost of airport modifications: ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ , without land acquisition costs. To this must be added the cost of the replacement ship, giving a total capital cost of between ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ , depending on the specifications of the ship.

ACCESS USING THE AIRSHIP CONCEPT

Concept

3.36 In this concept two airships would fly between St Helena, Ascension Island and Cape Town.

3.37 Capital cost: ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ .

[3] UK Ministry of Defence (MoD)

Description

3.38 This option envisages the acquisition of two long range Airships carrying around 48 passengers. Flying time from St Helena to Ascension Island would be about 15 hours and to Cape Town about 37 hours – with reasonable weather. Given the variability that occurs over the course of a year this solution is unlikely to provide year-round reliability and availability of service.

Advantages

3.39 It is an environmentally favourable solution with cheap construction and acquisition costs. The air service would be independent of the UK/US Ascension Island agreements.

Disadvantages

3.40 Long travelling times, expensive ticket costs (relatively few passenger movements per year), flight times subject to winds of the day, no credible example in operation at this time, development and delivery risk is high and it would not meet the requirement to expand the economy of St Helena.

AN AMPHIBIAN SOLUTION

Concept

3.41 In this solution two amphibian aircraft ('seaplane') would be purchased and based at St Helena. Support facilities would need to be constructed in the sea area near Jamestown.

3.42 Capital cost: ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ - cost of support facilities

Description

3.43 Amphibian aircraft provide service on routes from Ascension Island and Cape Town. There are doubts over the procurement of a suitable aircraft and the service would be limited by the sea state of the day. Given the variability that occurs over the course of a year this solution would not provide year-round reliability or availability of service.

Advantages

3.44 Low construction costs and minimal environmental impact. The air service could be independent of the UK/US Ascension Island agreements (discussed further for other options below).

Disadvantages

3.45 Unreliable service because of the sea state of the day, expensive ticket costs, restricted seat capacity to and from Cape Town, high risk in development of aircraft and doubts over long term sustainability of aircraft supply.

SEA ACCESS

3.46 The Long List created for access by sea is shown in Table 3.1. Table 3.1 considers 'normal' ship types and also includes a collection of ideas based on more unusual ship types.

Table 3.1 – Long List, Sea Access options

Conventional hull forms	
Conventional Cargo Vessel	Conventional Passenger Vessel
Conventional Cargo/Passenger Vessel	Conventional Cruise Vessel
Conventional Cargo/Cruise Vessel	
Medium Speed Cargo Vessel	High Speed Cargo Vessel
Medium Speed Cargo/Passenger Vessel	High Speed Cargo/Passenger Vessel
Medium Speed Cargo/Cruise Vessel	High Speed Cargo/Cruise Vessel
Medium Speed Passenger Vessel	High Speed Passenger Vessel
Medium Speed Conventional Cruise Vessel	High Speed Conventional Cruise Vessel
Other ship types - passenger	
Small Waterplane Area Twin Hull vessel (SWATH)	Fast Catamaran
Trimaran	Pentamaran
Fast Monohull (lightweight)	Hydrofoil
Oil Field Supply Vessel	Lengthen RMS St Helena
Other solutions - cargo	
Lighter Aboard Ship (LASH)	Landing craft in Prosperous Bay
Refurbish RMS (add midship section, new machinery, upgrade accommodation etc.)	

3.47 The list of options was arrived at by considering combinations of passengers and cargo:

- Passengers and cargo in the same vessel (at a minimum, replace the current RMS)
- Passengers in a dedicated passenger vessel, with cargo in dedicated cargo vessel(s).

3.48 The cost-related variables that must be considered include:

- passenger fares subsidies (total procurement / contract & operating costs Vs demand)
- cargo subsidies (total procurement / contract and operating costs against demand)
- passenger landing facilities (safety, speed and passenger expectations)
- cargo landing facilities (safety, speed)

- vessel procurement basis (owned, chartered)
- service contractual basis (monopoly, contracted by type and period).

3.49 Technical and operational criteria that must be met include at a minimum:

- year-round operations (reliability and availability)
- proven design (for equivalent ocean operations)
- experience of type for classification (insurance) and flag registration (regulation)
- machinery type (easily self-maintained)
- ship life (years)
- speed (sustained and passage)
- passenger motion comfort (approach world class standards)
- range (distance achievable on fuel/other capabilities)
- passenger numbers
- cargo mix (containerised, refrigerated, break bulk; bulk; liquids)
- environmental considerations
- new security requirements (ports required to operate air-type screening).

Reducing the Long List - discussion

Concept 1 - Sea access when there is no air access

3.50 In this case, sea access is required to provide conditions conducive to meeting the key objective of economic development on St Helena – at a minimum that no increase in the subsidy level is permitted.

3.51 The use of Ascension Island as a commercial aerodrome, though entirely theoretical until the appropriate discussions between the UK and USA authorities have taken place, is also considered as providing a basis for a so-called 'fast ship' option.

Passenger-only solutions

3.52 Contact with cruise market operators indicates that neither the volume or niche market operators would consider supplying a service to St Helena on anything other than a very infrequent basis (years). This is principally because it is off the regular trading routes and because it offers too small an opportunity to rotate people on and off. The cruise market regards itself as being in the hotel business, as opposed to the transport of people. This market would not provide regular access.

3.53 There are now few passenger liner services in the world (pre-published sailing schedules) and again, the island's remoteness and inaccessibility act conclusively against it. Having no air service means that an operator would have to take all the risk of getting people off the island by sea, should a scheduled service be interrupted.

3.54 This means that the island would have to provide its own transport solution, i.e. own or charter a purpose-built ship, capable of delivering enough passengers at sufficient frequency to make the required difference. If Ascension Island is unavailable as a commercial aerodrome then this leads to the establishment of 'replace the RMS' as the

base case comparator against which to determine effectiveness of all other solutions; it is a known quantity in all respects (costs and effectiveness).

3.55 Should Ascension Island be available as a commercial aerodrome then there would be a requirement to transfer passengers to a ship at Ascension and off again at St Helena. In all probability, to assure confidence that travel plans could be completed, investment in transfer infrastructure, i.e. protection against swell conditions would be required. In any case, the transfer vessel would need to be of a design that would meet the design conditions pertinent to its expectations as a vessel capable of operating in ocean conditions, year-round. This is discussed below under Vessel Characteristics, also under Concept 2.

Combined passenger / cargo solutions

3.56 The commercial market will not provide movement of passengers and cargo sufficient to meet St Helena's needs in one vessel because they operate vessels that are effectively floating hotels, whose only cargo-carrying capacities are those that service their own on-board needs.

3.57 Replacing the RMS is clearly an option. The report by Economic Consultants Ltd of 1984 indicated that a larger (200 berth, 8000t cargo) version of the RMS could have the potential to break even, in terms of operating costs only. In this options paper we are taking the cost of replacing the RMS on a near like-for-like basis, but it would also be possible to consider a larger version of a dedicated cargo-passenger ship. This solution seems unattractive when set against the objective of reducing the subsidy to the island for reasons of attractiveness to the clientele being sought and also because of the need to invest in a breakwater at Jamestown for speed of turnaround and to guarantee availability.

3.58 It is possible to accommodate up to 12 passengers under International Safety Of Life At Sea – SOLAS – regulations on vessels not registering as passenger vessels, and some operators still provide this facility. Clearly this is not a solution to meet the key objective.

Cargo only solutions

3.59 Cargo is currently provided under two separate arrangements: a monopoly on dry goods, held by Andrew Weir Ltd (under contract to the St Helena Line), serviced through the RMS St Helena, and bulk fuels by a second contract using a 'parcel tanker' service plying between Europe and South Africa.

3.60 St Helena's cargo needs are low on the international scale of things. The RMS reportedly runs empty around 50% of the time. The island reportedly takes on average around 30 20-foot containers, per visit, though this is an irregular volume. A South Atlantic trans-ocean-trading container ship would be unlikely to call at the island unless it needed to exchange in excess of 100 such 'boxes' – without payment for diverting. Such payment would be commercially very unusual.

3.61 Earlier reports (e.g. SHG Strategic Review 1999) have identified that the commercial market would respond to demand; this needs to be checked in detail using an analysis of the import/export profile (volumes and mix) and to establish the possibilities for forming a contract to secure regular service. It is not known if a service contract would require subsidy support due to the minimalist level of demand. Should SHG come to rely on the

commercial market it is likely that the absence of modern offloading facilities will influence the cost, i.e. somebody has to pay the cost of the time it takes to transfer cargo. A business case for improvement to facilities may therefore need to be considered at some point when freight rate information becomes available from the market.

3.62 SHG always has the option of purchasing or chartering its own vessel or even vessels, and operating its own service, not unlike the present RMS arrangement. It would be possible for example, to locate a small container ship and adapt it. Rotation of 20-foot containers and assorted break-bulk cargoes, covering everything from retail to vehicular to infrastructure materiel, would be provided most likely by conventional cargo vessels (some perhaps providing accommodation for up to 12 passengers). Again, a business case would need to be developed.

Vessel characteristics

3.63 Of the first group of options listed in Table 3.1 this leaves:

- Conventional passenger vessel (purpose built)
- Conventional cargo vessel(s) (owned / chartered or contracted)
- Conventional cargo-passenger vessel (replacement RMS or better).

3.64 All the technical and operational criteria identified above would be met by this range of vessels.

3.65 The next question is to decide the speed of the vessel; this has a bearing on hull form and choice of machinery. 'Conventional' above refers to speeds for passenger vessels of up to around 13-14 knots and for cargo vessels, anything below this. 'Medium speed' passenger vessels would obtain up to around 18-20 knots.

3.66 Medium speed cargo vessels might be more typically found trading on competitive densely-trafficked routes where speed of delivery was important to meeting a schedule and maintaining a competitive edge. It is expensive to furnish, fuel and maintain machinery for such vessels with the power-to-mass ratio that fits such a business case. It is a formula that would be unlikely to apply to an ocean trade route such as that encompassing St Helena, at least, not one depending on that trade.

3.67 High speed ocean-going passenger vessels and cargo vessels tend to be of the larger variety, e.g. the QM2, or Maersk Line type container vessels providing a trans-Atlantic liner service at speeds in excess of 30 knots. Such vessels are not going to service St Helena simply because the scale of business is not there and it is not on a trade route (with the possible exception of Europe-South Africa).

3.68 It is concluded that for this purpose, the conventional passenger vessel would be built to a specification that provides as frequent a service to St Helena as possible. It would voyage principally to Cape Town on a scheduled service, but be able to call at Walvis Bay, perhaps Luderitz and maybe other African ports, also Ascension Island – along lines such as those on which the present RMS has been re-scheduled. It could be a medium-speed or higher-speed vessel. A medium speed passenger vessel with accommodation for 300 passengers with market leading accommodation standard, suitable for carrying on a scheduled service in these waters would be expected to cost up to ¦¦¦¦¦¦¦¦¦¦¦¦ and

attain a speed of 20 knots. This would provide theoretical sea access capability of around 18,000 passenger movements per year at 100% utilisation or 9,000 at 50% - were the ship to travel back and forth only to Cape Town (round trip of 16 days). Given that it would need to service Ascension Island also, at a minimum, it can be seen readily that a situation would develop in which the ship (with more than double the current RMS capacity) would need to be subsidised and the frequency of service fell short of that required to act as a base on which to build the economy.

3.69 A fast, 25-knot passenger ship of the same size could achieve a 10-day round trip and offer a theoretical route capacity (St Helena – Cape Town, dedicated) of around 22,000 passenger movements per year. It would cost in the region of ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ .

3.70 Both of these types of passenger vessel would require offload facilities on St Helena substantially better than those available currently – to achieve safe transfer of a higher number of passengers in conditions offering predictability for a scheduled service. It is likely that this would take the form of a breakwater at Jamestown, costed at ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ in the Coode Blizzard report of 1996 (page 9-6).

3.71 Therefore the capital cost of providing sea access by means of a dedicated passenger vessel (which would have to be commissioned by SHG) would be in the order of ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ , where inflation applies to a breakwater cost estimate dating from 1996. Cargo services would be additional. At that, it is hard to see how this would be sufficient to act as a basis for building the economy.

3.72 An alternative is to replace the RMS, at a cost of ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ .

Concept 2 - Sea access with limited air access (short runway)

3.73 The availability of limited air access (either based on Ascension Island and flying to St Helena, or based on St Helena and flying to the regional Cape Town hub via Walvis Bay for re-fuelling) would improve the flexibility and choice of specification of a passenger vessel. However it is arguable that sea access would not replace the shortfall in air access, merely augment a limited service.

3.74 A dedicated small passenger vessel could be considered. The limiting factor now becomes size capable of offering a year-round service in the 'design sea state' for this South Atlantic region, not only number of berths or other such considerations. That is, the vessel needs to be of a minimum size and of an ocean-going design (which in practice means conventional mono hull with conventional diesel or diesel-electric machinery). It is likely that the vessel would need to be purpose-commissioned, at a cost of ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ for up to 15 knots. As to transfer conditions at St Helena it might be argued that at a minimum, the same system of ship-to-shore transfer by lighter could be continued, since the schedule might not need to be so tight, in which case only minor upgrades to equipment might be needed to ensure safety and a degree of reliability. It could be un-attractive to new visitors. However, the capital cost of this combination (short runway and small passenger ship) could then be held to around ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ .

3.75 A ship offering say, 150 berths at 15 knots could provide annual movements of around 8,000 passengers at 100% utilisation on the St Helena – Cape Town dedicated run. That is, in reality, serving the other regional destinations, movements would fall short of this

theoretical maximum. The air service offers movements of around 25,000 per year, so the ship offers far less comparative value – for more capital expenditure.

3.76 Cargo services would still need to be provided.

3.77 It is concluded that this is not a viable concept to take forward.

Concept 3 - Sea access with more-than-limited air access

3.78 In this concept, the need for passenger access by sea is relaxed considerably (runways are medium to long – providing full flexibility air access). In this case it may be viewed more as a 'fun' type of provision, in which people elect to travel by sea. Given that the cruise market is unlikely to serve St Helena on anything approaching a regular basis, SHG would still need to commission or in this case, possibly charter a suitable vessel – for the express purposes of augmenting a decent air service, just to cater to a segment of the market that prefers to holiday by sea.

Other vessel concepts - Passenger

3.79 The lower part of Table 3.1 above lists eight passenger vessel types that might be considered. With the exception of the proposal to lengthen the RMS (to gain additional cargo space), and possibly the SWATH concept (see definition in Table 3.1), it is thought that none of the passenger designs would satisfy the key objective, on grounds of being too small to offer a year-round service in the design sea state or representing unproven technology for ocean service.

3.80 A SWATH solution could be possible since it is proven technology, though not for this type of service. It is estimated by the UK builder that to carry 300 passengers and 300 tonnes of cargo, it could be provided for around ¦¦¦¦¦¦¦¦¦¦¦¦. To this would need to be added the cost of the breakwater plus fuelling facilities. It is excluded from the short list on grounds of requiring too much 'proving',

3.81 The vast majority of ferries that operate at high speed (above 30 knots) are small (less than 120m), lightweight construction and are designed to operate in calm seas (less than 2-3m significant wave heights). The factors that limit their performance are passenger comfort (resulting from accelerations due to waves rather than outfit and entertainment) and structural integrity (fatigue has been found to be a major problem on fast ferries operating around the British Isles). To operate such a vessel in South Atlantic waters, with an estimated design wave height of 4m (Met Office data, June 2004), puts this concept on the limit of what can be affordably and reliably achieved. A vessel that would display satisfactory accelerations for both passengers and structure would need to be considerably larger than the 80 – 110m vessels that have been proposed. A more likely design would be something along the lines of the SuperFast ferries operating from Edinburgh to Zeebrugge, with a length of 200m and carrying 1500 passengers.

3.82 The fuel consumption figures (supplied to Atkins as part of so-called 'fast ship' options) are potentially conservative. It appears that both diesel and gas turbine options have been discussed, the figures provided are satisfactory for a diesel powered vessel (providing of course these large components can be fitted into such small vessels) however, a gas turbine powered ship will require around 45% more fuel than a diesel powered vessel.

3.83 The costing of the vessels appears to be inconsistent. The proposals state that a 32.5 knot vessel would have a capital cost of ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ and a 38 knot vessel would have a capital cost of ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ . The propulsive machinery is a major cost driver and generally faster vessels are more expensive.

3.84 The rationale behind the assignment of cabins and 'aircraft style' seating in these proposals is unfounded. The longest airline flight is around 18 hours with very low accelerations being experienced by the passengers. To expect passengers to be seated for over 24 ours whilst undergoing far greater accelerations than in an aircraft appears unrealistic. Typical fast ferry journey times undertaken by these kinds of vessels are more in the range of 30 minutes to 1.5 hours to 3.5 hours.

3.85 Fast ferries are weight-driven designs, meaning that their dimensions and performance are closely related to their weight (both in terms of lightweight and deadweight). Thus they are generally unsuitable for carrying significant amounts of cargo. The effect of increased weight can be clearly seen in the size difference of fast ferries that carry cars and passengers and those only carrying passengers.

3.86 In financial operating terms, factors such as fluctuating fuel price, freight rates and passenger numbers can have crippling effects on a vessel's profit margins.

Other vessel concepts - Cargo

3.87 The LASH concept (see definition in Table 3.1) is a 1970s idea pioneered by Lykes Lines in America for ocean cargo, in which lighters dock inside the opened out stern of the mother ship and act as floating containers. It is unlikely and is not considered further.

3.88 A novel idea has been suggested that would involve Prosperous Bay and driving front-loading 'landing craft' onto a concrete apron (pursuant to its temporary use during construction of an airport). While this would provide a short-term solution, if workable, it would raise the question of where the island wanted to locate its port facilities in the longer term. The idea is attractive due to its low cost and because it has the potential for allowing re-development of James Bay for leisure purposes or a leisure / alternative cargo handling venue, similarly also Rupert's Bay if a Prosperous 'terminal' also accommodated fuel landing. It is excluded on the basis that it is not required for provision of sea access for passengers and also until such time as it can be proven both workable and within the planning possibilities of SHG.

4 METHODOLOGY FOR SELECTING AND PRIORITISING OPTIONS

Development of criteria for reducing the Long List

4.1 A set of criteria by which to judge the Long List was developed and brainstormed by the consultants. This was developed into a document that was circulated around the SHG, DFID and Atkins teams for comment, prior to the reduction of the Long List. The criteria were derived by considering each stream of work (as outlined in section 1 above). Thus, criteria addressing cost and economic issues were developed, as were criteria governing travel and fares, social, environmental, institutional issues, evacuation, operations and procurement. Each criterion section was sub-divided into sub-criteria to ensure all key issues were addressed. In this way, all aspects of each access option were thoroughly questioned.

4.2 The criteria were applied to the Long List in two sequential passes: the first being an elimination set of three 'killer questions', the second being made up from each of the aspects of the study (Political, Economic, Social, Technical, Environmental and Legal), augmented by a set capturing financial criteria.

4.3 A spreadsheet was constructed of criteria against access options and a ranking method was applied. The adopted list of criteria is shown in Appendix E and its application and the ranking method are discussed as follows. Each consultant was obliged to consider each criterion in turn for each option surviving the 'killer questions'. In this way, hundreds of decisions were recorded and subsequently challenged in an iterative process spread out over several days.

Comparative assessment

4.4 The following is a description of the ranking method employed. It contains examples of how it was applied – these are by way of demonstrating the method, only.

4.5 The process of moving from a long list of potential options to a short list has two stages. The first stage is a hurdle consisting of three questions, each of which must be answered in the positive for the option to proceed. The questions used were:

- Does the option meet HMG's/SHG's commitment to maintaining access to St Helena?
- Is the option likely to increase GDP on St Helena to such an extent that increases in government revenue offset any increase in subsidy over 10 years?
- Is the option technically feasible (i.e. practical)?

4.6 The remaining options were then considered against nine criteria sets, the aim being to establish how options perform comparatively across all nine sets. The sets used in the assessment are: Costs, Environment, Economic, Travel and Fares, Institutional, Social, Evacuation Services, Operations and Procurement, each with its set of sub-criteria. Figure 4.1 shows the scoring system and also its application.

Figure 4.1 – Basic scoring system

o	Not Applicable
?	Relatively poor
? ?	Relatively average
? ? ?	Relatively good
? ? ? ?	Relatively excellent

	Option A	Option B	Option C	Option D	Option E
Environment Set Impact of resulting economic and social development (least is best)	?	? ?	? ? ?	?	? ? ?

4.7 Take, for example, the Environment set. This has been broken down further into five sub-criteria. Scoring takes place at the sub-criterion level with the appropriate expert scoring each option from relatively excellent to relatively poor. These scores are non-numeric; they represent a comparative assessment between options relying on available information and considered, professional judgement. From the above sub-criterion scoring, a ranking can be inferred, shown in Figure 4.2.

Figure 4.2 – Ranking system

	Option A	Option B	Option C	Option D	Option E
Environment Set Impact of resulting economic and social development (least is best)	4th	3rd	1st	4th	1st

4.8 In this example, Options C and E are both judged to be 'Relatively good', so are ranked equal in 1st place and, as a consequence of this tie, Option B is ranked in 3rd place rather than 2nd.

4.9 This process is completed for all sub-criteria in the set (Environment set in this example) resulting in a ranking for each option against each sub-criterion. This information can then be summarised and used to assess which option is best for the environment set as a whole. The tool for this assessment is a matrix that counts the number of times each option has been ranked 1st, 2nd, 3rd etc within the set. An example is shown in Figure 4.3.

Figure 4.3 – Assessing options by criteria Set

Environment Set	Option A	Option B	Option C	Option D	Option E
1st place	0	2	4	0	1
2nd place	0	1	1	0	2
3rd place	2	2	0	3	3
4th place	1	0	0	2	0
5th place	2	0	0	1	0

4.10 It is reasonable to assume that some sub-criteria are of greater importance to the set than others. Consequently, weightings have been applied in a range of 1 to 5 (5 being the

highest priority). Consider the full Environment set of sub-criteria with the following theoretical weights and ranks:

Figure 4.4 – Assigning weights to sub-criteria

Environment Set	Weight	Option A	Option B	Option C	Option D	Option E
Impact of resulting economic and social development (least is best)	3	4th	3rd	1st	4th	1st
Sub-criterion 2	1	5th	3rd	1st	4th	1st
Sub-criterion 3	2	3rd	3rd	1st	3rd	2nd
Sub-criterion 4	1	5th	1st	2nd	3rd	3rd
Sub criterion 5	1	3rd	1st	1st	3rd	3rd

4.11 Different weights are accounted for by multiplying the *counts* for 1st, 2nd, 3rd, places etc. by the sub-criterion weighting. For example, Option C is ranked 1st for sub-criterion 1, this criterion carries a weight of 3, therefore the matrix counts three 1st places. Similarly, Option D is ranked 3rd for sub-criterion 3, this carries a weight of 2, the matrix therefore counts two 3rd places.

4.12 From the example matrix completed in Figure 4.5, it is now possible to judge the relative performance of the options at set level. In this case it is easy to see that Option C performs best, consequently it would be ranked 1st within the set; Option E, 2nd and so on. In the majority of cases this process is a simple one, however complexities occur. For example, a situation may arise where option A has been ranked 1st twice, 2nd zero times; and option B has been ranked 1st once and 2nd three times. Ranking these two options proves difficult as a decision must be made on the relative importance of 1st and 2nd place. The application of professional judgement in such cases is necessary, and to ensure consistency throughout the option selection process, judgments need to be meticulously logged.

Figure 4.5 – Weighted selection at Set level

Environment Set	Option A	Option B	Option C	Option D	Option E
1st place	0	2	7	0	4
2nd place	0	0	1	0	2
3rd place	3	6	0	4	2
4th place	3	0	0	4	0
5th place	2	0	0	0	0

4.13 Completing this process for each set gives a matrix summarising each option's performance in each criteria set (i.e. Environment set, Economic set, etc). An illustrative example is shown in Figure 4.6.

Figure 4.6 – Weighted selection aggregated across Sets

	Weight	Option A	Option B	Option C	Option D	Option E
1. Costs	3	4th	2nd	1st	5th	3rd
2. Environment	2	5th	3rd	1st	4th	2nd
3. Economic Set	5	5th	1st	2nd	3rd	4th
4. Travel and Fares Set	4	3rd	5th	1st	2nd	4th
5. Institutional Impact	2	4th	1st	3rd	2nd	5th
6. Social Impact	2	3rd	2nd	1st	5th	4th
7. Evacuation Services	1	5th	1st	2nd	3rd	4th
8. Operations	5	3rd	5th	1st	2nd	4th
9. Procurement	2	4th	1st	3rd	2nd	5th

4.14 Weights are once more applied acknowledging the relative importance of certain sets. The weights are incorporated in exactly the same way as described previously; by multiple counts of ranking positions. A summary table counting the weighted number of 1st, 2nd, 3rd etc rankings in Figure 4.7 is shown below.

Figure 4.7 – Weighted selection aggregated across Sets

Overall Ranking Count	Option A	Option B	Option C	Option D	Option E
1st place	0	10	16	0	0
2nd place	0	5	6	13	2
3rd place	11	2	4	6	3
4th place	7	0	0	2	17
5th place	8	9	0	5	4

4.15 A judgement can now be made as to how options compare overall, rankings can be applied and the preferred options can be selected. From Figure 4.7, Option C would be likely ranked 1st followed by Option B and so on. This final step completes the process of option selection.

Observations about this approach

4.16 The above is process of comparative, or ordinal, assessment. The strengths of this method are two-fold. At early stages of developing scheme options there will be many areas in which full information is not available. Information that has been gathered is likely to be a mix of quantitative and qualitative (with varying degrees of reliability) and the conclusions that are drawn may involve a considerable degree of professional judgement and interpretation based on experience. Using a comparative, or ordinal approach, allows professional judgement to be applied with confidence. For example, it may be obvious to an experienced individual that option A is 'better' than option B in a certain aspect. Quantifying the difference is however difficult and often misleading. Alternative approaches to option assessment do require this difference to be quantified. Such a demand often leads to large sensitivities and uncertain results.

4.17 Further, the manual element of the approach assures professional, human, judgement is applied throughout the assessment process. The approach is lower risk than alternative quantitative, or computational, techniques as it utilises the committee of contributors to check, and counter check, inputs rather than relying on the wisdom of numeric calculation. The results, therefore, offer greater security and accountability.

Stakeholder perspectives

4.18 Finally, to get round the problem of potential disagreement on weights assigned by the consultants to the sets, we adopted a stakeholder approach. Appendix F identifies the stakeholders who have key interests in the topic of access to St Helena. We brainstormed the relative values of weights that each stakeholder might assign to the different criteria sets and these are shown in Appendix F. The SHG weights are those voted by SHG.

4.19 This weighting was then applied in the same way as the set weights, described above, and the results are shown in section 5 below.

4.20 This method is also robust as the overall outcome varies only slightly for variances in weights. For example, if two people independently assess one set of scores and assign different interpretations, the overall result is not affected significantly. The method has the merit of 'levelling' the overall effect of sets of weights.

4.21 The 'Atkins' values shown in Appendix F are those used in the base ranking process as described above and are included by way of comparison.

CAPITAL COSTS AND GROWTH POTENTIAL AFFORDED BY OPTION

4.22 We also constructed a simple illustrative financial (discounted cash flow) model to help inform the short-listing process. The model provides an indication of the total budgetary implication for HMG of the various options. It contains no detail and is contributed only as a comparator mechanism to aid in high-level choice.

4.23 The model is intended to complement the other elements of the short-listing decision within the context of what is largely a judgement process at this stage. It is not intended for example, to be a first draft of the detailed modelling which will be performed on the short-listed options.

4.24 The model produces three output figures, which are then totalled and the present value calculated, in order to yield a single net present value (NPV) of the option under consideration. This NPV is then compared to the NPV of the 'base case' scenario, which is to replace the RMS and continue with the same service as at present. The three output figures are:

- the budgetary aid requirement
- the operational subsidy requirement
- the capital expenditure requirement.

4.25 Between them, these represent all elements of DFID's contribution to SHG that are materially affected by the choice of transport option.

4.26 ¦

5 RESULTS OF APPLYING THE RANKING METHOD

THE REDUCED LONG LIST – AIR ACCESS

5.1 Air access options based on a North-South Runway on Prosperous Bay Plain constitute the reduced Long List, and were taken forward into the assessment process described in section 4. They are:

- Option 1 – Short runway, Ascension Island-based aircraft
- Option 2 – Short Runway with extension for take-off, St Helena based
- Option 3 – Medium length runway
- Option 4 – Long Runway

5.2 Rejected options are as follows.

The Alternative Airport

5.3 The option is unrealistic in the light of the UK/USA agreements on the use of Ascension Island by civil aircraft and the proposed use of frequent heavy aircraft to provide the service from Ascension Island to the USA, Africa, South America and Europe. Further, it is unlikely that either the MoD or the US DoD would be willing to provide land for the terminal to be built on.

5.4 This option is in reality a 'fast ship' solution because it depends on sea access. It is therefore doubly unacceptable.

The airship concept

5.5 This option is not realistic as a principal means of access for people hoping to develop the economy of St Helena. The reasons are those cited above in section 3, viz.: long travel times, expensive tickets, flight times subject to meteorological conditions, unproven elsewhere, high development and delivery risk. This situation would not be acceptable to DFID/SHG.

The amphibian concept

5.6 Similarly, this option is not realistic as a principal means of access for people hoping to develop the economy of St Helena. The reasons are those cited above in section 3, viz.: unreliable service due to unpredictable sea state at St Helena, expensive tickets, restricted seat capacity, high development risks and long term sustainability of aircraft supply.

THE REDUCED LONG LIST – SEA ACCESS

Concept 1 - Sea access when there is no air access

Passenger-only solutions

5.7 The option of relying on the commercial market to provide passenger movements is rejected due to the disinterest of the cruise market in providing regular access to St Helena, as stated by cruise ship operators during our desk research.

5.8 The option of relying on sea transfer between Ascension and St Helena is discounted, not only because of the uncertainty surrounding the use of Wideawake aerodrome as a commercial base for supporting the development of the economy of St Helena, but also because of the need to provide a vessel of ocean-going capability of sufficient size as to provide confidence in a published regular shuttle service. The so-called 'fast ship' options as proposed by others would be incapable of meeting this criterion. In addition it is likely that capital investment would be required at both islands in harbour facilities that would support the regularity of any published service. The capital costs involved would be prohibitive.

5.9 A fast ferry cannot compete in terms of comfort, reliability, speed and convenience with an airliner. For this reason and those detailed in section 3 above we do not believe that further study into such ship types would be beneficial

Combined passenger / cargo solutions

5.10 This is possible by replacing the RMS.

Cargo-only solutions

5.11 The island requires security of supply of cargo, whether it has air access or not. There are several options open to SHG: own or charter a vessel or vessels (and sub-contract their operation, as at present, including re-assigning use of the RMS to AWL or other such party), rely on the market to respond to demand or contract with an operator to provide a service on demand.

5.12 Of these, the last is rejected due to disinterest by the market in the low volumes.

Concept 2 - Sea access with limited air access (short runway)

5.13 Again, this option relies on the availability of the Wideawake aerodrome on Ascension to support commercial air operations, both permitting international operations to and from Ascension and also a limited version of the same to and from St Helena.

5.14 Sea access in this case would be required to supplement the reduced capability of air access.

5.15 The capital costs involved would be prohibitive. The option is rejected.

Concept 3 - Sea access with air access via medium and long runways

5.16 In this case there is no need to rely on sea access as the principal means of moving people in and out, is unlikely to make commercial sense, so is rejected.

Other vessel concepts - Cargo

5.17 The LASH concept is rejected because it requires a large commercial operation to justify the capital expenditure

5.18 The proposal to land cargo at a developed Prosperous Bay is a possibility but there it involves too many unknowns at this point and is not for detailed and serious consideration in this study.

Summary of sea access options

5.19 The data sheet describing these options is shown in Appendix D. The options are:

- Medium speed passenger vessel (purpose built), capital cost around ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ including breakwater, **plus** conventional cargo vessel(s) (owned / chartered or contracted), capital cost if owned, around ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦, used vessel.
- Fast passenger vessel (purpose built), capital cost around ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ including breakwater, **plus** conventional cargo vessel(s) (owned / chartered or contracted), capital cost if owned, around ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦, used vessel.
- Conventional cargo-passenger vessel (replacement RMS or better), capital cost ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦, no breakwater.

5.20 This essentially condenses into two concepts:

- Dedicated passenger vessel plus separate cargo solution
- Replace the RMS St Helena (cargo-passenger vessel), the base case comparator.

RESULTS OF APPLICATION OF THE SIMPLE DCF COMPARATOR TOOL

5.21 The results of the calculation of the net present value of principal costs for each option are shown in Table 5.1.

¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦

5.22 This indicates that the short and medium length runway solutions, which cost significantly less than the long runway, show 'savings' of approximately ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ over the 40-year discount period, over and above replacing the RMS – which cannot achieve the same number of passenger movements. Conversely, replacing the RMS with expensive purpose-built dedicated passenger ships designed to attract 'cruise market equivalent' passengers, but which cannot compete with air transport for total passenger movements, would 'lose' between ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ and ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦, depending on the specification chosen.

THE COMPLETED SHORT LIST

Air access options

5.23 The results of the final weighting exercise are shown in Table 5.2.

Table 5.2 – Summary of Air Access Options, showing preferred options

	2. Short Runway With Extension for Take-Offs, St Helena Based Aircraft	3. Medium Length Runway	4. Long Runway
SHG	3rd	2nd	1st
HMG	3rd	2nd	1st
Off-Island Saints	3rd	1st	1st
On-Island Saints	3rd	2nd	1st
Tourism	3rd	2nd	1st
Atkins	3rd	2nd	1st

5.24 The table highlights the top three options by each perspective group.

5.25 This indicates that at least two air access options be taken forward for consideration:

- Medium length runway
- Long runway.

SEA ACCESS OPTIONS

5.26 The results of the final weighting exercise are shown in Table 5.3.

Table 5.3 – Summary of Sea Access Options

	1. Conventional cargo-passenger (replacement RMS)	2. Medium speed conventional passenger + Separate cargo	3. High speed conventional passenger + Separate cargo
SHG	3rd	2nd	1st
HMG	3rd	2nd	1st
Off-Island Saints	3rd	2nd	1st
On-Island Saints	3rd	2nd	1st
Tourist	3rd	2nd	1st

Atkins	3rd	2nd	1st

5.27 This indicates that a high-speed dedicated passenger vessel is the preferred option (provision of goods being met by separate means).

5.28 However, this qualitative analysis is overtaken by the result of the simple DCF analysis summarised in Table 5.1. On this basis studying an option for a dedicated passenger vessel – whether high or medium speed - makes little sense. This leaves replacement of the RMS as the only sea option worth studying.

6 DISCUSSION

AIR OPTIONS

Air access Option 1 - Short Runway, Ascension Island-based aircraft

6.1 This was the cheapest capital spend option ¦¦¦¦¦¦¦¦¦¦¦¦ but is totally reliant on the use of Ascension Island as a gateway. Access to St Helena could only be achieved via the Falkland Islands and the UK. For this option to provide reasonable access, a charter aircraft operation would need to be set up between the UK, Ascension Island and the Falkland Islands for long-haul flying. The UK MoD would need to agree to the use of their facilities at Wideawake and there would need to be a modification to the UK/USA agreement. This latter might be achievable as it relates to a minor increase in flights by relatively light aircraft. However, a direct link to Cape Town could only be achieved on a charter basis unless the UK/USA agreement was renegotiated, i.e. unrestricted commercial operations by established airlines would not be possible. This type of constraint on the activities of tour operators and others whose business relies on the pre-booking of blocks of passenger movements would restrict access. Further, this option has low traffic growth potential. It is unlikely to meet the requirement for air access to support economic growth.

6.2 This option fails hurdles 1 and 2 and most likely also hurdle 3 and was therefore rejected.

Air access Option 2 - Short Runway with extension for take-offs, St Helena-based aircraft

6.3 This is the second cheapest of the airport options at around ¦¦¦¦¦¦¦¦¦¦¦¦ and represents the first practical solution. Access to St Helena is envisaged as via Ascension Island and Cape Town. However it suffers from the fact that flight times, in particular to Cape Town, are long and that the traffic forecasts for this solution (HPR report 2001) are low and slow growing. The long flight times are considered to be a deterrent to some of the tourist market but would not deter the dedicated eco-tourist. Economic growth is likely to be restricted but positive. There would be improved CASEVAC over the present ability but Disaster relief is likely to be limited. Further, air cargo would be limited to small volumes of light freight and this option is therefore heavily reliant on sea cargo provision. However, as this represents an option that would provide air access at a suitable level and generate some economic growth, it is worthy of further investigation.

6.4 The assessment process adopted by this paper indicates that this solution could 'save' around ¦¦¦¦¦¦¦¦¦¦¦¦ in terms of the effect on the island's economy (simplified model) over the equivalent effect of replacing the RMS.

6.5 The assessment further indicates this option ranks **third** overall in comparison with Options 3 and 4 (air).

6.6 This option fails hurdle 2 and was therefore rejected.

Air access Option 3 - Medium length runway

6.7 At between ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ , this represents the middle capital cost investment. The extra runway length would enable a fast 19-seat business jet scheduled air service to be operated, also twin turboprop aircraft, independently of Ascension. The faster and longer range business jet could operate frequently to a large number of African destinations and link into flights operated by long haul carriers such as BA, SAA, Air France, Lufthansa and Kenya Airways. This could provide an attractive tourist package at all levels. The frequent flights would enable short stays on the Island and be of particular benefit to Saints returning to visit friends and relatives. The capacity of the aircraft matches the current and short term forecasts and therefore aircraft seat utilisation is likely to be high from the outset which in turn enables the ticket cost to be adopted at low risk to the operator. As traffic grows, further aircraft can be acquired to match traffic demand. CASEVAC would be fast and to a variety of destinations. Disaster relief by the RAF would be slightly payload limited but effective. Traffic growth would only be restricted by seat cost but this is expected to be in line with the costs of sea passage. There would be greater air freight capability than option 2 above but this would still be limited and this option is therefore heavily reliant on sea freight. This represents a middle range investment option which would provide frequent air access at a high level and generate the potential for economic growth. It is therefore, considered worthy of further investigation.

6.8 The assessment process adopted by this paper indicates that this solution could 'save' around ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ in terms of the effect on the island's economy (simplified model) over the equivalent effect of replacing the RMS.

6.9 The assessment further indicates this option ranks **second** overall in comparison with Options 2 and 4 (air). It is recommended for taking forward.

Air access Option 3 - Long Runway

6.10 The long runway is the best solution in terms of delivering an air service. A variety of air service options could be adopted ranging from the options outlined in Option 3 above to the use of B737 or equivalent aircraft operating in passenger or mixed passenger/freight (Combi) roles. Services could be either charter or scheduled and routes could be worldwide, depending on the aircraft type chosen. It would generate the highest traffic growth (HPR report 2001) and provide a good platform for encouraging economic growth. CASEVAC could be to Africa or other destinations depending on aircraft type. Disaster relief would be by the RAF to maximum payloads and this could be augmented by other civil aircraft. Operation of B737 type aircraft in the Combi mode could provide an air freight capability of up to 600 tons per year and this option is the least dependent on the use of sea freight. However, at ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ , it is the most expensive and it carries with it the greatest engineering (and therefore investment) risk. Although this represents the highest investment option for the provision of air access, it is also considered to generate the highest the potential for economic growth. It is therefore considered worthy of further investigation.

6.11 The assessment process adopted by this paper indicates that this solution could 'save' around ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ in terms of the effect on the island's economy (simplified model) over the equivalent effect of replacing the RMS.

6.12 The assessment further indicates this option ranks **first** overall in comparison with Options 2 and 3 (air). It is recommended for taking forward.

Airship and Amphibian options

6.13 Both of these solutions had some merit in that they presented low capital cost infrastructure solutions. However, they both carried inherent delivery risks in the production of suitable airships and amphibian aircraft. As a sole source of access, both solutions were unlikely to provide regular and reliable travel. Although each could be viewed as part of an attractive tourist package, they could not of themselves provide a suitable platform to be used as a basis for growing the St Helena economy over the next forty years. These options fail all three hurdles and were therefore rejected.

Alternative airport proposal

6.14 This proposal had some merit in that it proposed a very low capital cost investment ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦) in a new passenger terminal at Wideawake Airfield on Ascension Island. There were however serious drawbacks to the proposal. Firstly, a new ship would have to be purchased for passage to and from Ascension Island. When the cost of ship provision is included, the capital cost of this proposal rises to between ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ and ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ , possibly more, depending on the ship purchased and the landing facilities required. The proposal assumes an unrestricted use of Wideawake Airfield by civil aircraft flying internationally. This is currently forbidden under the terms of the 2003 UK/USA note relating to the use of civil aircraft at Ascension Island. Whilst it may be possible to renegotiate these terms, this is considered to be highly unlikely as the US DoD usage restriction relates to their concern of over utilisation of the runway by heavy aircraft and, specifically, to scheduled international flights. Furthermore, land for the construction of the new terminal would have to be acquired from either the UK MoD or the US DoD. Any such agreement (given that both parties were willing) would take considerable time to conclude. It should be noted that the 1985 note on lease-back of land for UK MoD use took over three years to agree. This proposal failed all three hurdles and was therefore rejected as unrealistic.

SEA ACCESS OPTIONS

Replacement RMS

6.15 This option, maintain the status quo, must remain as a possibility. Since it represents a known quantity it should be carried forward as the base case comparator. Some work may need to be done to update the present understanding of this base case but this is not anticipated to be significant.

Sea Access Option 2 – Medium-speed conventional passenger vessel + Separate cargo provision

6.16 This option separates the carriage of people and cargo in order to present a passenger vessel that would be both fast and attractive to the market whose interest is being sought. It might carry limited amounts of cargo but that would be very much a secondary purpose. Option 2 is a medium-speed vessel - 20 knots, at a capital cost of around

¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ . Its principal route would be St Helena – Cape Town but it would serve other regional ports. It would be capable of serving Europe and other continents also.

6.17 This type of vessel requires port facilities that allow passengers to embark and disembark in safety and comfort, while at the same time ensuring it can all be carried out quickly, with no fuss, to permit fast turnarounds. Such facilities are needed also to provide the reliability that ensures year-round, predictable availability of the vessel. This enables a liner schedule to be published. At St Helena, this would seem to require a breakwater, whose capital cost was estimated in 1996 to be around £22m (Coode Blizard). In present day terms this might have gone by another £6m or so.

6.18 Therefore the capital cost of providing this type of sea access will be in the region of ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ .

6.19 The provision of goods might be met by relying on the commercial market or by investing in a vessel or vessels to operate SHG's own service. This solution assumes that the current arrangements for delivering fuel products continue.

6.20 The qualitative assessment indicates this option ranks **second** overall in comparison with Option 3 (sea). The quantitative assessment process adopted by this paper indicates that this solution could 'lose' around ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ in terms of the effect on the island's economy (simplified model) over the equivalent effect of replacing the RMS (at least – probably more). This indicates that it would be a waste of effort to study it further and it is rejected.

Option 3 – High-speed conventional passenger vessel + Separate cargo provision

6.21 This option is the same in all respects as option 2 (sea) above but is for a faster vessel - 25 knots, at a capital cost of around ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ .

6.22 Together with port upgrades the capital cost would be in the region of ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ plus.

6.23 The provision of goods could be met by relying on the commercial market or by investing in a vessel or vessels to operate SHG's own service.

6.24 The qualitative assessment indicates this option ranks **first** overall in comparison with Option 2 (sea). However the quantitative assessment process adopted by this paper indicates that this solution could 'lose' around ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ ¦ in terms of the effect on the island's economy (simplified model) over the equivalent effect of replacing the RMS. As for option 2 this indicates that it would be a waste of effort to study it further and it is rejected.

Outcomes of previous studies

6.25 The 1984 report into shipping services for St Helena (Economic Consultants / Drewry / YARD) indicated that only those at the larger end of the scale considered (200 passenger berths, 5,000 to 8,000 tonnes of cargo) could be expected to offer annual revenues exceeding annual costs. The report qualified this expectation with the proviso that 'off-line' cargo and passengers would need to be attracted in addition to the normal Saint's demand

for travel and cargo (a 70% utilisation of available capacity for this purposes was assumed), which would also attract stiff competition.

6.26 All other types and sizes of design would return substantial losses or be unsuitable for the service and/or require chartering to satisfy the island's cargo needs.

Other solutions

6.27 The commercial market has shown interest in providing sea access and known solutions have been taken into account in preparing this paper. While they have been discounted as serious contenders for meeting the key objectives there is no reason why such initiatives should not be pursued in the future by others.

7 RECOMMENDATIONS

7.1 The judgements being taken as the best that can be attained thus far, it is recommended to consider further study of at least two air access options:

- Medium length runway
- Long runway.

7.2 In addition, provision of cargo by sea will need to be studied in detail and its feasibility by the most practical and cost-effective solution determined. This aspect will need to determine whether and of what type improved landing access for cargo is required.

7.3 Replacement of the RMS St Helena should be considered as the base case comparator and the option for sea access, against which outcomes of other procurement decisions may be judged. Such replacement needs to take into account the results of the tourism and Saints' travel demands, also of projected cargo requirements. Therefore assumptions made in the HPR 2001 report about replacement specifications need to be tested and a new replacement price obtained if needed. By definition, replacement of the RMS as a base case comparator implies no significant upgrade to the landing facilities at Jamestown and to some extent this flies in the face of improved access. This also should be tested.

7.4 As the feasibility study progresses it will be prudent to cross-check the judgements made in this paper with the findings of the consultants during their island and other visits and various surveys.

APPENDIX A – READING LIST

Literature Review List

URN	Author/ Organisation	Date	Title	Type
152	AICE Geography group	Dec-98	St Helena Access Study	h/c
153	Bertlin and Partners	Sep-72	Report on the Feasibility of Constructing a Breakwater or Small Boat Harbour at Jamestown	h/c
149	CAA	1973	CAA - Report on the feasibility of civil aviation development at St Helena	h/c
49	CAA	Nov-84	Feasibility of siting an Aerodrome on St Helena	elec
124	Cable & Wireless		St Helena Island, Telecommunications Services & Business Directory	h/c
154	Coode Blizard Limited	Aug-92	St Helena Small Boat Harbour in Rupert's Bay- Pre-Feasibility Study	h/c
156	Coode Blizard Limited	Nov-98	Vol 1: Geological and Quarry Investigations	h/c
157	Coode Blizard Limited	Nov-98	Vol 2: Breakwater Viability & Preliminary Design	h/c
158	Coode Blizard Limited	Nov-98	Vol 3: Motorised Pontoon Appraisal	h/c
159	Coode Blizard Limited	Nov-98	Vol 4: Review of SHG Preferred Scheme & Proposals for Passenger Terminal	h/c
160	Coode Blizard Limited	Nov-98	Vol 5: Further Environmental Studies	h/c
125	Coode Blizard Ltd	Apr-96	Jamestown Wharf Improvement Project - Appraisal Study, Volume 1, Traffic, Operations & Engineering Studies with Improvement Proposals	h/c

URN	Author/ Organisation	Date	Title	Type
147	Coode Blizard Ltd	Mar-00	Jamestown Wharf Improvement Project - Appraisal Study, Volume 2, Project Appraisal and Financing Study	elec
161	Curnow Shipping	Aug-96	South Atlantic Experience - RMS St Helena	h/c
83	DFID		Project Concept Notes	h/c
84	DFID	Jul-02	Programme Management Procedures	h/c
85	DFID		Project Preparation Guidance	h/c
116	Economic Consultants Ltd	Jul-84	Shipping Services to St Helena and the Falkland Islands	h/c
169	Economic Studies Group of Rendel Palmer & Tritton Ltd	Jan-93	Tourism Study - St Helena: Draft Final Report	h/c
108	Economic Studies Group of Rendel Palmer & Tritton Ltd	Oct-93	Tourism Study - St Helena: Final Report	h/c
146	Eric Taylor	May-04	St Helena Access - The 4th Option	elec
127-142	Errol Yon		Fast Ship by Errol Yon	elec
79	Freightstar	Dec-03	Air Service Provision & Operation of the Airfield	elec
166	G Maunsell & Partners	Aug-86	Sea Wall Protection and Landing Facility Improvements at James and Rupert's Bays. Phase 1- Feasibility Study: Final Report	h/c
162	G.P. Wild (International) Limited	Dec-96	A Study of Future Trends in the Cruise Liner Industry	h/c
74	HPR	Dec-03	Arrival Growth Excel Spreadsheet	elec
16	HPR	Jun-01	Comparative Study of Air & Sea Access Final Report	h/c
115	HPR	Sep-	Comprehensive Review of Shipping Arrangements	h/c

URN	Author/ Organisation	Date	Title	Type
		03		
76	HPR	Dec-01	Draft Report on various implications of a PPP structured air access project	elec
148	HPR	Dec-01	Report on airline interests and potential tourism market	h/c
163	HPR	Apr-95	RMS St Helena- Re-Scheduling Review; Draft Final Report	h/c
99	HPR	Feb-04	Ship Price Tables - Excel Spreadsheet	elec
164	HR Wallingford	Jun-98	St Helena, Jamestown Wharf Improvements: Computational wave modelling- Report EX 3879	h/c
165	HR Wallingford	Dec-98	St Helena, Jamestown Wharf Improvements: Physical Model Study - Report EX 3934	h/c
118	Kenneth Bain	1993	St Helena - The Island, Her People and Their Ship	h/c
122	Mervyn Bright	2003	A Link to St Helena - A Forgotten Island (MSc Dissertation)	h/c
48	Mike Bell	Mar-02	A Reduced Cost Air Access Option	elec
167	ODA	Mar-98	St Helena and Ascension Island Population Census 1987.	h/c
117	Overseas Development Administration	1990	Study into increasing the installed capacity of electrical power generation on St Helena	h/c
168	Physical Planner	Oct-92	Proposed Small Boat Harbour	h/c
25	Secretary of State for Foreign & Commonwealth Affairs	Mar-99	Partnership for Progress & Prosperity (Britain & Overseas Territories)	h/c
184	SHG	2000	A Report on the 2000 St Helena Household Expenditure	h/c
182	SHG	Dec-95	Airfield Project Survey	h/c

URN	Author/ Organisation	Date	Title	Type
20	SHG	Jan-57	Census of St Helena Island & Ascension Island 1956	h/c
75	SHG	Apr-02	Cost Benefit Analysis (final altered) for years 2002 to 2040 Excel Spreadsheet	elec
18	SHG	Mar-94	Estimates of Recurrent Revenue & Expenditure & Development Fund Estimates 1994/95	h/c
17	SHG	Mar-01	Estimates of Recurrent Revenue & Expenditure & Development Fund Estimates 2001/02	h/c
183	SHG	Mar-97	Market Trends in St Helena's Tourism Industry 1991- 1996- Economics information paper: Number 5	h/c
65	SHG	Dec-03	Monthly Rainfall Statistics 1992-2002	elec
66	SHG	Dec-03	Monthly Weather Statistics 1992-2002	elec
170	SHG	Nov-84	Report on the Feasibility of Siting an Aerodrome on St Helena: Civil Aviation Authority	h/c
196	SHG	2004	Shipping Subsidy Estimates	elec
192	SHG		Single Programming Document & Indicative Programme 2003-2007	elec
121	SHG	Jan-02	St Helena Government - Listing of Staff, Councils, Boards and Committees	h/c
38	SHG	Jan-01	St Helena Hotel Accommodation Tax Ordinance	h/c
120	SHG	Sep-99	St Helena Human Development Report	h/c
64	SHG	Jan-01	St Helena Immigration Control Ordinance	h/c
39	SHG	Jan-01	St Helena Income Tax Ordinance	h/c

URN	Author/ Organisation	Date	Title	Type
23	SHG		St Helena Land Development Control Plan (1993 - 2012)	h/c
143	SHG	Jun-01	St Helena Policy Matrix: Action Planned for 2000/01 to 2002/03, Showing progress up to March 2001 and inputs and outputs for 2001/2002	h/c
19	SHG	1962	St Helena Report 1960 and 1961	h/c
40	SHG	Jan-01	St Helena Stamp Duties Ordinance	h/c
171	SHG	1988	Statistical Year Book 1988	h/c
172	SHG	1989	Statistical Year Book 1989	h/c
173	SHG	1990	Statistical Year Book 1990	h/c
22	SHG	Jun-92	Statistical Year Book 1991	h/c
174	SHG	1992	Statistical Year Book 1992	h/c
175	SHG	1993	Statistical Year Book 1993	h/c
176	SHG	1994	Statistical Year Book 1994	h/c
177	SHG	1995	Statistical Year Book 1995	h/c
178	SHG	1996	Statistical Year Book 1996	h/c
179	SHG	1997	Statistical Year Book 1997	h/c
180	SHG	1999	Statistical Year Book 1999	h/c
21	SHG	May-02	Statistical Year Book 2000	h/c
181	SHG	2002	Statistical Year Book 2002	h/c
123	SHG	Aug-99	The 1998 Population Census of St Helena	h/c
24	SHG		The St Helena Strategic Review 2000-2010	h/c
190	St Helena Corridor (pty) Ltd	2004	SHC Mission Statement	elec
150	Symonds Group		Support to Initial access study	h/c
185	TECNECON	May-	Rescheduling Study for RMS St Helena- Final Report	h/c

URN	Author/ Organisation	Date	Title	Type
		96		
90	Three Quays Marine	Jan-04	RMS Final Replacement Review	elec
95	Three Quays Marine Services	Jan-04	Cost Estimate for RMS St Helena Replacement	elec
188	Unknown	1996	Photographic Illustrations of the Jamestown Wharf	h/c
126	Unknown	1998	The Island of St Helena, Tourist & Travel Info	h/c
109	World Tourism Organisation	1997	St Helena Tourism Master Plan	h/c
186	WSP International Limited	Nov-98	Jamestown Wharf Improvement Project: Information and Sources Report: Draft	h/c
187	WSP International Limited	Nov-99	Jamestown Wharf Improvements: Physical Model Study: Consultant's Summary	h/c
151	Your Questions	2001	Air and Sea Access Project Office (ASAP)	h/c

APPENDIX B – ROLE OF ASENSION ISLAND IN SUPPORTING ACCESS TO ST HELENA

Appendix C – AIR ACCESS DATA SHEET

APPENDIX D – SEA ACCESS DATA SHEET

APPENDIX E – ASSESSMENT CRITERIA

1. Costs

Estimated initial capital cost (cheapest is best)
Estimated major replacement cost contribution and year (cheapest & longest is best)

Recurrent annual costs component (Years 10 and 20) (least is best)

Indicative PV of costs contribution (lowest is best)
Cost of supporting infrastructure (lowest is best)
Likelihood of operating subsidies (low risk is best)

2. Environment

Impact of construction of option (least is best)
Impact of access arrangements required by option (least is best)
Impact of operation of option (least is best)
Impact of resulting economic and social development (least is best)

Even though the option may lead to some permanent loss of habitat for endemic species, is it likely to adversely affect the sustainability of the species on the island? (least is best)

3. Economic Set

Degree of positive change in economic development (measurable in terms of GDP per capita) (most is best)
Level of required budgetary support (least is best)
Option leads to the sustainable development of identifiable key sectors on the island? (most is best)
Option creates, in net terms, sustainable jobs for Saints (most is best)

Number of SH resident trips (most is best)
Sustainable employment creation (most is best)
Overall impact on GDP
Impact on GDP/capita
Potential for private sector investment (most is best)

4. Travel and Fares (Freight) Set

Journey time from STH to:
- Ascension Island (quickest is best)
- CPT (quickest is best)
- Falkland Islands (quickest is best)
- LDN (quickest is best)

Frequency of access (most is best)
Ease of access (easiest is best)
Fare (Freight) level (cheapest is best)
Potential for 'open skies' (both air and sea) (highest is best)
Type of investment attracted (yes/no)
Routes (most direct destinations is best)

5. Institutional Impact

Risk that vital legal / constitutional change can be effected in acceptable time frame:

- Environmental/ Planning/Property law
- Labour law
- Fiscal Law
- Immigration law
- Aviation and security law (least risk is best)

Need for new bodies / processes / competence unable to be met - Need for increased staffing, or more skilled staffing cannot be met

Key workers - facilitating availability and training

Impact on public services and utilities

Overall degree of cost/effort required to effect necessary institutional changes

6. Social Impact

Land take requiring relocation / significant compulsory purchase (least is best)

Real improvement in travel options for Saints community (frequency, cost, affordability and ability to access) (most is best)

Impact of construction labour force (lowest is best)

Potential to reverse migratory trend (highest is best)

Promotion of Saint SMEs (most is best)

Mitigation effort to achieve an acceptable level of physical/social disruption to residents (least is best)

Potential for development gain / contribution to social infrastructure (most is best)

Effect on vulnerable groups (elderly, unemployed, low income, poor housing)

Impact on cost of staple goods, housing, and cost of living arising from changes in freight costs

7. Evacuation Services

Casivac (highest is best)

Medivac

Disaster relief

8. Operations

Practicality - for sea access, means year round operation (most is best)

Reliability - for sea access, means proven design & flag/class experience (most is best)

Longevity (longest is best)

9. Procurement

Could be structured for private sector financing with minimal HMG backing (least is best)

APPENDIX F – KEY STAKEHOLDER PERSPECTIVES

HMG Perspective

Key aims of DFID:

- Building the economy
- Reducing the St Helena subsidy
- Passing over control of St Helena affairs to SHG

SHG Perspective

Key aims of SHG

- Sustainable and real economic development through increases in tourism and other related sectors
- Manageable operation costs
- Strong connections with world transport hubs
- Institutional impact
- Option must be sustainable in the foreseeable future.

On-Island Saints' perspective

Key aims of On-Island Saints:

- Social impacts are important
- Economic development to the average person
- Institutional impact
- Environmental impact
- Travel and fair set
- Evacuation services

On-Island Saints' perspective

Key aims of Off-Island Saints:

- Fast, reliable, predictable access from major world hubs (preference UK?)
- Affordable ticket costs
- Real benefits delivered to island not to foreign tour operators
- Environmental and social impact

Tourist Perspective

Key aims of Tourists (all segments; representing also tour operators):

- Affordable, reliable service
- Island based facilities and infrastructure (likely to be delivered through Economic development)
- Connection to international transport hubs
- Low number of changes or stopovers on flight
- Acceptable flight time.

Suggested weights by perspective

	Weighting Perspectives					
	HMG	SHG	On Island	Off Island	Tourism	Atkins
1. Costs	4	2	1	1	0	4
2. Environment	1	1	3	2	1	2
3. Economic Set	5	5	5	4	2	5
4. Travel and Fares Set	4	4	5	5	5	4
5. Institutional Impact	1	0	1	1	0	2
6. Social Impact	2	2	5	3	0	2
7. Evacuation Services	1	1	4	1	2	1
8. Operations	5	5	5	5	4	5
9. Procurement	0	0	0	0	0	2

APPENDIX E : PROXY ISLANDS STUDY

CONTENTS

EXECUTIVE SUMMARY

1. This study represents an important set of comparisons with the experiences of other islands for St Helena. It focuses on what has been happening on 10 islands over the past few decades and brings messages in areas such as tourism strategy, managing the growth and control of tourism, effectiveness of marketing to the largest world growth industry, pricing and government receipts. Two islands in particular, Easter Island and Dominica, represent the closest models for St Helena.

2. It is evident that St Helena will have to work hard to compete since it has no clearly identifiable (identifiable to the market) competing feature. Its attractiveness will be its nature, history, remoteness, 'newness' (unspoilt, few places now 'undiscovered'), security, climate, and so on. Its remoteness will cause it to have to price itself sensitively; by comparison, the cost of getting there is likely to be high. Where other islands often benefit from not only national but also close proximity geographic links with major economies, St Helena's remoteness will tell against it.

3. Inward investment has been attracted by islands where tourism has taken off as a result of air access but the data is too coarse to establish direct linkages. Policies have had to be evolved to regulate it (planning, taxation) while seeking to maximise benefit to local economies. Island economies have successfully accommodated new tourism in established local accommodation stock or grown it in response.

4. Where the demand assessment and time-profile of our earlier Tourism Study[1] reflects the perceptions of an unknown product in a highly diffused sector of the tourist industry, i.e. other than the mass-appeal sector, the experiences of other islands indicates that such demand could if marketed effectively, be accelerated.

5. The experiences of successful tourism as a result of air access in other islands indicates that given the relatively small size of St Helena, there could arise a need to cap the number of visitors to the island on any one day. This study has been useful in this regard because it leads to the use of the number of beds available as a device for limiting growth. These findings – growth rate and number of accommodation beds available – are applicable to modelling the economic effects of tourism on St Helena.

6. The prospects for St Helena would appear to be good, taken in the context of rapid growth of tourism worldwide and of other, comparable islands. But it will take hard work, well-connected, effective, international marketing, very close attention to detail and consistency of message and brand, and an outward, commercial awareness when creating policies designed to attract both tourists and inward investment.

1 INTRODUCTION

1.1 This paper presents the analysis of the tourism development patterns of ten selected islands that could be used as 'proxies' for St Helena, i.e. to provide insights into the potential economic development of St Helena.

1.2 A separate paper[1] discusses the market for tourism, based on the market's perceptions of and knowledge of St Helena today, augmented by the descriptions given by the consultants during the course of that study. This Proxy Island study takes full account of the findings of the Tourism Study and attempts where possible and relevant to incorporate the apparent requirements of the 'St Helena market' on the one hand, and of the experiences of other islands with 'their markets' on the other.

1.3 The study is important in the context of the Access Feasibility Study because it informs expectations of demand and prices (fares), offers policy models, can be used in modelling the effects of tourism on the island's economy and indicates a need to manage growth in such a way that it does not irreparably damage either the brand name or the standard of living for the islanders themselves.

1.4 The objectives, scope and approach to the island proxy research are outlined in Section 2. Section 3 presents an overview of tourism development for the selected islands and provides an analysis of the costs and benefits associated with tourism development. Section 4 presents models of tourism development that provide useful insights into the potential development pattern for St Helena. Section 5 presents revised projections of potential tourism demand for St Helena based on the review of tourism development patterns of the proxy islands. Analysis of the policies, incentives and measures undertaken by the islands to stimulate tourism development is provided in Section 6. Section 7 draws out the main conclusions and potential implications for St Helena.

[1] 5303 Tourism Market Study v6, issued 6th September 2004

2 OBJECTIVES, SCOPE AND APPROACH

OBJECTIVES

2.1 The principal aim of this study is to identify patterns of tourism take-up that have occurred on other islands, which would be valid for use in informing the tourist demand projections for St Helena, to assist in setting realistic boundaries on various GDP parameters, and generally to inform SHG of important areas for policy-making. It is of particular interest to SHG that the tourist demand projections empirically derived by the market demand assessment[1] could be verified and possibly modified. Overall this important study carried aspirations of creating a richer and better informed base for the tourism development scenarios to be used in the Feasibility Study economic model.

2.2 It was also hoped that the study would generate insights into the measures that have been successful in encouraging investment and promoting tourism. This part of the research will inform the recommendations about the institutional structures and interventions necessary to address the impacts associated with tourism development.

2.3 Specific objectives driving the island proxy research were to derive useful indicators as to:

- Potential tourism development patterns for St Helena
- The investment requirement in facilities and infrastructure to stimulate and ensure sustainable tourism development
- Models of tourism growth that may be applicable to St Helena with associated economic impacts
- Policies and action plans that have facilitated investment and development of sustainable tourism.

SCOPE

2.4 Throughout the research the focus was on examining islands whose economic development is dependent on tourism, islands that have air access and that have experienced growth in tourism since airport development, and that have similar geographical features to St Helena, such as terrain and climate. Another major selection criterion was the size of the population. However it became clear very early in the research process that the majority of potential island 'proxies' would have populations much larger than St Helena.

2.5 Following the extensive literature and data review in the earlier stages of the project a short-list of ten islands was chosen and agreed with SHG and DFID for detailed review[2]. These are:

- Cook Islands
- Dominica
- Easter Island

[2] 5217 Island Proxies Paper (Approach), 16th July 2004

- Galapagos Islands
- Grenada
- Madeira
- Mauritius
- Saint Kitts and Nevis
- Seychelles
- Vanuatu.

APPROACH AND CONSTRAINTS

2.6 A number of secondary and primary sources of information were used in the course of this research. For general economic and tourism statistics extensive use was made of published and on-line data sources such as the United Nations Statistical Yearbook Series, the International Monetary Fund Series, the World Trade Organisation's Compendium and yearbooks of Tourism Statistics and the World Bank Online Database.

2.7 Tourist Boards, government agencies, national statistics divisions, desk officers of the Foreign & Commonwealth Office and British Government overseas representatives were contacted with request for information on tourism development policies and plans, incentives and measures aimed at attracting inward investment in tourism and on specific plans and actions aimed at promoting conservation, ecotourism and sustainable tourism development and at mitigating the negative impacts of tourism. A number of academic publications were also reviewed.

2.8 The sources used in the course of this study are presented in the Appendices:

- Annex A presents a list of all the references we have used over the course of this study.
- Annex B provides a compendium of economic and tourism data.
- Annex C presents a range of macroeconomic and tourism related graphs.

Comment on data available

2.9 One major constraint in the research process was the consistency and quality of available data. Although the aim was to gather as complete as possible a set of economic and tourism-related data on each island, such complete data sets were only possible for a few islands. Particular problems were experienced in obtaining information on an individual island from an archipelago: breakdown of economic data or information on specific policies is not always available. Only limited data was available on three of the ten islands of interest: Madeira, Easter Island and the Galapagos Islands. As they are not individual countries their economic data is not provided separately from that of Portugal, Chile and Ecuador, respectively.

2.10 A particular difficulty was encountered when trying to obtain sufficiently long time series data on tourism receipts and tourist arrivals to assess the impact on air access

development on tourism growth. For the majority of the islands records of tourist numbers[3] and tourist receipts[4] start in the 1980s or 1990s, whereas the respective airport construction and subsequent developments took place much earlier. (See Table 2.1 below).

Table 2.1 – Data Availability

Island	Airport development	GDP data from	GDP/capita data from	Tourist numbers data from	Tourist receipts data from
Cook Islands	1974	1970	1970	1985	1985
Dominica	1958; late 1970's	1970	1970	1980	1980
Grenada	1984	1970	1970	1975	1975
Mauritius	1946, 1987	1970	1970	1973	1973
St Kitts and Nevis	1960's. 1972, 1993-96	1970	1970	1983	1983
Seychelles	1971	1970	1970	1971	1976
Vanuatu	1992, 2003	1970	1970	1977	1985
Easter Island	1967, 1986	-	-	1990	-
Galapagos Islands	1969	-	-	1979	-
Madeira	1964, 2000	-	-	1998	1998

[3] We have used 'tourist numbers' as equivalent to the term 'international visitor' defined by the WTO as "any person who travels to a country other than that in which he/she has his/her usual residence but outside his/her usual environment for a period not exceeding 12 months and whose main purpose of visit is other than the exercise of an activity remunerated from the country visited" (UN Statistical Yearbook)

[4] Defined by the WTO as "expenditure of international inbound visitors including their payments to national carriers for international transport. They also include any other prepayments made for goods/services received in the destination country and receipts form same day visitors" (ibid.)

3 TOURISM DEVELOPMENT

OVERVIEW

3.1 Table 3.1 below compares the islands in terms of various indicators of size: geographic area, population, GDP and number of tourists.

Table 3.1 – Island Comparison (2001)

Island	Population	Area (km^2)	GDP/capita (current US$)	Tourist Numbers ('000)
Mauritius	1,200,000	2,040	3823	660
Madeira	261,000	779	-	843
Vanuatu	201,000	12,200[5]	995	53
Grenada	102,600	344	2767	123
Seychelles	81,200	455	6822	130
Dominica	71,300	754	2706	68
St Kitts & Nevis	46,100	261	5313	75
Cook Islands	20,600	240	3981	75
Galapagos Islands	20,000	7,880[6]	-	78
Easter Island	3,700	164	-	26
Saint Helena	**4490**	**121**	**3227***	**<1**

*Based on mid year exchange rate of 1USD = 0.7 GBP

TOURISM GROWTH

3.2 All islands have experienced significant growth in tourist numbers over the last 15-20 years. Figure 3.1 below compares the islands in terms of number of tourists they have attracted over time. The tourist numbers for Mauritius and Madeira are presented separately in Figure 3.2 for clarity as they by far exceed those for the other islands.

3.3 Madeira attracts in excess of 800,000 tourists p.a. and Mauritius in excess of 600,000. The Seychelles and Grenada attract in excess of 120,000 tourists p.a. and St Kitts over 80,000. Dominica, the Cook Islands and the Galapagos attract in the region of 70,000 tourists, although the latter has experienced impressive growth in the last two years of the time period and has exceeded 80,000 tourists. Vanuatu and Easter Island attract fewer tourists – over 40,000 and 20,000 respectively.

3.4 Easter Island has experienced the highest growth rate: 15% compound annual growth rate. Mauritius, Dominica, the Galapagos and Grenada have experienced growth rates of 8.5%, 8.5%, 8.4% and 8.2% respectively. The Seychelles and the Cook Islands have

[5] Includes more than 80 islands, about 65 of which are inhabited

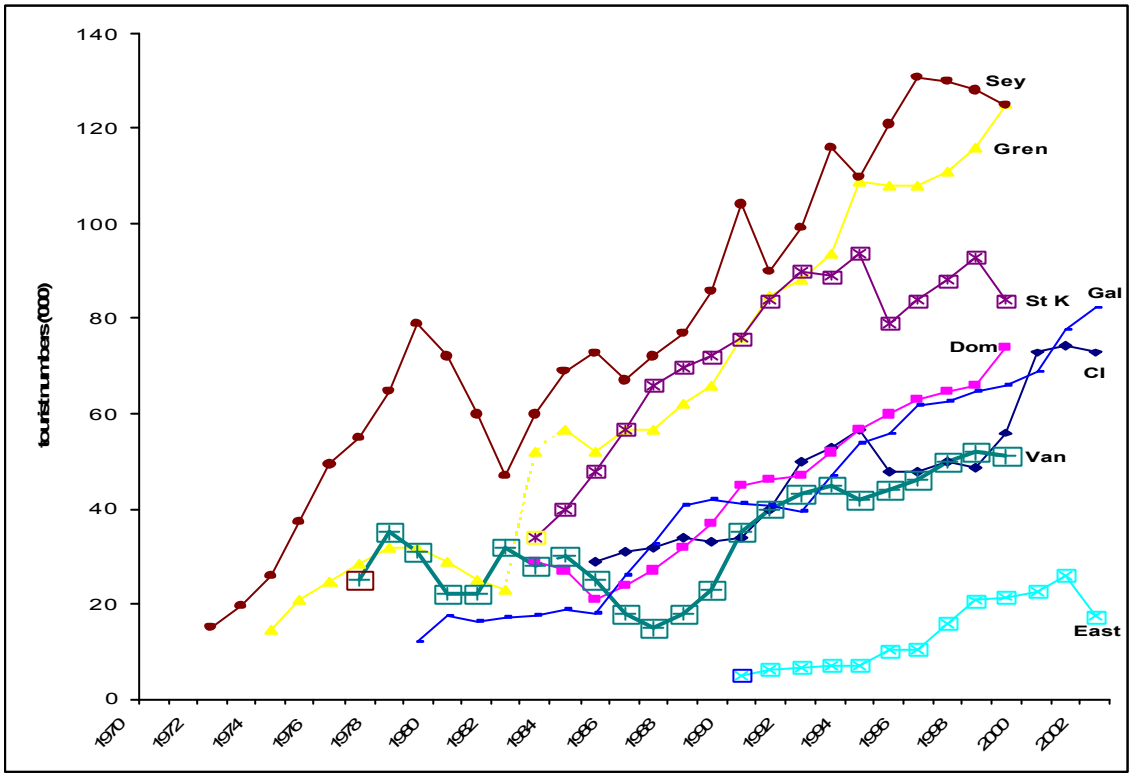
[6] Land mass over an area of 50 000 km^2 of ocean.

experienced growth rates of 5.9% and 5.6% respectively. Vanuatu and St Kitts have achieved the least growth, of 3.8% and 3.9% respectively.

3.5 None of the data on tourist numbers goes sufficiently far back in time where the levels of tourist demand would be comparable to the current numbers for St Helena. For most islands there is no data available prior to the 1980s or 1990s. This does not allow us to capture a fuller picture of the evolution of the tourist sector and of the true timescale over which the islands have achieved the current levels of tourist demand.

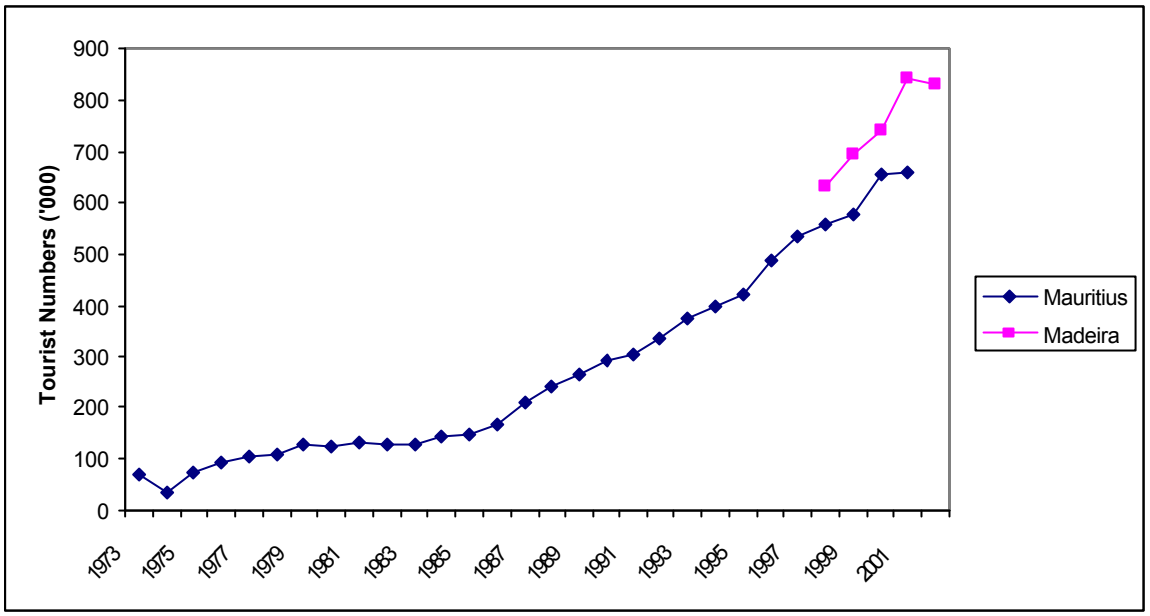
3.6 Based on the data available, it has taken Mauritius 28 years to attract 660,000 tourists (in 2001) from 68,000 in 1973 - an almost 10-fold increase. Easter Island has seen a five-fold increase in numbers over 11 years: from just under 5000 tourists in 1990 to over 25,000 in 2001. Dominica has seen a similar, almost 5-fold increase in numbers over 21 years, from some 14,000 tourists in 1980 to 68,000 in 2001. In contrast Vanuatu has seen a much more modest, three-fold increase over a 24 year period: tourist numbers have increased from over 25,000 in 1977 to some 82,000 in 2001.

Figure 3.1 – Island Comparison: Number of Tourists p.a. ('000)



Sources: UN Statistical Yearbook Series, Island Heritage Organisation, Sernatur, Honorary Consul – Galapagos

Figure 3.2 – Mauritius and Madeira: Number of Tourists p.a. ('000)



Sources: UN Statistical Yearbook Series, Direccao Regional de Estastica da Madeira

REGIONAL GROWTH COMPARISON

3.7 Figures 3.3 to 3.6 below compare the growth in tourist numbers for the individual islands to the growth for the respective region as a whole. (Tourist numbers have been recalculated to compare against a common base with 1985 tourist numbers taken as a base of 100).

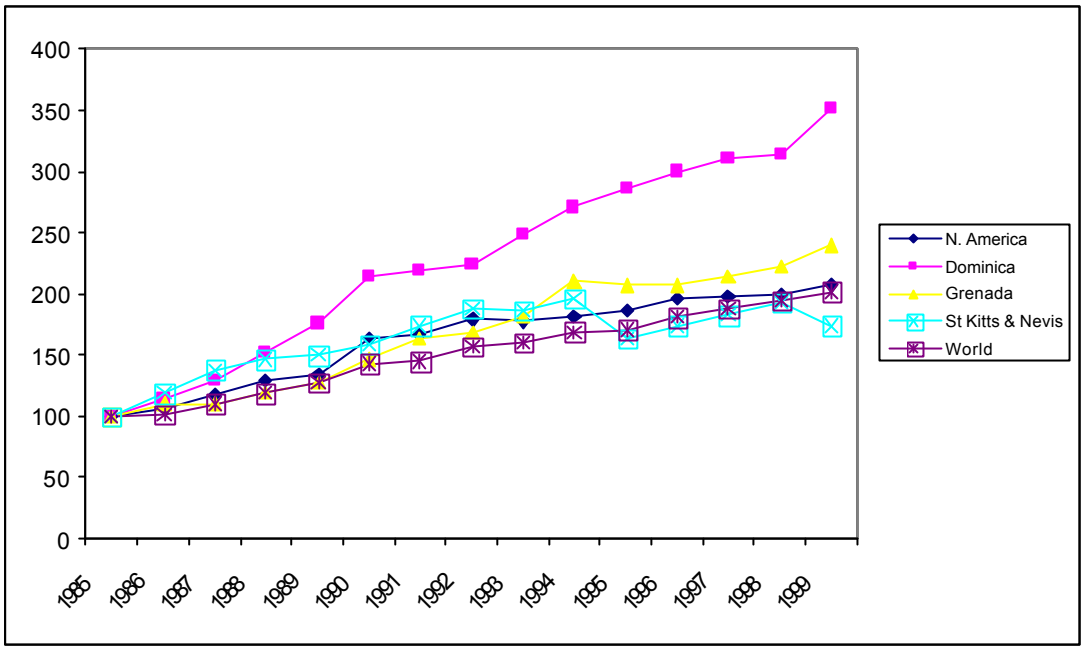
3.8 The tourist numbers for Dominica have been growing faster than those for the region as a whole. In 1999 Dominica attracted three times as many tourists as in 1985. The growth in tourist numbers for St Kitts and Nevis has been slower than that for the North America region as a whole whilst Grenada slightly exceeded the regional growth rate.

3.9 The growth in tourist numbers for Mauritius has considerably outpaced that for the region. For the Seychelles the growth was in line with regional growth for the first three years of the period and has since lagged behind. For the Cook Islands and Vanuatu the growth in tourist numbers has been slower than that for the region as a whole.

3.10 Easter Island and the Galapagos have seen an impressive growth in tourists far outpacing the growth of the South America region as a whole.

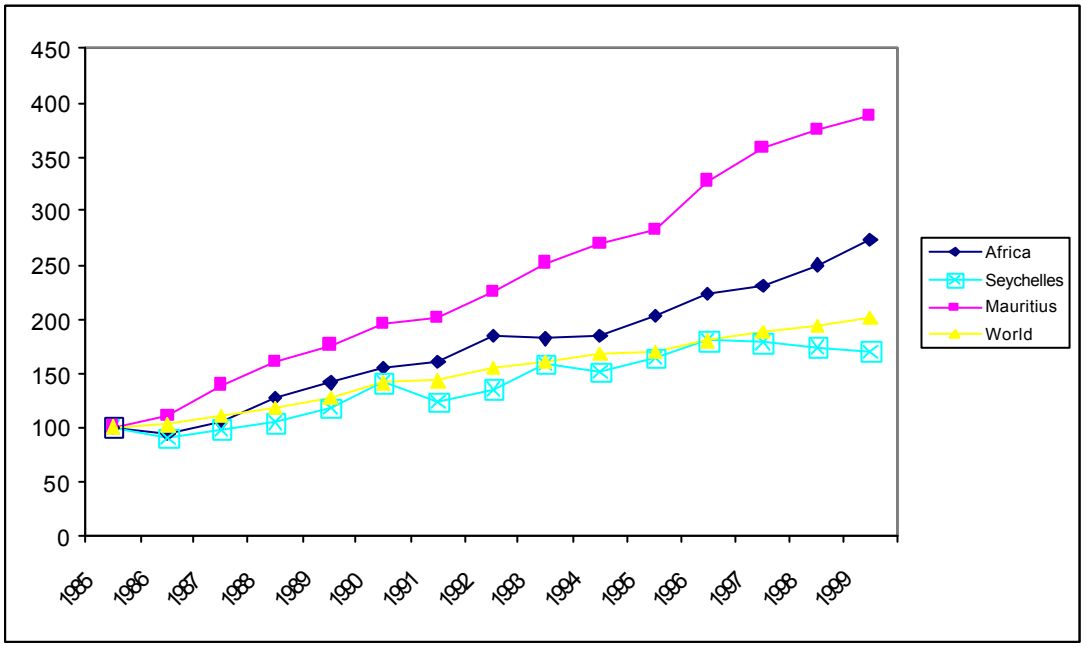
3.11 This comparison indicates the relative success of Dominica, Mauritius, Easter Island and the Galapagos Islands in attracting a growing share of tourists in the respective region. At the same time however these islands started developing their tourism later than Seychelles or Grenada, which have well developed mature tourist industries.

Figure 3.3 - Number of Tourists for Dominica, Grenada, St Kitts and Nevis: Growth Comparison to Regional and World Growth



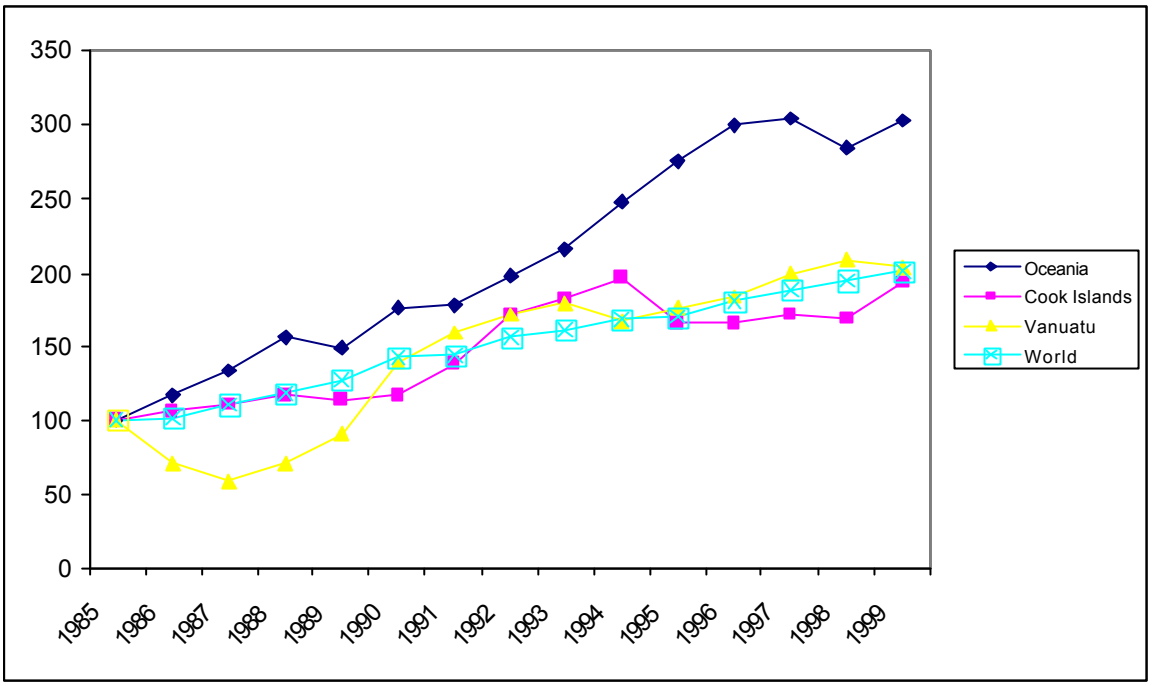
Source: UN Statistical Yearbook Series

Figure 3.4 - Number of Tourists for Seychelles and Mauritius: Growth Comparison to Regional and World Growth



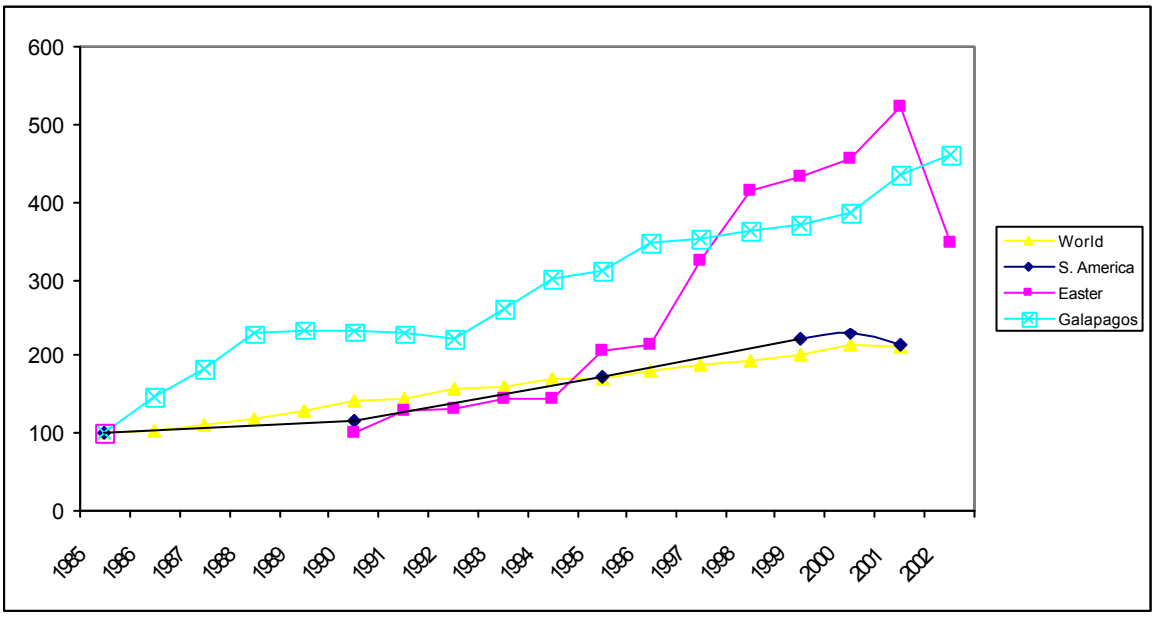
Source: UN Statistical Yearbook Series

Figure 3.5 - Number of Tourists for the Cook Islands and Vanuatu: Growth comparison to regional and world growth



Source: UN Statistical Yearbook Series

Figure 3.6 - Number of Tourists for Easter Island and the Galapagos Islands: Growth comparison to regional and world growth



Source: UN Statistical Yearbook Series

MAIN SOURCE MARKETS

3.12 Figures 3.7 to 3.10 below present the breakdown of tourist arrivals by main source markets for each of the islands. For Galapagos and Easter Island the domestic markets provide the major source of tourist arrivals, i.e. Ecuador (27%) and Chile (22%) respectively. For the Cook Islands New Zealand accounts for the largest proportion of tourist arrivals (33%). Australia and New Zealand account for 77% of the total number of tourists for Vanuatu. For Dominica and St Kitts and Nevis, other Caribbean countries and the USA are the main source markets, accounting jointly for 80% and 71% respectively. For Grenada the major source markets are the other Caribbean countries, the USA and the UK, accounting for 21%, 26% and 23% respectively. For Mauritius the main source markets are France (30%) and Reunion (14%), and for the Seychelles - France (20%), Italy (16%), UK (13%) and Germany (13%).

3.13 The regional breakdown of tourist arrivals highlights the importance as source markets of large economies that are close geographically, of domestic markets (in the cases of the Galapagos and Easter Island) and of countries with historic connections to these islands (e.g. France as a main source market for Mauritius and the Seychelles).

3.14 These trends underscore the importance for St Helena in the future of traditional source markets such as the UK and France, on the one hand, and of South Africa, as a potential source market, on the other. South Africa is the closest large economy to St Helena and despite the large proportion of the population living in poverty, it is the richest economy in Africa.

3.15 Table 3.2 below compares South Africa to Chile and Ecuador, the latter being the major markets for the Galapagos and Easter Island. With lower life expectancy, higher infant mortality and somewhat lower literacy rate South Africa portrays poor social conditions particularly when compared to Chile. At the same time the population of South Africa is three times that of Chile or Ecuador and South Africans undertake a significant number of tourist trips abroad, dwarfing those for Ecuador. Despite the considerable difference in GNI/capita South Africa's outbound tourist departures have grown in similar fashion to Chile's.

3.16 Despite the lack of air access to St Helena the percentage of South Africans of the total tourist market for St Helena is not that different from the share of Chileans and Ecuadorians of the total markets for Easter Island and the Galapagos respectively, which have long established air access.

Table 3.2- Statistics for South Africa, Chile and Ecuador

	South Africa	Chile	Ecuador
GNI/capita Atlas method (2003) US$	2780	4390	1790
Population (2003) million	45.3	15.8	13.0
% of visiting tourists to SH/Easter/Galapagos respectively	17%	22%	24%
Outbound tourist departures, thousand, (2001)	3,733	1,608	562
% change in outbound tourist departures 1997 to 2001	27.6%	27.3%	75%

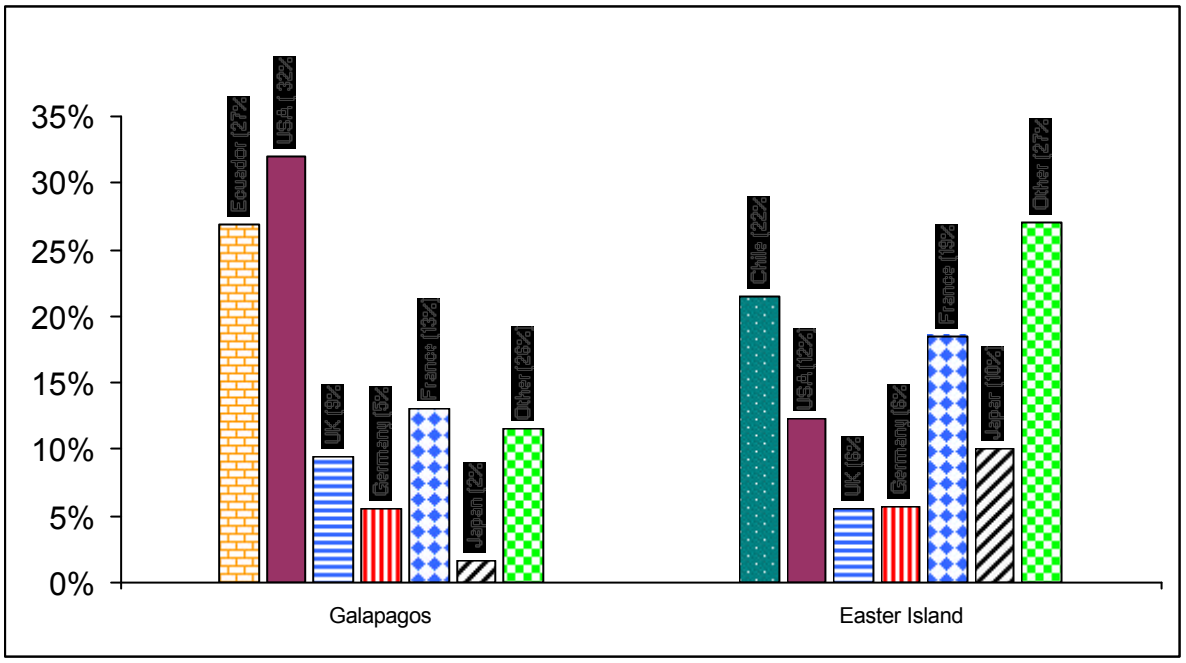
Tourism expenditure in other countries, US$ million (2001)	1,917	1,040	340
Life Expectancy (2002) years	46.5	76.3	70.4
Infant mortality per 1,000 births	52	10	25
Literacy rates	86%	96%	91%
Net primary enrolment (2001)	90%	89%	98%
Net secondary school enrolment (2001)	62%	72%	47%
Aid/capita US$	14.5	-1.5	16.9

Source: World Bank, WTO

3.17 Another factor that affects long-haul leisure travel in particular are airfares. The cost of travel may also help explain the shares of the source markets (and the success therefore of islands in attracting tourists from particular regions). Table 3.2 below presents a comparison of the cost of access to the islands based on typical current airfares. The table provides estimates of the potential airfares from major source markets to St Helena (for the Long Runway Option) via Cape Town - likely to be the main international gateway for travel to St Helena. As illustrated by the Figures below, Europe and the USA are relatively small source markets for a destination such as Vanuatu largely because of the cost of travel compared to that for other islands, e.g. in the Caribbean. Similarly the small share of European tourists (excluding the UK) for the Cook Islands can be explained with the high airfares.

3.18 The cost of a return flight to St Helena from Cape Town under the Long Runway scenario is estimated (for the purposes of this Paper) at a minimum of ¦ ¦ ¦ ¦ (which is in excess of ¦ ¦ ¦ ¦). The cost of a return flight to Cape Town exceeds ¦ ¦ ¦ ¦ for most European destinations, is in excess of ¦ ¦ ¦ ¦ for US tourists and over ¦ ¦ ¦ ¦ for Japanese tourists. For most main source markets therefore St Helena is likely to be an expensive destination compared to other islands.

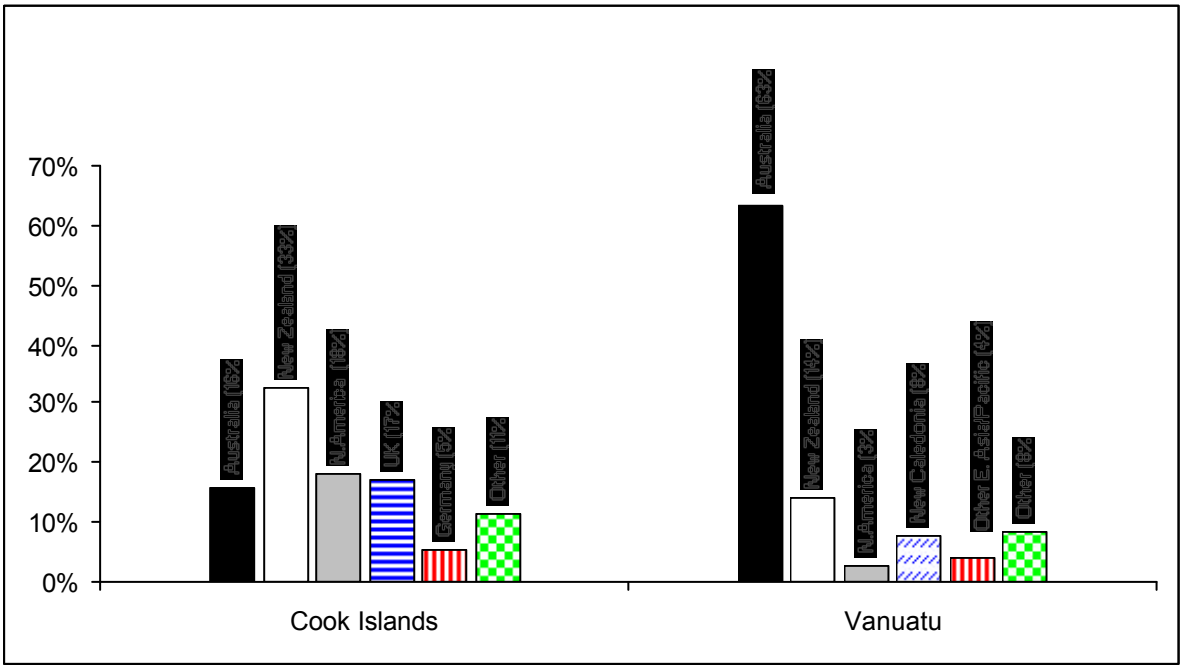
Figure 3.7 – Galapagos* and Easter Island: Breakdown of tourists by country of origin**



*Data for 2001, **Data for 2002

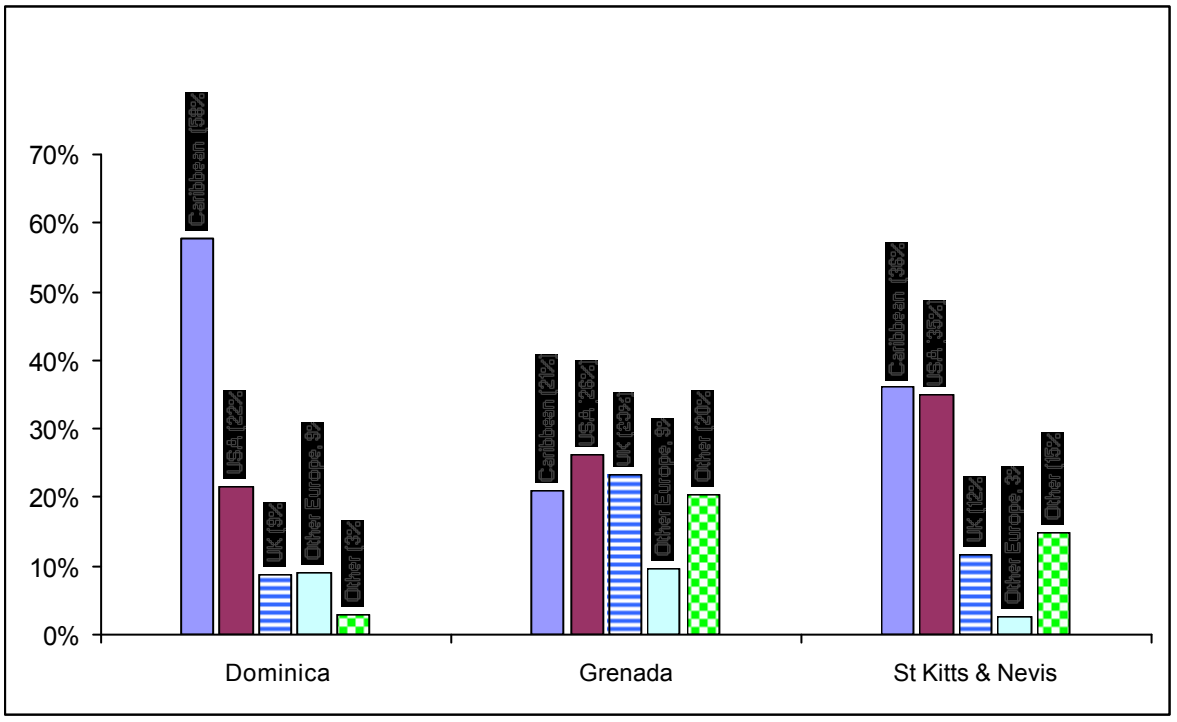
Sources: Island Heritage Organisation, Honorary Consul – Galapagos

Figure 3.8 – Cook Islands and Vanuatu: Breakdown of tourists by country of origin (2001)



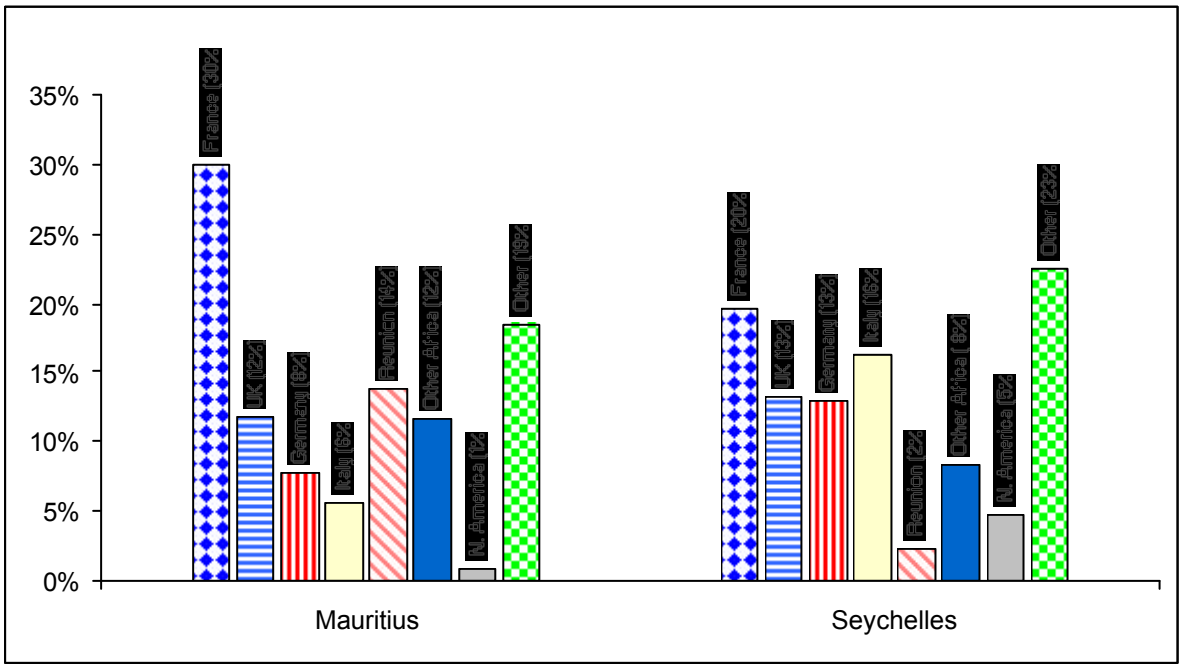
Source: WTO

Figure 3.9 – Dominica, Grenada and St Kitts and Nevis: Breakdown of tourists by country of origin (2001)



Source: WTO

Figure 3.10 – Mauritius and the Seychelles: Breakdown of tourists by country of origin (2001)



Source: WTO

Table 3.2 – Airfare Comparison (US$)

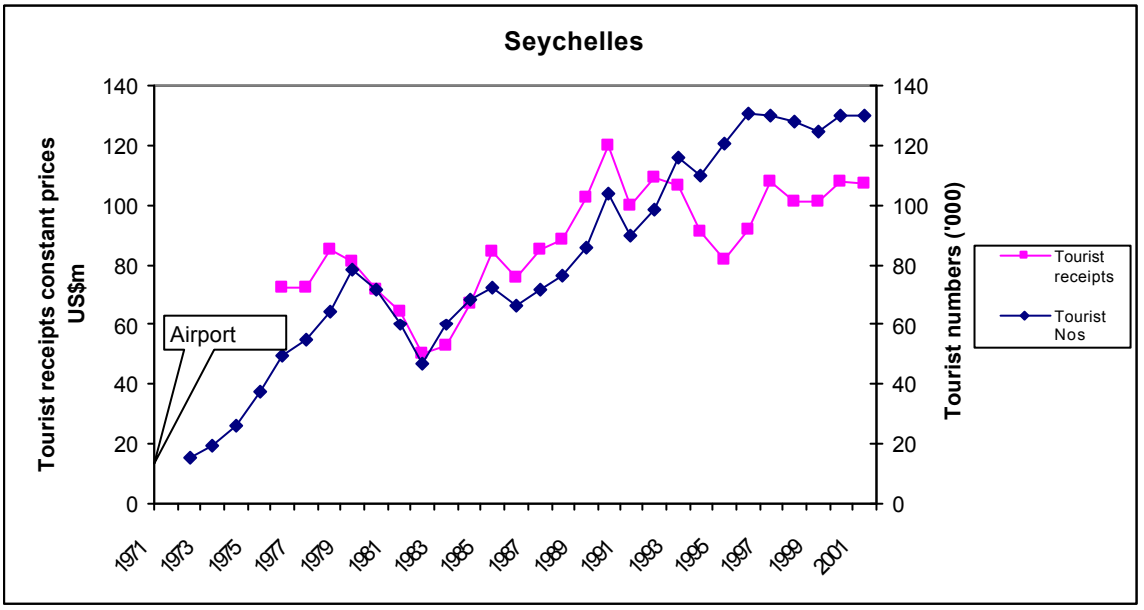
US$	USA	Caribbean Islands	UK	Germany	France	Australia	New Zealand	Reunion	Japan
Cook Islands	1300-1800		1300	1800	2000	550-950	400		
Dominica	400-800	150-200	1100	1150					1600
Easter Island	1300-1400		1600		1550-2000	1850			2150
Galapagos	900-1400		1300	1500					2300
Grenada	300-450	50-150	950	1150					1600
Madeira			250	250					
Mauritius			750	1150	750			250	2450
St Kitts & Nevis	360-900	150-200	950	1150					1600
Seychelles			550	800	850			550	1350
Vanuatu	2500-4000		2700-3000	3000+		500-800	1800		
Cape Town	1500-2000		1000	1200	1000-1200	1000-1500			4000
St Helena via Cape Town	¦ ¦ ¦ ¦		¦ ¦ ¦ ¦	¦ ¦ ¦ ¦	¦ ¦ ¦ ¦	¦ ¦ ¦ ¦			¦ ¦ ¦ ¦

IMPACT OF AIR ACCESS

3.19 One of the aims of the island proxy research was to assess the impact of air access development on the growth of the tourist industry. As discussed above, for most of the islands the available tourism-related data does not extend sufficiently far back in time to allow comparisons of tourism development prior to and post airport development.

3.20 Previous research suggests that the opening of the international airport has been the major impetus in driving the development of a tourist industry on the Seychelles.[7] The Seychelles experienced an impressive growth throughout the 1970s following the opening of the international airport. The number of tourists grew more than five-fold in seven years: from some 15,000 tourists in 1972 to 79,000 in 1979, a compound annual growth rate of 27%. Further peaks in tourist numbers were reached in 1990 and then in the late 1990s. (Figure 3.11 below).

Figure 3.11 – Seychelles: Number of tourists and Tourism receipts

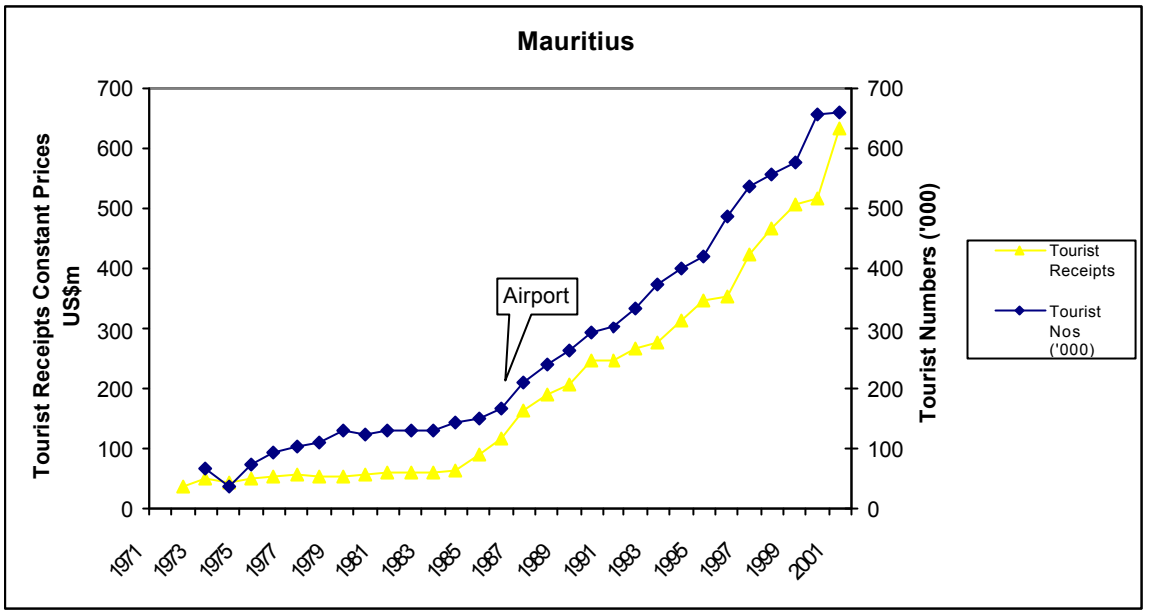


Source: UN Statistical Yearbook Series

3.21 Figure 3.12 below illustrates the impact of the airport on the growth of tourism on Mauritius: the relatively modest growth in tourist numbers in the period 1976-1985 (60% increase by the end of the period) was followed by a rapid 11.3% per annum growth for the period (1986 – 1997) following the construction of the new airport terminal in 1987. Tourist receipts, measured in constant 1990 prices had grown from a low base at a reasonable compound annual rate of 7.6% between 1972-1986 but took off after the opening of the new terminal. The receipts doubled in three years and were six times 1986 levels in 15 years (2001). This represents an average annualised rate of 12% over a 15-year period.

[7] Guthunz et al. (1996)

Figure 3.12 – Mauritius: Number of tourists and tourism receipts



Source: UN Statistical Yearbook Series

BENEFITS AND COSTS TO THE LOCAL ECONOMY

3.22 Academic researchers have observed that the smaller the microstate, the greater the probability that tourism will come to dominate the social and economic environments[8]. Certainly in the proxy islands studied tourism is a significant contributor to the GDP. At the same time however there are negative impacts, risks and costs associated with tourism development.

Benefits

3.23 The main benefits of tourism can be summarised as follows:

- Major contributor and driver of GDP growth
- Potential foreign exchange earner
- Potential for attracting foreign direct investment
- Substantial tax raiser both in direct and indirect taxes
- Generator of employment
- Potential for creating linkages in the economy
- Driver for redevelopment and improvement of infrastructure and utility services
- Driver for environment conservation.

3.24 Tourism is a major GDP contributor in the island economies considered accounting for up to 53% of GDP in 2002. Table 3.3 below illustrates the impact of tourism on total GDP.

[8]Wilkinson (1989)

Table 3.3 - Travel and Tourism Contribution to GDP

Island	% GDP						
	1999	2000	2001	2002	2003E	2004E	2014P
Vanuatu	47	50	53	53	50	52	54
Cook Islands	47						
Seychelles	42	45	47	46	52	57	67
Mauritius	26	26	28	27	28	31	29
Grenada	28	28	25	26	26	28	32
St Kitts and Nevis	35	29	29	27	27	30	42
Dominica	25	24	24	24	22	25	33

Sources: WTTC, South Pacific Tourism Organisation

3.25 Tourism is a principal export earner for 83% of developing countries and is the top export earner for one-third of them[9]. In the islands considered visitor exports[10] accounted for 21-53% of total exports in 2002 (See Table 3.4 below).

Table 3.4 - Impact of Tourism on Exports

Visitor exports as % of total exports							
Island	**1999**	**2000**	**2001**	**2002**	**2003E**	**2004E**	**2014P**
Vanuatu	47	48	53	53	52	51	51
St Kitts and Nevis	49	42	42	38	36	38	41
Seychelles	45	42	39	42	46	52	51
Dominica	33	33	34	31	27	29	32
Grenada	30	29	31	28	27	29	30
Mauritius	30	30	32	21	32	34	29

Source: WTTC

3.26 Tourism has the potential for creating linkages with other sectors of the economy, agriculture and fisheries being two obvious examples. Tourism delivers consumers to the product rather than the other way round. It is therefore a driver behind local provision of goods and services – for example transport, and behind the creation of markets for local enterprises – e.g. in services or the manufacturing. Realisation of these linkages helps counteract the level of leakages by increasing the proportion of tourism-related revenue retained in the country. There are numerous examples from the islands considered of SMEs and individual entrepreneurs sustaining their businesses around tourism facilities.

3.27 **Amongst the most attractive features of tourism is its labour-intensive nature and its potential therefore for job creation, often with the effect of curbing or reversing emigration**. In the island economies considered tourism directly accounted for between 7

[9] WTO (2002)

[10] 'Visitor exports include spending by international visitors on goods and services. It does not include consumer goods sent abroad for sale or capital goods sent abroad for use by industry service providers' - WTTC

and 29% of total employment in 2002 (Table 3.5 below). The impact of tourism is even more pronounced when both direct and indirect employment is considered: between 21 and 56% of the population on the islands in 2002 were employed in jobs directly or indirectly associated with tourism (Table 3.6).

Table 3.5 – Direct Impact of Tourism on Employment

Island	% of population employed in the tourist industry (directly[11])	
	2002	**2014 E**
Seychelles	28.9	46.0
Vanuatu	19.4	19.3
Mauritius	13.6	14.3
St Kitts and Nevis	7.9	12.4
Grenada	7.5	10
Dominica	7.3	10.6

Source: WTTC

Table 3.6 – Total impact of Tourism on Employment

Island	% of population employed in the tourist industry (directly & indirectly[12])	
	2002	**2014 E**
Seychelles	55.9	83.1
Vanuatu	47.9	48.5
Mauritius	28.4	30.2
St Kitts and Nevis	26.6	42.2
Grenada	24.3	30.4
Dominica	21.4	29.9

Source: WTTC

3.28 Two commonly quoted norms of tourism-related employment[13] are as follows:

- Each hotel bed creates 1.5 to 2 direct jobs (in hotels, catering, leisure etc.)
- Each job in a hotel is associated with the creation of 2-3 other jobs in other fields, e.g. in transport, manufacturing and commerce.

[11] 'Direct employment generally includes those jobs with face-to-face contact with visitors (airlines, hotels, car rental, restaurant, retail, entertainment etc' - WTTC

[12] 'Indirect employment includes those faceless jobs associated with industry suppliers, government agencies and supplied commodities' - WTTC

[13] Guthunz at al.(1996).

3.29 Analysis of the employment data and bed capacity for the proxy islands suggests greater effects of tourism on jobs for some islands, as illustrated in Table 3.7.

Table 3.7 – Jobs Associated with Hotel Beds (2001)

Island	No. direct jobs/bed	No. indirect jobs/bed
Vanuatu*	3.0	4.8
Mauritius	2.5	2.6
Seychelles	1.5	1.9
Dominica*	1.9	3.5
St Kitts & Nevis**	0.8	1.6
Grenada	1.0	2.1

Source: Atkins based on WTTC and WTO data

*Based on 2000 figures

**Based on 1999 figures

3.30 Often tourism development is inevitably associated with development and modernisation of infrastructure and utility services which benefit the local population as well. Because of its dynamic growth, particularly in the last 10-15 years and because of the availability of subsidies particularly for infrastructure projects tourism tends to attract foreign capital.

3.31 Table 3.8 below presents the total amount of capital invested in travel and tourism. Table 3.9 presents the amounts of foreign direct investment and development aid received by the islands OECD countries. (Please note that the data relate to total FDI and development aid received. Data on the amount of FDI or development aid for tourism projects is not readily available). The amount of investment and aid received however is far outweighed by the income generated from tourism. Figure 3.13 compares the amount of capital investment and development aid received to tourist receipts.

Table 3.8 - Capital Investment in Travel and Tourism (1990 constant US$m)

Island	1999	2000	2001	2002
Dominica	8.9	8.5	9.3	9.6
Grenada	25.1	28.1	20.1	25.6
Mauritius	287.9	230.3	258.1	281.3
St Kitts and Nevis	21.3	28.4	28.7	29.2
Seychelles	22.5	20.0	85.3	24.4
Vanuatu	29.4	24.7	22.9	21.4

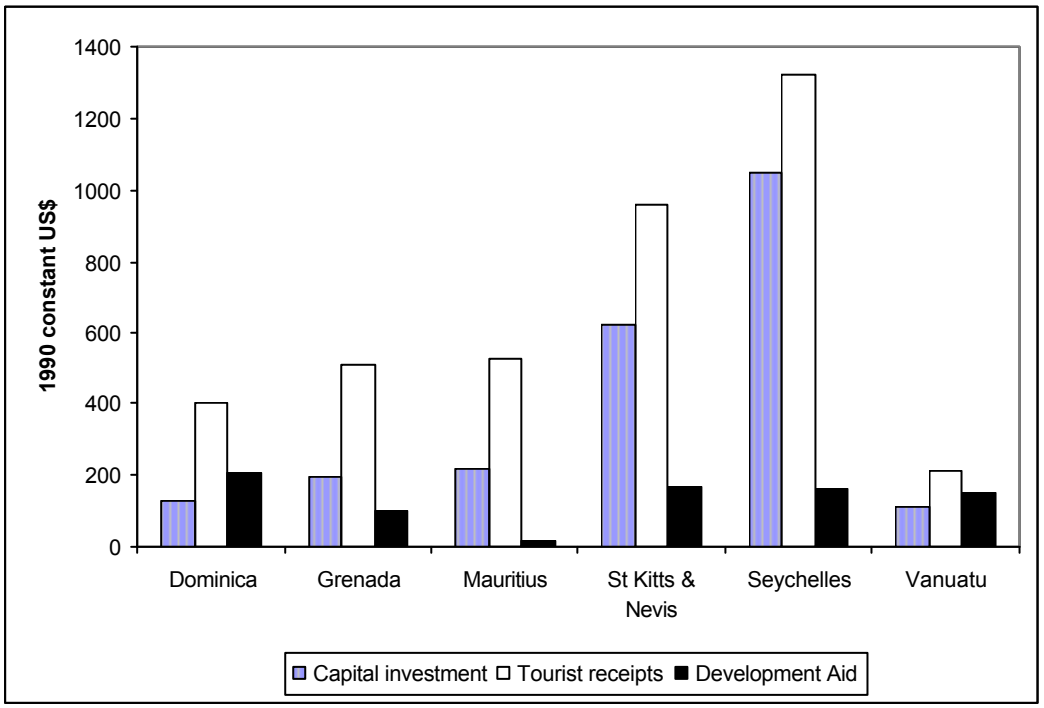
Source: WTTC

Table 3.9 – Foreign Direct Investment and Development Aid Received Per Capita (US$)

Island	FDI inflows					OECD development aid	
	1990-1996 average	1999	2000	2001	2002	1994	2001
Dominica	331	251	154	168	197	236	280
Grenada	202	417	365	477	396	191	117
Mauritius	19	42	233	27	23	13	18
St Kitts and Nevis	483	1372	2168	1908	1734	122	239
Seychelles	329	746	690	727	764	176	172
Vanuatu	181	67	102	90	73	256	159

Source: UN Economic and Social Council

Figure 3.13 - Comparison of Capital Investment in Tourism and Development Aid to Tourism Receipts (Per Capita 2001)



Sources: WTTC, UN

Negative impacts and risks

3.32 Some of the negative impacts on the socio-economic environment and the risks associated with tourism development are as follows:

- Leakages
- Increases of land value beyond the affordability of the local population
- Seasonal fluctuations in job creation
- Excessive use of natural resources
- Environmental pollution
- Exposure risks from specialisation.

3.33 The direct income from tourism, i.e. the amount of tourist expenditure that remains in the country after imports and after wages, taxes and profits paid outside the country, is often a small proportion of total tourist expenditure. Leakages – the subtracted amounts 'leaking' to businesses, individuals and tax authorities outside the area - are amongst the hidden costs of tourism.

3.34 In most all-inclusive package tours, about 80% of travellers' expenditures go to the airlines, hotels and other international companies and not to local businesses. Leakage is estimated at 70% in Thailand, as high as 80% in the Caribbean and a more modest 40% in India[14]. Leakages occur in two ways:

- Tourists demand certain standards of food, equipment and other services. The smaller the island and the less-developed the island, the greater the leakage to imports. UNCTAD estimate that in most small developing economies the size of this leakage is between 40% and 50% and is a phenomenon that ST Helena planners will need to bear in mind and monitor.
- Multinational corporations and large foreign businesses have substantial investment interests in resorts and hotels, they import corporate management and skilled middle management charged with maximising earnings, and they naturally wish to repatriate their profits.

3.35 Local businesses have their earning potential severely reduced in tourism based on "all-inclusive" vacation packages, especially where the tourist remains most of the time in the resort or on-board ship. The Organization of American States discovered in a survey on Jamaica's industry that "all-inclusive" vacations employed fewer people per dollar of revenue than other hotels and has a lower impact on the local economy per dollar spent. On the Galapagos 66% of foreign tourism revenue is retained, although 23% of that stays on the archipelago and 77% is retained by Ecuador. Leakages are estimated at 40% for Mauritius[15] and 58% for the Cook Islands[16].

3.36 The magnitude of leakages will depend largely on the form of tourism and the import-dependence of the economy. Although detailed data on leakages associated with specific developments on the islands considered is not available, it can be concluded that the

[14] Sustainable Living

[15] Quoted in Christie et al. (2001)

[16] Milne (1987)

resort developments based on large international hotel chains and all-inclusive packages purchased via tour operators typical for the majority of the Caribbean islands and the Seychelles are associated with far greater leakages. In contrast the smaller scale developments characteristic of Dominica or Easter Island (discussed later in this report) are examples of models that help minimise leakages.

3.37 Another potential negative impact of tourism is the increase of land value beyond the affordability of local residents. As the demand for real estate, especially in prime locations, increases, land values and construction costs tend to rise. In some cases, land value increases can be driven by outsiders much against the local interests. Long-term visitors living in second homes and so-called amenity migrants (i.e. wealthy or retired people and liberal professionals moving to attractive destinations) can cause price hikes particularly if appropriate residential land is a scarce resource.

3.38 Seasonality is another negative aspect about tourism. Local people are faced with a degree of employment insecurity if the tourist season is short. Alternatively, migrant workers may be used to fill seasonal jobs thereby reducing the benefit of tourism to the local economy.

3.39 It is often argued that the subsidisation of tourism-related infrastructure projects (e.g. road access, utility services, environmental protection) and the fiscal incentives provided to investors in tourism are a significant cost to the local government and the taxpayer and may divert funds that could otherwise be employed in other productive activities. This effect of state aid in tourism-related projects should be assessed against the benefits accruing from modern infrastructure and services which extend far beyond the immediate consumer, the tourist, and benefit in equal measure local businesses and residents. The losses of tax revenues in the short term because of such fiscal incentives should be considered against the long term tax revenue potential from tourism-related activities. Whether subsidies could be better applied to alternative projects – i.e. manufacturing should be assessed and against the potential tax revenues, employment generation and growth potential associated with these opportunities 'foregone'.

3.40 Over-reliance on tourism carries significant 'exposure' risks for tourism-dependent economies. Economic recession in the main originating markets, changing consumer preferences, more competitive offers from competitor destinations can have significant impact on tourism. Natural disasters and the threat of terrorism can significantly change the pattern of tourism and have a devastating effect on the local economy. Medium-term growth prospects for long haul travel were clouded by the loss of some international air services in late 2001 as a result of the "9/11 effect" and adverse consumer perceptions particularly in the USA[17]. The breakout of SARS has had a similar effect in reducing tourist inflows and income from tourism for a number of destinations. That such events occur should influence SHG thinking in attempting to avoid becoming a single-sector economy.

3.41 Security concerns and political stability also have an impact on tourism development. Fiji's tourist trade was seriously affected by racial problems and Madagascar, the Seychelles and Comoros have stalled in their history of tourism development because of sporadic internal conflicts. The drop in tourist numbers (and receipts) for the Seychelles in the 1980s was caused by political and economic turbulence, the revaluation of the currency,

[17] The terrorist attack on the World Trade centre in New York

the increase in flight prices and the drop in hotel service standards[18]. Some anti-foreigner sentiments coupled with the murder of a tourist in Dominica caused a dip in numbers. However, these problems tend to have only short-term effects.

[18] Guthunz et al (1996)

4 MODELS OF ISLAND DEVELOPMENT

4.1 Of the proxy islands researched, two have particular relevance for St Helena: Easter Island and Dominica. Both have tourism based on long-stay visitors interested in the natural or cultural environment who are catered for in modest, mainly locally owned facilities. Dominica, like St Helena, offers little in the way of sandy beaches, resort hotels or lively nightspots to attract tourists. It is pursuing an eco-tourism model based on the appeal of its natural environment. Easter Island does have a few sandy beaches, however, the principal attribute on which the island markets itself is the uniqueness and the archaeological and cultural significance of the ancient Moai statues – a World Heritage site.

4.2 Both destinations therefore target particular segments of the tourist market and have developed a proposition in terms of accommodation and facilities that cater to these segments' requirements. The tourists are accommodated in the main in three-star hotels (20-50 rooms) or small guesthouses (3-10 rooms). Both islands are characterised by a substantial rise in tourist numbers.

4.3 Both islands have based their marketing on a central concept: ecotourism or unique cultural heritage, but have developed additional activities to add to a more varied tourist experience. As well as being generously endowed with natural beauty (mountains, primordial rainforests, hot springs, endemic flora, fauna and birds) Dominica ranks among the top five best scuba diving centres in the Caribbean. Easter Island offers diving, horse riding and walking although its landscapes may not be perceived to have the appeal of those on Dominica or St Helena.

EASTER ISLAND

4.4 Easter Island has a population of only 3,800 on a land mass of 171 km^2, roughly equivalent to that of St. Helena (121 km^2). It is even more remote than St. Helena. Lying 2,400 miles west of the Chile coast, the nearest inhabited island is Pitcairn some 1,400 miles to the north-east. The island is further south (latitude 27^o) than St. Helena but enjoys a similar mild all-year climate. It experiences occasional storms which in the past have accounted for the loss of many ships. Not quite as high as St. Helena, the volcano Maunga Terevaka is 507 metres above sea level. It is still mountainous but lacks lush vegetation, the island being stripped of trees in the nineteenth century.

Tourism concept

4.5 The island positions itself as a unique destination on the world cultural heritage map and cradle of one of the most enigmatic ancient civilisations. Easter Island (known also as Isla de Pascua or Rapa Nui) was probably colonised in 400-600 AD by the Polynesians from the Marquesas Islands or from Mangareva who became the Rapanui. They formed an intriguing culture which included the erection of almost 1,000 huge Moai statues carved from volcanic rock. These statues stand on an ahu (shrine) as representatives of sacred chiefs and gods.

4.6 The main focus of investment on the island has been on developing attractions that exploit and promote the central concept: the cultural heritage. The Rapa Nui National Park covers

40% of the island and in 1995 became a UNESCO World Heritage site. The Park exhibits the ancient cultural remnants of an abandoned desert-dwelling people. The Padre Sebastián Englert Museum of Anthropology was built in 1975 and has been extended and modernised over the years (e.g. the William Mulloy library opened in 2002). The Tapati carnival is a week of festivities and traditional activities held in February.

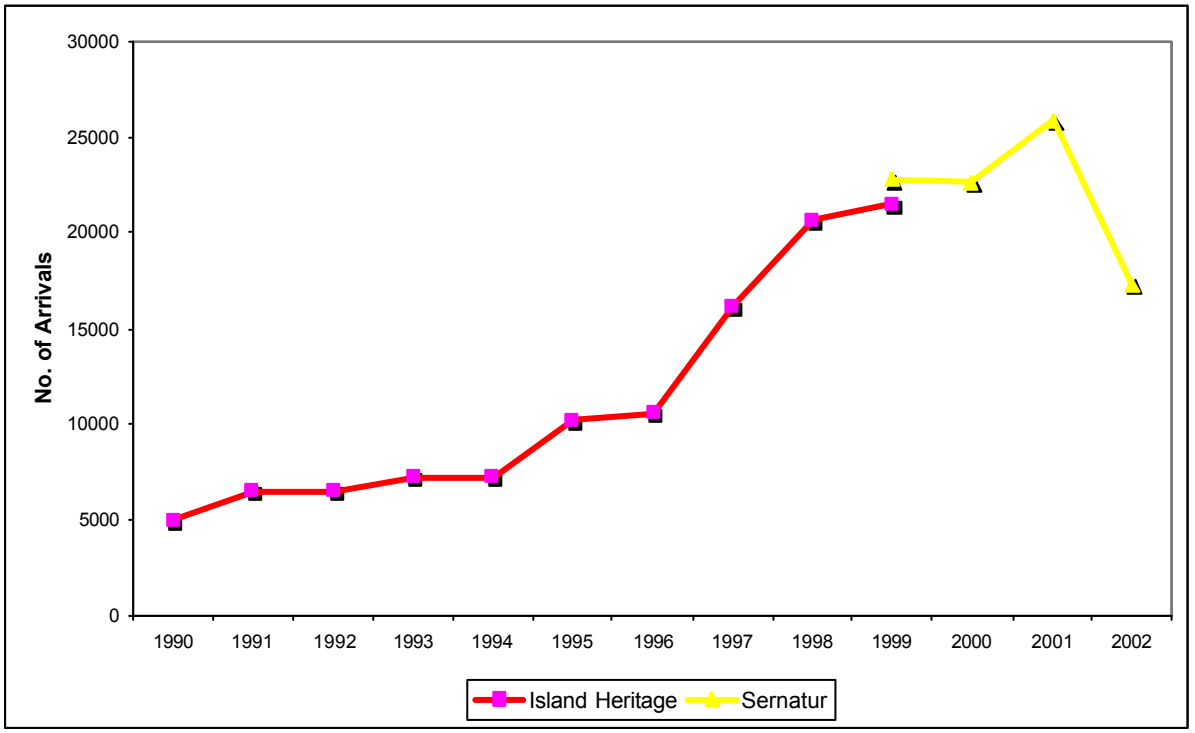
Air access and tourism development

4.7 Mataveri airport on Easter Island was opened in 1967 and extended by the Americans in 1986 for NASA space shuttles. In 1967, it took 9 hours to fly to Santiago. The route was extended to Tahiti (Papeete) in 1968. Regular air services (twice to three times a week) are still provided on this route but the flights now take only five hours to reach Santiago. LAN Chile airlines have exclusive commercial rights to provide the air service.

4.8 A proportion of the cargo requirements is provided by air. The majority of the cargo is transported by ship which visits the island twice a year bringing major items such as cars, butane tanks, building supplies. In recent times the supply ship has run aground (1999). Another was lost at sea.

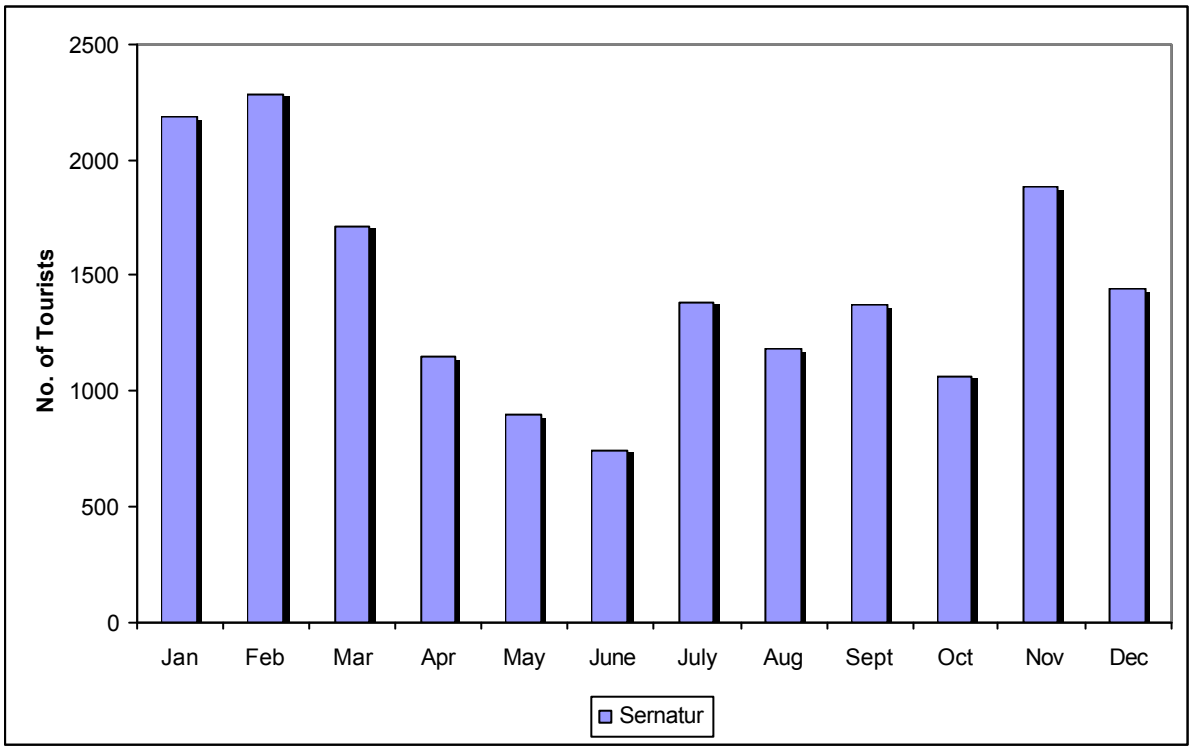
4.9 It has not been possible to assess the direct impact of the airport on tourism development as data before 1990 is not readily available. Figure 4.1 below presents the growth of tourist numbers in the period 1990-2002. According to the Island Heritage Organisation, tourist traffic grew 4 times in the nineties from just under 5,000 in 1990 to 21,434 in 1999. The most rapid growth was in the second half of the 1990s. Sernatur (Chile's Tourism Authority) records a slightly higher number for 1999 – 22,769 and that tourism continued to grow to 25,870 by 2001. However, it fell substantially in 2002, possibly because of the "9/11 effect".

Figure 4.1 – Easter Island: Number of tourists (1990-2002)



4.10 Although the island's climate is equable all year round creating the conditions for a 12-month tourist season, the northern hemisphere summer months see only half the number of tourists compared to the winter months. April, May and June are the wettest months of the year and hence less popular. This seasonal effect would also be underpinned by the travel preferences of the tourists from the main source markets. Figure 4.2 demonstrates the seasonality of tourist traffic based on data for 2002.

Figure 4.2 - Number of Tourists by Month in 2002

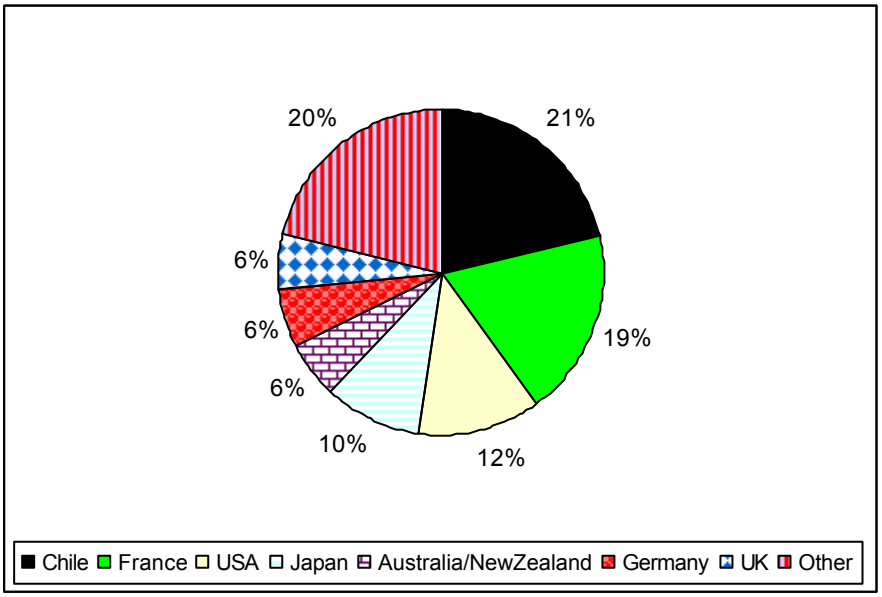


Tourist profile

4.11 Easter Island attracts tourists with higher than average income. A large number of international tourists choose the destination as part of a round-the-world trip or a tour of South America. A considerable proportion of mainly French tourists choose the island as part of a two-centre holiday combined with Tahiti. This development is facilitated by the flight from Santiago continuing to Papeete airport in Tahiti and returning to Easter Island on its return to Santiago. Figure 4.3 below presents the regional breakdown of tourists to Easter Island based on data for 2002.

4.12 It has to be noted that the domestic market is the largest source market for Easter Island with tourists from mainland Chile accounting for over a fifth of total tourist numbers. France and the USA are the next largest source markets accounting for 19% and 12% respectively.

Figure 4.3 - Easter Island: Breakdown of tourists by country of origin (2002)



Source: Island Heritage Organisation

Accommodation and facilities

4.13 Data on investment in accommodation and catering facilities is not readily available. It can be concluded however that this investment has been relatively modest. The hotel base consists of predominantly small, three-star type hotels, mainly owned by mainland Chilean investors. In total there are 10 hotels and 34 residential houses offering in 1400 beds in total. Hotel room rates are in the region £70-80 per night although all-inclusive holiday packages offer substantial discounts. There has been some (private) investment in restaurants, discos and a supermarket.

4.14 Typically the length of stay is between 4 to 5 nights. In July and August, the average stay is a little longer around 7 nights. The island is capable of accommodating nearly 1,400 tourists per day. Average occupancy over the year is low, between 20-30%, and up to 50% in high season.

Socio-economic impacts

4.15 Easter Island is a territory of Chile and the population have full rights of work and abode on mainland Chile. However the lack of data has made it difficult to ascertain the effect on tourism development on emigration from the island.

4.16 The growth in the tourism industry on Easter Island has led to inward migration from mainland Chile of non-Rapanui economic migrants, which has caused a degree of resentment amongst the local population. There has been a move to try and change the Chilean constitution to restrict the flow of economic migrants by issuing visas for mainland Chilean nationals, a move that is unlikely to succeed. The Chilean Government has agreed to land redistribution and Rapanui families have been granted land rights. Air-freighted frozen food has replaced home-grown varieties; direct TV with its soap-opera diet influences attitudes to education and national identity and language; traffic jams occur where in 1981 it was difficult to rent a vehicle[19].

DOMINICA

4.17 Dominica is a mountainous volcanic island, much larger than St Helena (and Easter Island) in all respects, with area of 751 km^2, population of 71,300 and mountain peaks of up to 1,730m above sea level (Mount Diablotin). 60% of the island is forest and there are 365 rivers. Rainfall ranges from 1,200 mm on the leeward side to 10,000 mm in the centre. There continues to be volcanic activity on the island with numerous small geysers, hot springs and the second largest “boiling” lake in the world. The climate is humid, tropical and marine in nature. The island is endowed with a rich variety of fauna and flora. Dominica has very few beaches. All have dark volcanic sand and are located on the harsh windward east coast.

Tourism concept

4.18 Dominica is unable to compete with other islands in the Caribbean that offer large volume tourism in luxury hotel complexes alongside white sandy beaches and crystal clear water. It has chosen to concentrate on eco-tourism appealing to a growing niche market. Its tourism concept capitalises on the rich natural environment of the island with its plentiful unique characteristics. Eco-tourism is perceived to have lower leakages than mass tourism as the tourists are content to be in small, albeit comfortable, accommodation owned and run by locals rather than large hotel complexes that are often financed by foreign investors.

4.19 In the 1990s, Dominica had ambitious plans looking to grow the numbers of foreign travellers to at least 185,000 by 2010 and more optimistically 328,000. The strategy assumed building a new international airport which would enable direct flights to the USA and Europe.

[19] Correspondence received from Georgia Lee, Easter Island Foundation, Los Osos, CA 93412, July 2004

Air access and tourism development

4.20 Dominica has two airports. The main one, Melville Hall, has operated since 1958 from its site on the north-east side, accounting for over 70% of all passenger traffic. It is over an hour's journey from the capital, Roseau. However, the runway at Melville Hall limits access to turboprop aircraft only and its alignment makes landing and take-off in poor weather conditions impossible. The irregularity of the air service has been blamed for the slow development of tourism on the island compared to some of the island's neighbours. (Nevertheless, tourism had grown at 10% annually on average from 1980 to 1997 before slowing down. The island now attracts around 70,000 foreign tourists a year).

4.21 The second airport, Canefield, was constructed in the late 1970s. Although close to Roseau, the short runway restricts services to small 19-seater commuter aircraft and the cross winds restricts access at certain times. It handles primarily traffic from other Caribbean islands.

4.22 In the 1990s, Dominica had ambitious plans looking to grow the numbers of foreign tourists considerably above the levels at the time 60,000 tourists. 20-25% of the 80,000 air passengers in total p.a. were residential travellers. It was felt that the island would have to encourage more American, Canadian and European tourists who have a propensity to stay longer and spend more. (A significant percentage of visitors to Dominica (over 40%) come from within the Caribbean region). Building a new international airport able to handle direct flights to the USA and Europe was regarded as one of the cornerstones of this strategy. The airport had to meet the following requirements:

- to enable access in all but the most violent of weather conditions
- to enable access by large jet aircraft (e.g. Boeing 767)
- to meet US aviation regulations on safety.

4.23 The low scenario forecast was for 185,000 passengers by 2010 and 297,000 by 2020. The economic impact of this growth was calculated to be US$25 million net benefit in 2010 and US$84 million in 2020.

4.24 The Government was prepared to invest US$8 million over five years in developing and improving access to eco-tourism sites and for market promotion. Its target, however, was even higher than the above scenario. It sought over 300,000 visitors by 2010 and twice that number by 2020, making Dominica as important a centre for tourism as St. Maarten, Barbados and Martinique. However it was realised that for these ambitious targets to be achieved Dominica would have had to depart from the eco-tourism model and invest in resorts and attractions to appeal to a much larger and non-eco tourist market.

4.25 There was much debate as to whether a new airport could be justified in economic terms especially as it would be at the sacrifice of scarce arable land, a relocation of secondary school and development of access roads. There too were concerns over the adequacy of services to meet significant expansion of the tourist trade. The island invested in a 3.5MW hydroelectric power station which in 1991 reduced the island's dependence on diesel oil. Water was abundant but investments had to be made in its capture and distribution.

4.26 The plans for the new international airports eventually were abandoned, the Government opting instead to upgrade Melville Hall Airport. The programme focuses on the

upgrading/expansion of the terminal building at the Melville Hall Airport and the installation of a night landing system and navigational aids and improvements to the runway. These improvements are expected to be fully commissioned by 2005. The proposed improvements will significantly enhance opportunities for same day connections, facilitate more favourable airline scheduling and expand business opportunities. However, it will not permit non-stop direct flights with the USA and Europe.

Accommodation and facilities

4.27 Accommodation on the island is a combination of up to three star hotels (about 20) and numerous small guesthouses. Occupancy rates are low (30% on average) although the two hotels in Roseau that cater to business travellers and host conferences has occupancy rates of around 80%. In 1997, Dominica with some 65,000 land-based visitors, had 764 guestrooms but 40% of these were deemed sub-standard by the industry. The Government tried attracting the major chains to invest in the island (namely, Four Seasons and Hilton) but they declined citing a lack of adequate air service as a key reason.

Impact of Tourism

4.28 Tourism has grown to account for 24% of Dominica's GDP[20], 31% of exports 17.6% of capital investment. In 2002 tourism directly accounted for 7.3% of employment and both directly or indirectly for 21.4% (Tables 3.4 and 3.5 earlier in this report). The country receives around 70,000 land-based visitors a year. Dominica's economy has been suffering in recent years with the decline in the banana trade, and the population has been declining. Tourism is a sector that has been targeted by the government for accelerated economic growth in Dominica.

4.29 Dominica is not a wealthy island, unlike many others in the Caribbean. Per-capita GDP is only around US$5,400. One major reason behind the decision to abandon the plans for the new international airport was the size of the compensation requested by the 250 farmers who would have been displaced. A view expressed to justify the strong reaction by farmers suggests that owning property symbolises something more than a financial asset to the population, 95% of whom are descents of African slaves. Having property means 'freedom to be oneself' and 'not to answer to others'.

4.30 Where Dominica differs to St Helena (and Easter Island) is in its size. With a population of 72,000 on a land mass of 751 km^2, it has a much larger base on which to achieve economies of scale in infrastructure projects. Yet, the Dominica Government found it difficult to find the funds for the US$110 million project to build the new airport even with grants totalling US$24 million from Taiwan, the EU and Cariforum.

[20] 2002 data; Source: WTTC

OTHER ISLANDS

4.31 The review of the other islands yielded various examples of models of sustainable tourism development.

Galapagos Islands

4.32 The Galapagos Islands are an example of sustaining an eco-tourism model based on a relatively large volume of tourists.

4.33 All tourists arrive by air from mainland Ecuador to Baltra (on Santa Cruz) or San Cristobal a distance of some 500 km). Most of them take a cruise around the islands. Typically the cruises are for 3 - 4 nights or a week. The smaller ships are occasionally chartered for 2-week cruises. Only some 10% of the tourists stay in hotels.

4.34 Tourism is Ecuador's third most important foreign exchange earner (behind oil and bananas). It accounts for 4.3% of the country's GDP. However, its impact on the economy is greater accounting directly and indirectly for 10% of income generated[21]. The Galapagos account for about 30% of Ecuador's tourist trade and are the main attraction for the foreign tourist who in the late 1990s were spending around US$3,677 per capita on their holidays there compared to US$923 per capita for national tourists[22]. 66% of foreign tourist expenditure on holidays to the islands remained in the Ecuadorian economy: 51% went to mainland Ecuador and only 15% to the Galapagos (probably due to low numbers staying in hotels).

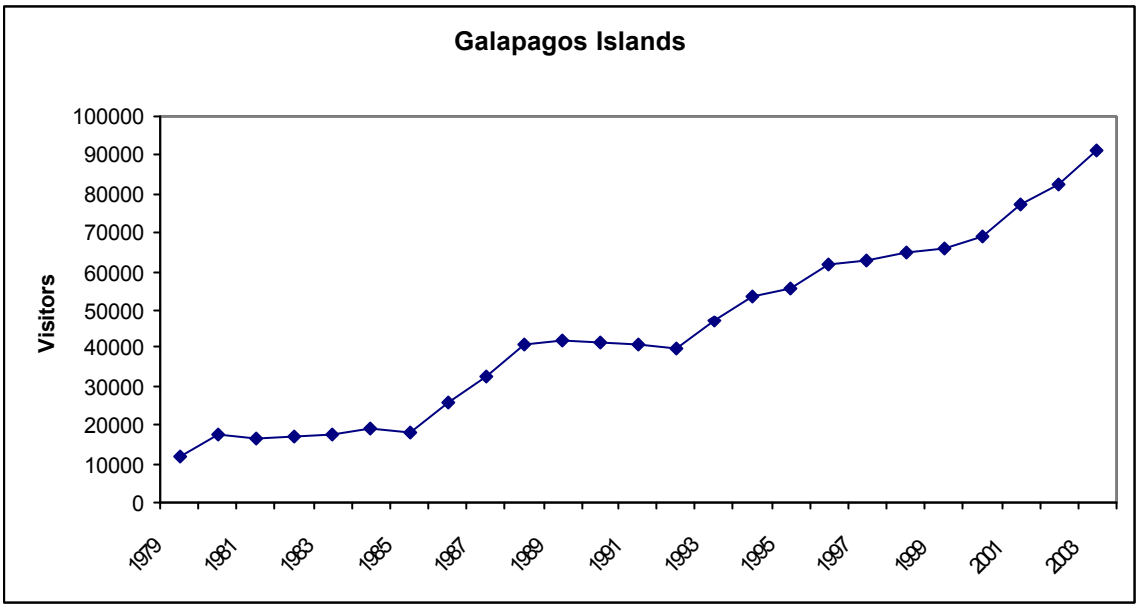
4.35 In Ecuador tourism in general has grown 19% in the last four years. Visitors to the Galapagos National Park, (PNG - El Parque Nacional de los Galapagos), numbered 11,765 in 1979 and 82,226 in 2002, an average annual growth rate of 8.5% (Figure 4.4). Foreign tourist numbers have grown every year and accounted for about 75% of the visitors in 2002. However it is tourists from mainland Ecuador that have been the principal element of growth in the last few years[23]. In 2003, total arrivals in the islands were 91,293, 32% of these being nationals. The USA is the principal source of foreign arrivals: 28% of total arrivals in 2003), with total European arrivals some 30%. Figure 4.5 presents the breakdown of tourist arrivals by country of origin. This underlines our observations about dependence on nearby major economies for tourism.

[21] ASOGAL "Turismo en Cifras"

[22] Wilen & Stewart (2000)

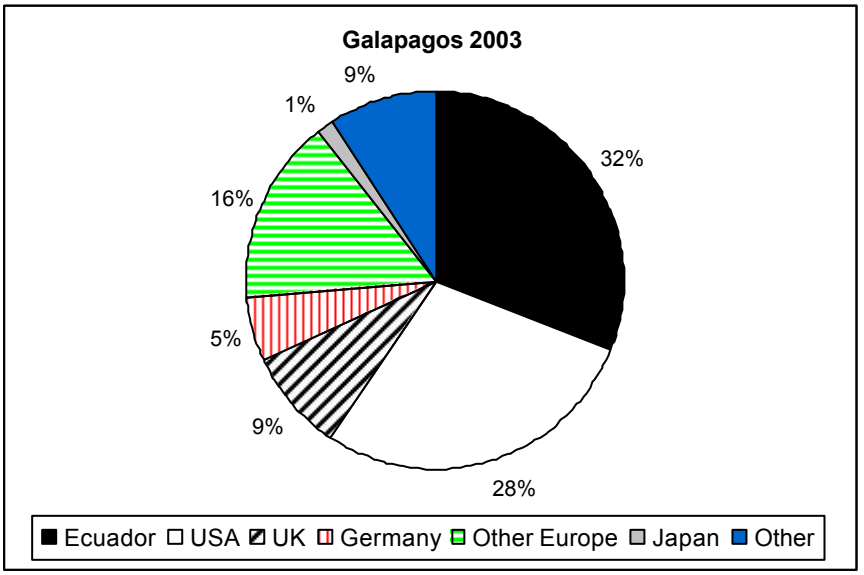
[23] The figures for domestic tourism are confusing as some are not temporary or permanent residents and therefore have to pay the national park entrance tax even though they are not entering the islands as tourists

Figure 4.4 – Galapagos Islands: Number of tourists (1979-2003)



Source: Honorary Consul – Galapagos

Figure 4.5 – Galapagos Islands: Breakdown of tourists by country of origin (2003)



4.36 Before the first airport was built at Baltra, less than 3,000 people lived on the islands (2,391 in the 1962 census). By 1988, this number had grown to 16,083. Of the estimated 20,000 population now living in the Galapagos islands over half live on Santa Cruz and a third live on San Cristobal. Of the working population on these islands, 44% and 21% respectively, are employed directly in the tourist industry. Making the assumption that the working population comprises one half of the total population, approximately 1,700 locals are directly employed in tourism.

4.37 In 1998, the Constitution of Ecuador was changed to permit the application of the Special Law for the province of the Galapagos which restricts immigration to the islands. This law also defined a Marine Reserve around the islands and designated the PNG as the controlling authority.

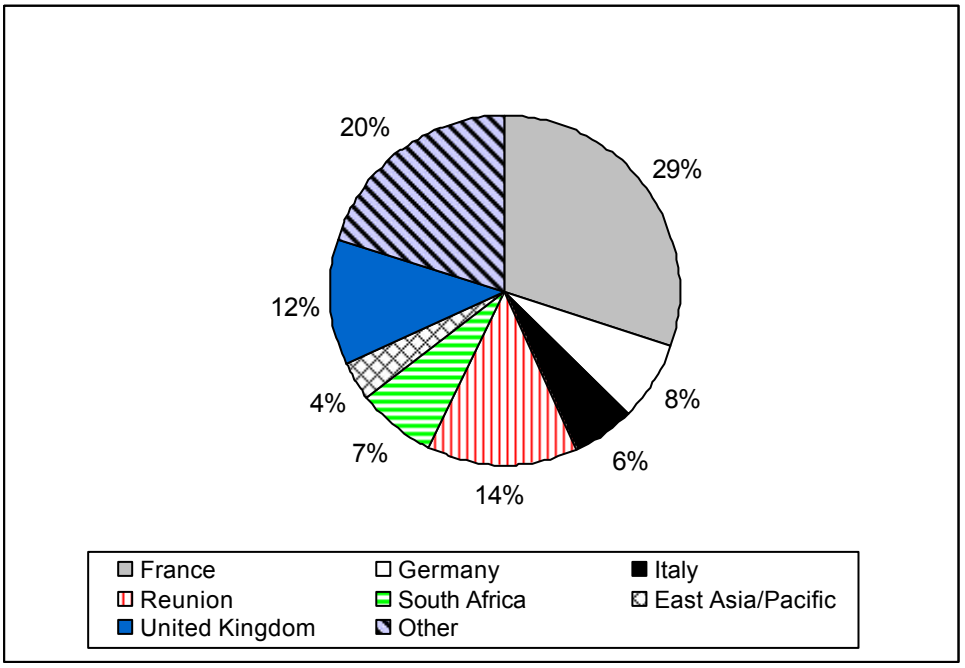
4.38 Entry to the PNG and marine Reserve is US$100 for each non-resident foreign tourist over 12 years of age; US$50 if the non-resident is from another member state of the Andean Pact or Mercosur; and US$6 for nationals and foreign residents in Ecuador. There are other rates depending on age and student status.

Mauritius

4.39 Mauritius has proved to be consistently one of the most successful tourist destinations in the world. This success is due partly to its exceptional natural assets: white sand beaches, coral reefs, marine environment suitable for a variety of water sports and an equable all-year round climate. It boasts some of the world's best resort hotels (judging by the large number of awards) and has consistently targeted high-income tourists. Mauritius has been consistently trying to position itself as one of the world's top luxury tourist destinations and an example of market excellence. The distance to the main source markets and the relatively high airfares coupled with the resistance of both government and industry to allow unscheduled charter airlines have helped preserve the image of exclusivity.

4.40 Mauritius has experienced consistently high tourist numbers over the last 30 years (8.5% p.a.). Despite not being a mass-market destination it attracted 660,000 tourists in 2001 (Figure 3.2 earlier in this report). Over 60% of the tourists are European, with France the largest source market (29% of all arrivals). United Kingdom and Germany accounted for 12% and 9% of tourist arrivals. (Figure 4.6). The average length of stay is 10.3 days.

Figure 4.6 – Mauritius: Breakdown of tourists by country of origin (2001)



Source: WTO (2003)

4.41 The success of the island's tourist industry is regarded as largely a local success story. The local population is credited with achieving the high service standards both in and outside the hotel sector. There is a high degree of local ownership of hotel and other facilities. Of hotel capacity, 20% is owned by foreign investors. Overall leakages are estimated at 40% [24]. The tourist industry accounts for 13.6% of employment directly and 28.4% indirectly[25].

4.42 Amongst the major potential threats to the future success of the Mauritius model of luxury tourism are the planned expansion of hotel rooms and the expansion of the informal villa/bungalow accommodation[26]. Hotel room stock exceeded 9,000 rooms in 2001[27]. Informal accommodation is believed to attract some 30% of tourists. This type of accommodation is unregulated. The informal accommodation facilities are able to undercut the rates charged by the 'formal' hotel sector often because owner-managers avoid charging their tourists VAT or tourist tax. The expansion of the informal accommodation sector is threatening to erode the luxury brand of the Mauritius tourist model as well as reduce average occupancy rates across the industry from the current highs of 70%. The planned expansion of hotel room stock may have a similar effect. It would be increasingly difficult for Mauritius to both expand significantly its tourist sector and sustain the growth in the high income tourist arrivals without changing the offer to attract other tourist markets: the target high income market comprises a rather small segment of the world demand.

4.43 These aspects of the Mauritius tourism story – expansion of hotel rooms and informal villa/bungalow accommodation – carry messages for St Helena: a cohesive strategy for tourism-related development, consistent planning, and collection of government receipts.

4.44 It has been recognised that the rapid expansion of the tourist industry has had considerable adverse environmental effects, particularly on the marine and coastal environment whose pristine quality is in the very centre of the tourist 'product offer'. In 1990 Mauritius produced one of the first National Environmental Action Plans in the world followed by a number of regulations and initiatives in the areas of planning, sanitation, protection of the coastal zone, environmental protection and sustainable use of biological resources. It has created the National Parks and Conservation Service which is a leading agency responsible for the implementation and policing of environmental legislation and regulation. Captive breeding and release in the wild of endemic threatened birds have saved three species from extinction. Similar programmes are underway to save endangered flora. Attention is also being paid to the protection of the ocean and the rational use and development of the living resources in it. In this respect, Mauritius has formed associations with regional (e.g. Western Indian Ocean Tuna Organisation) and world organisations (e.g. Global Coral Reef Monitoring Network). Planning policies are focused on gradual expansion of hotel development and permission is granted only in the framework of the Tourism Environment Charter[28].

[24] Christie et al. (2001)

[25] 2002 data, Source: WTTC

[26] Christie et al. (2001)

[27] WTO (2003)

[28] Which was formulated by the Association des Hoteliers et Restaurateurs de l'Ile Maurice and partly funded by the national Environment Fund and the UNDP.

Cook Islands

4.45 Development of tourism of any significance in the Cook Islands commenced with the opening of the international airport on Rarotonga in 1975. Two years later a 151 room hotel resort opened. Tourist arrivals grew from 10,000 in 1976 to nearly 53,000 by 1993 with strong growth between 1976 and 1980, then between 1983 and 1988 finally between 1991 and 1993. Tourist numbers stabilised around 50,000 in the 1990s but then leaped to over 70,000 in 2000. In 2003, there were 78,328 visitors. On average, between 1985 and 2003 tourist arrivals have grown at 5.6% per annum.

4.46 New Zealand is the principal source of tourists (around one third) followed by Australia (12-15%). For these tourists, the Cook Islands are a short-haul destination. Average spend in 1988 was US$46 and average stay was almost 10 days. In 1984, leakage was calculated at 58%[29].

Vanuatu

4.47 In spite of establishing a tourism industry, a recent paper by the ERI[30] on Vanuatu identifies a number of failings in the industry that constrain growth. First and foremost the paper recognises that distance from major tourism markets (e.g. USA and Europe) and the lack of direct flights to Asia, make air fares expensive and the travelling time long. Only about 12-15% of visitors come from long haul destinations. Vanuatu was found to be a relatively unattractive investment location because of the uncertainties surrounding ownership of land on the beachfront for tourism development, lack of credit facilities, high utility costs, under-developed air services and high taxes.

4.48 It is reported that the local industry is not profitable with infrastructure being a key limiting factor. 12-15% of the price of a standard room rate in the up-market hotels is absorbed by power and water costs. Weaknesses have been identified in the manpower skill base.

4.49 ERI directs particular criticisms to the government-owned airline, which has a monopoly on the air service both externally and within the islands. Visitors from Japan reaching Vanuatu were in 2002 paying US$2,400 – 3,200 in air fares. From Frankfurt fares were being quoted at between US$2,000 and US$5,700. Flights between islands were perceived unreliable, high cost and baggage-constrained. The costs of air freight are also high thus limiting the opportunities for tourist businesses to offer fresh produce.

4.50 Bauerfield airport has topographical problems preventing development to accommodate fully-loaded B767s to take-off and for B747s to use the airport. Luganville airport on Santo does not have such limitations: it is estimated that the requisite upgrade could cost US$9 million.

4.51 Of more pressing importance in the view of ERI is the necessity to reduce airfares by opening air services to competitive forces.

4.52 St. Helena cannot have the benefit of a runway that would allow the use of Boeing B767s and B747s jets. Therefore the lesson to be learned from Vanuatu is that St. Helena will be

[29] Milne, S. (1987) "The Economic Impact of Tourism for the Cook Islands"

[30] The Enterprise Research Institute (May 2003): Vanuatu – A Private Sector Assessment

a relatively high-cost holiday destination, which could limit its attraction for certain tourist sectors (see Table 3.2 comparing ticket prices). Another lesson is the potential for attracting the closest major source markets: Vanuatu relies on Australia and New Zealand for over 75% of its tourists. Thus South Africa may prove to be a major source market for St Helena.

5 ST HELENA POTENTIAL TOURISM DEMAND: REVISED PROJECTIONS[31]

5.1 The pattern of tourism development on Easter Island is of particular interest when trying to assess the potential development patterns for St Helena. Easter Island is similar in population, area, climate and remoteness from major foreign source markets. It has been able to develop a successful model of tourism which is not based on luxury surroundings and tropical beaches, and is not dependent on massive investment in tourist infrastructure. Easter Island managed to attract some 22-25,000 tourists over 12 years from a base of 5000 in 1990, an underlying growth rate of15% p.a.

5.2 The similarities give us sufficient confidence to explore for St Helena a scenario whereby tourist numbers grow faster, similar to the pattern experienced over the last 12 years on Easter Island.

5.3 This scenario is based on the same rapid build-up of tourist demand for the first five years of the start of airport operations as developed in the market study projections. It suggests that a growth rate of 15% p.a. may be applied over the next 12 years (Year 6 to Year 17). The long term growth rate thereafter may be set at 7%, equivalent to the average of the growth rates of the more typical models of tourism development in the sample of 10 island proxies: Dominica, the Seychelles, Cook Islands and Grenada.

5.4 There may come necessity to constrain the growth of tourism once a volume of tourists is reached, one that may put pressures on the island's resources and reduce the integrity of the tourist experience, both for tourists and the local population. One such level might be some 1500 tourists on any one day, given that in excess of 4000 - 5000 Saints could be expected to be living there by that point in time. In section 6 below we discuss policies that could be brought into play by SHG with a view to controlling tourist influx to keep within the natural capacity of the island to absorb them to the maximum satisfaction of all.

5.5 Figure 5.1 below illustrates this pattern of growth in tourist numbers. In this prognosis, growth is restricted to 1% p.a. after Year 27 of the forecast period. This is the year when the number of tourists on any one day is assumed to have grown to around 1500. (It is assumed that 40% of the total tourist demand will be realised in the four months December-March, with the rest spread evenly over the other months of the year). Table 5.1 presents a summary of the demand projections under this scenario.

5.6 This growth scenario thus forms a link from our independent assessme nt of demand for what is an unknown quantity in the market, via the experiences of other islands, to our economic modelling for the St Helena Access Feasibility Study. In effect, we have advanced or accelerated the perceived, quiescent demand by applying

[31] The projections given in our Tourism Study[1] may be viewed against the experiences of other islands. Here, we apply the growth experiences of other islands to the demand suggested by our separate market assessment so as to arrive at a more probable outcome, other things being equal, in particular, effectiveness of the St Helena marketing function, accurate pricing and of course, acceptance of the St Helena 'product' by the market.

these experiences to the St Helena situation (given access by B-737 or equivalent, at least). As a device for capping tourism influx we are assuming that capping the number of beds available will have this effect, for the purposes of modelling the growth and thus its effects on the economy. As specific reference, this is in accordance with policies effected in the Seychelles, Mauritius, and Madeira.

Figure 5.1 – St Helena: Tourism demand projections (number of tourists)

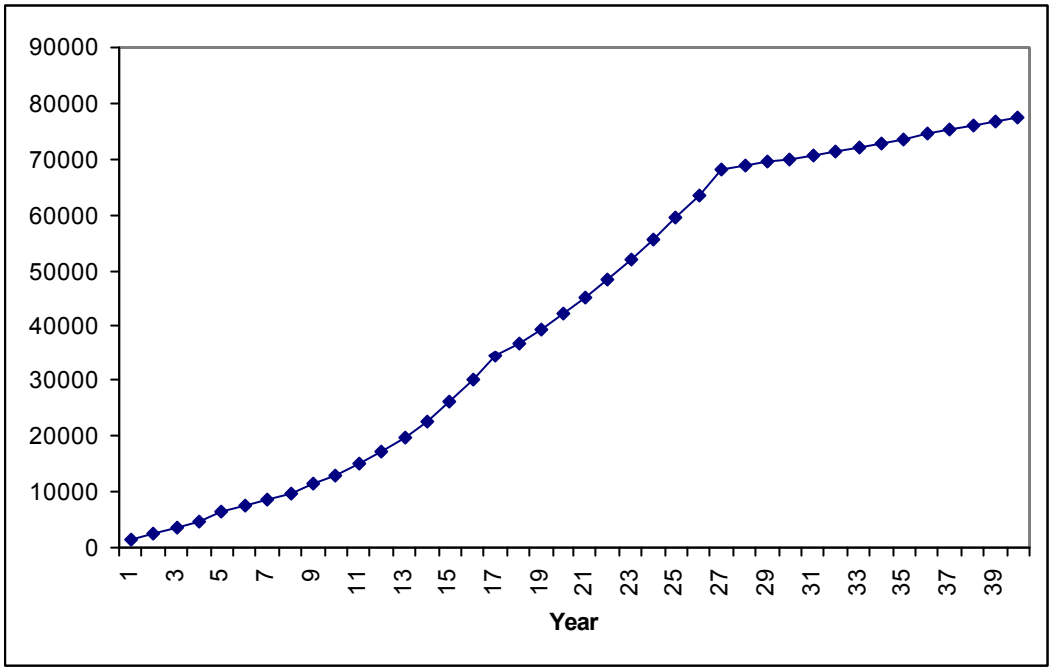


Table 5.1- St Helena: Tourist demand estimates, long runway option (number of tourists)

Year 1	Year 15	Year 10	Year 15	Year 20	Year 40
1,493	6,464	13,001	26,151	42,367	77,427

6 TOURISM DEVELOPMENT INCENTIVES AND INSTITUTIONAL SUPPORT

6.1 A number of island economies have introduced a variety of measures aimed at attracting investors and stimulating tourism development. Specific measures for attracting foreign direct investors have also been introduced. The success in implementing these measures however has been mixed. Most of the island economies considered are characterised with high input costs largely because of tariffs, shortage of skilled labour coupled with onerous regulations with respect to employment of foreign workers and the issue of work permits, cumbersome processes in obtaining investment permits, limited availability and high cost of credit and problematic acquisition and use of land. These conditions create a difficult economic environment and are particularly discouraging to foreign investors.

6.2 Economic and fiscal policies with respect to inward investment range from more relaxed regimes whereby direct and indirect taxes, fees and exchange controls are absent or minimal – as in the island economies that have chosen to attract the off-shore financial and business market as a route to economic development (e.g. Vanuatu) – to tighter regulation aimed at restricting the volume of tourism-related economic activities– as in the Galapagos where the emphasis is on curbing infrastructure development and tourist inflows in order to mitigate against potential negative environmental impact on the archipelago's unique ecosystems.

TRADE-RELATED INCENTIVES

6.3 Given that the tourist industry in most of the island economies relies on imports of a large number of goods, the abolition of import tariffs is amongst the measures with most direct effect on encouraging investment in tourism. Full or partial exemption from customs duties on specific goods used in tourism development projects are common amongst the islands considered in this study. Examples are building materials and fixtures, whereas consumables such as foodstuffs or clothing would not fall within such a category.

6.4 In Vanuatu for example tourism-related projects benefit from duty rates as low as 5% or from full exemption on many import goods. Building materials which would typically attract a duty of 20-30% may qualify for full or partial exemption.

6.5 In St Kitts and Grenada, the Hotel Aids Ordinance and the Hotels Aid Act respectively give relief from customs duties[32] and pier dues on items used in construction, extension and equipping a hotel of not less than 10 bedrooms. In Dominica, this relief applies to developments with not less than five bedrooms, thereby encouraging small-scale, local investment.

6.6 An additional incentive of particular benefit to small businesses relying on scarce domestic sources of finance is a subsidy of part of the transportation fares for particular goods in the

[32] The islands in the West Indies have a common external tariff under the CARICOM agreement. Further, they often add a customs service charge on top of the standard applicable duty. In Grenada the charge is 5% on the cif value of the imported goods. In St. Kitts, the rate is 3% but there is also a 2% stamp duty.

early years of operation. In Galapagos, a 50% discount applies to permanent and temporary residents on the air and sea transportation fares; 30% discount applies on cargo transportation fares on maritime routes on eligible goods.

6.7 [Treatment of export duties to benefit the expansion of domestic enterprises by allowing them to retain greater funds for reinvestment and maintain the international competitiveness of their products could also be an area for consideration].

6.8 VAT relief has an effect similar to the abolition of tariffs. In Grenada exemption from General Consumption Tax (Grenada's equivalent of VAT) – which at 25% is the highest amongst the islands reviewed - is available on fixtures, fittings and equipment for hotels, on service vehicles and on materials for construction, repair, renovation or alteration. Some islands are characterised with a low general VAT rate, e.g. Mauritius (10%, Madeira (12%), Vanuatu and the Cook Islands (12.5%).

FOREIGN DIRECT INVESTMENT POLICIES

6.9 In principle the foreign direct investment regime should be made as open as possible, i.e. foreign investors should be allowed the same rights and benefits (as well as facing the same obligations) as domestic investors. All industries and business activities that would contribute directly or indirectly to the development of a tourist industry should be just as open to foreign investors as they are to nationals. Many of the proxy islands studied adopt such a regime.

6.10 The most open regimes place no restrictions on the repatriation of profits or on the income earned by the businesses with foreign participation (e.g. in Vanuatu, Dominica, Mauritius). Some adopt withholding taxes on profits or remittances being repatriated abroad (10% in St. Kitts, 15% in Grenada and the Cook Islands).

6.11 Madeira, on the other hand, applies stiff withholding taxes for non-EU resident companies[33] unless it operates in the industrial Free Trade Zone. Even companies from countries where a double taxation treaty exists (including in some cases EU companies) have to pay withholding taxes on interests, dividends and royalties.

6.12 There are strict rules for foreign investors to follow in the Cook Islands. Every foreign enterprise[34] must be registered with the Development Investment Board (DIB). To apply, the foreign enterprise needs to submit details about the nature of the enterprise, products/services, shareholders, source of funding, expected employment, requirement for raw materials and other inputs either locally sourced or imported, financial forecasts (up to 10 years) and police references. The application fee costs US$57. Similarly, all foreign investment must be approved by the DIB. Acceptance provides the foreign investor not only foreign registration but exemptions of customs import levy and employee work and residence permits for foreign workers. The process takes 2-4 weeks although urgent applications can be resolved in 24 hours.

6.13 Restrictions to the proportion of shares, the degree of control or voting rights that can be held by foreign investors tend to discourage investment. Such restrictions can be seen in a

[33] 25% for stock companies, 30% for private limited liability companies, 15% on royalties and 20% on interest.

[34] Defined as where foreign equity exceeds 33%

number of developed economies particularly in industries regarded by governments as being of strategic national interest (e.g. defence and, in some instances, energy and transport). For example on Madeira foreign investment in an aviation company is limited to a 49% shareholding.

6.14 There are no restrictions on the level of foreign investment in the Cook Islands although joint ventures with local capital are encouraged. However, there are sectors (outside tourism) which are primarily reserved for local investors only (e.g. copra production, pearl shell harvesting).

6.15 In Chile, foreign investors have to enter into a three year contract (up to 8 years in the mining industry) with the Foreign Investments Committee representing the State. The contract gives the foreign investor rights to transfer capital and profits abroad. There are no time restrictions on repatriation of profits.

6.16 There are no currency exchange controls on any of the proxy islands considered, although in some places, e.g. Grenada, all outward transfers of funds needs to be notified to the Ministry of Finance. Some of the islands that operate in the offshore financial sector have taxes on foreign currency conversion (e.g. St Kitts).

TAX INCENTIVES

Differential corporation tax and tax holidays

6.17 A general lower level of corporation tax relative to that of other economies and in particular those in close proximity is amongst the most effective measures in encouraging foreign investors to establish productive activities in a territory.

6.18 Other fiscal incentives can be developed for specific productive, conservation and environmental activities that are regarded as contributing to the development of sustainable tourism. Amongst the most typical tax incentives for encouraging both foreign and domestic investment in particular projects and activities is exemption from corporation tax for a specific period. This allows any profits generated by the activities to be reinvested back in the business.

6.19 In St Kitts there are tax exemptions on profits for hotels with more than 30 bedrooms for the first 10 years and for smaller hotel developments – for the first five years. Thereafter a corporation tax of 35% applies.

6.20 In Dominica these incentives are even greater: a 10-year tax holiday on hotel developments of 5 bedrooms or more[35] and exemption from withholding taxes and aliens landholding licence fee. Grenada provides similar incentives for hotel developments with 10 or more bedrooms.

6.21 In the Seychelles foreign investors often benefit from concessionary corporation tax rates of 15% compared to the prevalent rates of up to 40%. Companies in the International Trade zone are exempt from taxes, social security contributions and a number of administrative fees.

[35] The bedrooms must be 100 ft^2 and have en-suites

6.22 In Grenada, to qualify for tax emption under the Hotels Aid Ordinance, the accommodation facilities must not be 40% or more occupied by persons staying on the island in excess of three months in any one year. This is a policy of encouraging development of a tourist sector focus whilst excluding from the exemption other forms of residential development.

6.23 In Mauritius, under the Development Incentive Act, an investor can apply for a Hotel Development Certificate which offers the following benefits:

- 15% corporate tax rate during the lifetime of the company compared to the prevalent general corporation tax rate of 30%
- payment of dividends are tax free
- remission of customs duty (subject to approval of the Ministry of Finance)
- free repatriation of capital, profits and dividends (subject to approval by the Bank of Mauritius)
- term loans and overdrafts at preferential rates from the Commercial and Development Banks in Mauritius.

6.24 Specific tax incentives such as full or partial exemption from corporation tax can be offered to businesses and individuals that provide to the tourist industry services such as training, environmental cleaning or conservation activities. Such incentives are offered on the Galapagos Islands.

6.25 With profits from hotels, restaurants and other tourism-related investments low or absent in the initial years of operations, it can be argued that lower differential tax rates for tourism-related businesses may have better effect on businesses than tax holidays over a limited period of time.

Deductions to donations

6.26 This measure refers to businesses and individuals being allowed to deduct from the taxable base the amount of donations from foreign or domestic donors to be invested in specific (eligible) activities. Such incentives are available on the Galapagos.

6.27 Interestingly, Taiwan in exchange for a favourable vote from Dominica about its sovereignty in the United Nations, offered a donation of US$20 million to the costs of the new airport. Also, Dominica could call on the US military to undertake the site engineering, excavation and grade work for free as this provide the US military with a realistic training exercise with the challenge of undertaking a massive earthmoving project[36].

Double taxation treaties

6.28 Double taxation is often a major deterrent to foreign investors which has prompted a number of islands to speed up the process of establishing double taxation agreements with other countries. Examples include St Kitts (double taxation treaties with the UK, Scandinavian countries, USA[37]) and Mauritius. In the latter tax credits are available through

[36] However, due to commitments by the US military in the Persian Gulf, their support had to be put on-hold

[37] With respect to social security only

the double taxation treaties or through a unilateral credit offered in the absence of other relief.

6.29 On the other hand, the Cook Islands have no double taxation treaties although corporation tax at 20% is lower than in most other islands reviewed.

Sales taxes

6.30 Sales taxes can be used in connection with other tax incentives to balance tax revenues whilst maintaining a favourable investment regime. Sales taxes are less onerous to businesses by virtue of being taxes on consumption. The most obvious example would be a combination of a differential corporate tax rate for tourism-related activities and a sales tax on tourism-related goods and services.

6.31 Most of the islands reviewed in the course of the project have in place taxes applicable directly to tourism activities. These are an important source of revenue to the government particularly where island economies function as tax havens or where for a variety of other reasons, one of which may be the encouragement of inward investment, corporation tax may be relatively low. Even if the corporation tax level is higher, it may still provide an uncertain revenue stream for the government particularly in the initial period of operation when companies' profits would tend to be lower.

6.32 In Vanuatu, a turnover tax of 10% is applied to the sales of accommodation, food and beverages in hotels and licensed premises (restaurants and bars). In Grenada the tax rate is 8% and 5% in St. Kitts.

Preferential credits

6.33 These include loans at special interest rates as well as tax benefits. One form of the latter, available on the Galapagos, is allowing individuals to deduct from the taxable base used to calculate the individual's income tax an amount equivalent to the amount of interest payable on the loan. This treatment would allow individuals engaged in a particular (eligible) activity to benefit from the same treatment allowed to corporate entities.

6.34 Accelerated depreciation and tax credits against specific expenditure are other examples of incentives. In the Cook Islands accelerated depreciation of up to 100% write-off in the first year is available for tourism projects. In Mauritius 200% of overseas marketing costs can be claimed against corporate tax.

Labour policies

6.35 The labour markets across the islands considered tend to be closely regulated, the main objective being the improvement of the employment prospects of the local labour force. At the same time however companies experience chronic shortages of particular skills amongst the local population.

6.36 The prevalent practice across the island economies is for restricting the residency and employment permits to direct descendents of residents. Foreigners normally face restrictions with respect to the type of employment or residence permits they are allowed to obtain. Most island economies place restrictions on the number of foreign workers a

company may employ. In Mauritius, work permits of between 6 months and 3 years are issued although there is no restriction on the length of stay (i.e. the work permit can be renewed).

6.37 The common practice is for employers to apply for the work permit. They need to demonstrate that there is no one available among the local workforce to do the job. Some islands insist on foreign workers submitting to an HIV test (e.g. St Kitts). The costs of obtaining work permits are often high (e.g. in St Kitts over US$600 per annual permit, in Grenada US$185-741 depending on nationality). Typically the process takes 3-4 weeks from date of submission to receiving the permit. In Mauritius, work permits of between 6 months and 3 years are issued although there is no restriction on the length of stay (i.e. the work permit can be renewed). Work permits for up to 3 years are granted on the Cook Islands however they tend to be restricted to 'key personnel'.

6.38 In Vanuatu, residence permits are issued to persons that wish to invest in a business once approval for the business has been granted. These permits are initially granted for 1 year but may be renewed if the conditions under which they were first granted remain the same. Foreigners in Vanuatu can also apply for an 'investor status' residence permit subject to a minimum investment requirement. In St. Kitts, citizenship without voting rights can be obtained by investing US$200,000 into Treasury bonds for 10 years with zero interest or US$250,000 in an investment project.

6.39 In the Seychelles businesses with foreign participation are allowed to employ up to 50% of foreign staff. To qualify for the investment incentives in Grenada, at least ¾ of the staff of the project must be locals.

6.40 Only in Dominica work permits appear relatively easy to obtain.

6.41 Madeira, being part of Portugal and therefore part of the EU, freely admits citizens from EU member states. EU workers must obtain a residence card but are not required to have work permits. Non-EU workers are required to have a residence visa and a work permit. Companies employing more than five workers must limit foreign[38] workers to 10% of the workforce[39] (although exceptions are allowed in cases of special technical expertise).

6.42 There is no evidence of islands waiving contributions to social security from employees, employers and the self-employed.

6.43 In some islands, minimum wages apply to the hotel industry. In St. Kitts a new entry has to be paid a minimum of US$1.41 per hour, a semi-skilled worker US$1.89 per hour and a casino worker US$56.6 per week. In the Cook Islands there is a general minimum wage of US$1.40 per hour.

6.44 In Mauritius, the Tourism Employee Welfare Fund Act was passed to promote the welfare of employees in the sector and their families. It established a Board comprising representatives of employees, employers and the Ministry of Tourism.

[38] EU and Brazilian workers are not considered foreign.

[39] This in effect rules out companies of between 5 and 9 employees.

Land use policies

6.45 The ownership of land by non-nationals on small islands tends to be a particularly sensitive issue. The disparity between affordability levels of potential foreign and domestic investors is often a potent driver in delaying the implementation of land use policy. It explains the difficulties for foreign investors in obtaining land rights across the majority of the islands reviewed. In some instances the prevalent customary ownership structure for land may act as a deterrent to both foreign and domestic investors interested in tourism projects.

6.46 90% of land on Vanuatu is customary owned (by kinship groups) while most of the remainder is government-owned and a small proportion is private. Customary ownership applies to all land in the Cook Islands. There is no freehold system, land being only obtainable on a lease basis. Long-term leases can be obtained (for 50-75 years in Vanuatu and up to 60 years in the Cook Islands) and can be renegotiated at the expiry of the lease. Land rentals are low: 2.5 – 4% of the unimproved capital value of the land. The main problem is the uncertainty of land tenure and the informal process of obtaining land because of informal nature of kinship property rights. In the Cook Islands leases longer than five years require approval from the Lease Approval Committee.

6.47 In St Kitts, foreigners need an Aliens Land Holding Licence to purchase land (freehold) or shares. A 14% tax is levied on buyers and 4% on sellers of residences but the licence also applies to commercial land, the taxes on which are negotiated with the Government. Non-nationals pay an Aliens Landholding tax of 20% of the value of the land in Grenada.

EXAMPLES OF MEASURES AIMED AT RESTRICTING TOURIST FLOWS

6.48 A number of islands have experienced the adverse effects of buoyant tourism growth as manifested in overcrowding, road congestion, depletion of natural resources, waste disposal problems and environmental pollution. This has led to measures specifically aimed at containing tourist volume.

6.49 The Seychelles have aimed at developing a model of luxury tourism on segregated islands close to the international airports. As tourist numbers exceeded 100,000 in 1990, less than 20 years after the opening of the airport, measures for restricting the number of tourists on any island at any one time were taken as early as the mid-1990s. The number of beds on any of the three main islands was limited to 4000 and some 45% of the total land area was placed under protection[40].

6.50 Mauritius perceives itself to be a small island state with a fragile ecosystem and limited resources. As mentioned earlier in this report a main focus of its tourism policy is the preservation of the ocean and land natural environment. Capping the number of hotel rooms to 9000, albeit less successful in practice than theory suggests given that current hotel bed capacity exceeds this number, stringent planning policy and targeted marketing at the high income customer segment are two measures aimed at restricting tourist volumes.

[40] Guthunz (1996)

6.51 Madeira has limited the capacity of accommodation to 35,000 beds in its Tourism Management Plan up to 2012. The number is currently over 28,000. It has undertaken a massive investment programme in road-building and tunnelling to reduce journey times across the island and divert traffic away from the main tourist resorts.

INSTITUTIONAL STRUCTURES

6.52 Where tourism is a key sector in an economy, it is necessary to centralise the policy-making powers so that there exists a suitable framework for promotion which is in harmony with all other aspects of economic, social and environment policy appertaining to that economy[41]. International and national effectiveness in tourism policy-making require highly co-ordinated policy networks so that planning and effective implementation are made possible.

6.53 In the cases that we have studied, tourism is being encouraged through three routes, namely:

- The provision of the basic infrastructure in transport and utilities
- The provision of an investment climate that proffers business opportunities to national and foreign investors in the context of planned development goals
- An outward looking marketing effort aimed at capturing the imagination of the target tourist market segments.

6.54 The first route is a natural function for governments as it is about planning for the needs of the people. In this case the people also included visitors. The second and third routes are usually dealt through special agencies of government.

6.55 Institutions promoting inward investment

6.56 All islands have established government agencies for implementing government policies on encouraging inward investment and proactively promoting an investor-friendly environment.

6.57 Promoting FDI in St Kitts falls to CONITE (Comisión Nacional de Inversiones y Tecnológicas Extranjeras) while in Grenada, the Grenada Industrial Development Corporation has the broader remit to encourage domestic as well as foreign investment. In the Cook Islands, it is the Development Investment Board that vets all foreign investment while in Chile it is the Foreign Investments Committee (El Comité de Inversiones Extranjeras).

6.58 Some islands have set up structures which aim at brining together the government and private sector interests in the management of the tourism sector. For example Mauritius has set up the Joint Tourism Council under the Ministry of Tourism and Leisure (chaired by the Minister of Tourism). All the private sector tourism associations are members of the Council and the Prime Minister's Office and the Ministry of the Environment participate in its meetings. It has no legislative powers but can drive change in policy reflecting the interests of the private sector.

[41] See "Tourism and Public Policy" by Colin Hall and John Jenkins

6.59 The Galapagos Islands are run by the INGALA Council which has a Minister for Tourism. The Rapa Nui National Park on Easter Island is administered by CONAF (la Corporación Nacional Forestal) which administers all the national parks in Chile. It is keen to promote activities in the parks that are in harmony with the natural environment and in partnership with the private sector.

Institutions promoting tourism

6.60 The strategic challenges facing island economies in their efforts to develop successful tourist industries can be summarised as follows:

- Human resource development
- Tourism planning, investment and SME development
- Marketing.

6.61 Islands tend to have numerous institutions and organisations dealing with aspects of tourism development in various overlapping degrees. Mauritius provides a typical example of the multi-institutional fabric supporting tourism development as a whole. Institutions active in Mauritius include:

- Human Resource Development Council, set up to promote HRD in line with national economic and social goals, a culture of lifetime learning and rising productivity
- Labour Market Information System which informs job seekers of opportunities via the Internet
- Industrial & Vocational Training Board which runs reskilling programmes
- National Productivity & Competitiveness Council set up to promote and sustain an enabling environment to allow Mauritius to thrive in a fast changing world
- Mauritius Qualifications Authority which regulates training in Mauritius
- Board of Investment formed to one-stop shop foreign and domestic investment
- Small & Medium Industries Development Organisation.

6.62 In addition there is a number of professional associations active in Mauritius including the Association of Inbound Operators (AIOM), the Mauritian Association of IATA travel agents (MAITA), the Tourism Activities Professionals Association (TAPA) and Association des Hoteliers et Restaurateurs de l'Isle Maurice (AHRIM).

6.63 The functions of destination marketing (promoting the island to domestic and external markets) are undertaken by a central tourism organisation which would have offices or representation agencies in the main current or potential target market areas.

6.64 Madeira, is a much larger island compared to St Helena, with a much larger population, with developed tourist industry attracting a large numbers of tourists. It is able to support 12 tourist offices including the one in Lisbon. The Cook Islands' Tourism Corporation is the organisation responsible for marketing the islands. It has offices in the main six source countries.

6.65 The islands in the South Pacific are able to club together and promote themselves through the South Pacific Tourism Organisation: Vanuatu and the Cook Islands are members. Marketing for Easter Island is undertaken by the Chilean Tourist Board (Sernatur).

6.66 One disadvantage for St Helena is that it lacks the scale of resources available to the large and well-developed tourist industries of most of the islands considered. One route to cost-effective marketing in outside market areas is via a representation agency. (Tahiti uses successfully representation agencies to promote the archipelago). Easter Island has been successful in attracting tourists with only modest support from the Chilean tourist board. (Unfortunately no data is available on the magnitude of resources allocated to marketing the island).

6.67 The main functions of the Tourism Organisation (or Tourist Board) can be summarised as follows:

- To plan, implement (or facilitate the implementation of) the destination marketing strategy
- To develop, implement (or facilitate the implementation) the marketing programmes for the target source markets
- To act as the main gateway for visitor information
- To act as the main information gateway for operators, travel agents and the trade press
- To facilitate liaison and coordination for the domestic tourist industry and act as the main conduit of information on market and policy developments
- To initiate, participate and support industry in marketing activities (some typical examples include trade shows and representation in international events and associations)
- To undertake continuous market research to support domestic tourist businesses
- To manage the impact of major external events which might threaten the attractiveness of destination
- To facilitate the promotion of standards of excellence for industry by coordinating training, disseminating world 'best practice' and establishing benchmarks and quality award schemes
- To drive continuous human resource development in industry to help maintain international competitiveness and changing customer requirements.

7 CONCLUSIONS

7.1 There are various models of successful sustainable tourism development. The Galapagos, Mauritius, Easter Island, Dominica are all examples of such models. The common success factors, regardless of the nature of the model are: focusing on a particular concept, consistently targeting a particular market segment and bringing together marketing, tourist infrastructure investment, conservation effort and planning policy into a coherent strategy.

7.2 Most of the islands reviewed in the course of this research base their tourism development on a concept centred upon a main feature characterised by its uniqueness (e.g. unique wildlife) or world class natural or cultural assets (e.g. superb coastal and marine environment). In contrast the tourist concept developed for St Helena (as expressed in the Tourism Master Plan[42]) is one of a combination of features into an overall experience of the natural environment and cultural heritage. Although it is difficult to find examples of island economies that match this tourism concept, there are some models of tourism development that provide useful insights into the potential patterns for St Helena.

7.3 Dominica and Easter Island in particular present the most useful comparative models. The experience from the two islands demonstrates that with modest investment in tourist infrastructure and emphasis on investment in the features and attractions that promote the main concept to the target market (the national parks, museums and heritage sites) it is possible to attract and sustain a relatively large number of tourists. This experience confirms a conclusion of our tourist demand study: to develop a model of tourism based on experiencing the nature and cultural heritage of the destination, such as is envisaged for St Helena, major investment in luxury hotel accommodation in the early years is not necessary to prime demand.

7.4 The tourist growth pattern experienced on Easter Island – similar in population, remoteness, area and climate and successfully pursuing a model of tourism not based on luxury surroundings and tropical beaches, and not dependent on massive investment in tourist infrastructure, is of particular interest in modelling potential scenarios or tourism take-up for St Helena. The similarities give us sufficient confidence to explore for St Helena a scenario whereby tourist numbers grow faster than market perceptions would suggest, similar to the pattern experienced over the last 12 years on Easter Island.

7.5 The experience from Mauritius underscores the paramount importance of maintaining the status of a luxury brand if a destination is to market itself as ‘exclusive’. Unique and superior natural assets such as coastal and marine environment, world class accommodation, facilities and service standards are the main components of luxury tourist brand development in the market in which St Helena would be competing. The current pressures experienced by Mauritius highlight the difficulties in maintaining a share of what is a small segment of the world tourist market: the rich tourist in pursuit of a luxury vacation.

[42] A Strategy for Heritage and Nature Based Tourism Development: Tourism Master Plan, World Tourism Organisation, Madrid, 1997

7.6 A main common feature across the islands reviewed in the course of the study is that airport development has been the initial and main impetus and prerequisite for the growth of tourism. There is no evidence of island destinations developing a successful tourist industry whereby the main access for international tourists is provided via small size 19-seater type aircraft. There are numerous examples of small-scale airport facilities but they are used to provide airborne connections between individual islands of an archipelago and flight times are much shorter than the 4.5 – 5 hour flight to St Helena. The viability of a tourism proposition based on the medium length runway option and associated with 19-seater aircraft is therefore difficult to see.

7.7 The two drivers with most pronounced effect on tourist demand, particularly for long-haul tourist destinations are the cost of travel and the perceived quality of the product on offer. ¦ ¦ ¦ ¦ . This is likely to influence the size of the potential market.

7.8 Another common feature across the islands considered is their reliance on one main source market for both tourist inflows and investment. These tend to be the mainland metropolitan territory – Chile in the case of Easter Island, New Zealand in the case of Cook Islands, or the closest large developed economy - USA in the case of the Caribbean islands. One major implication for St Helena is the importance of South Africa as a main potential source market for both tourists and investment.

7.9 Amongst the measures with most direct effect on encouraging investment in tourism on St Helena would be the abolition of import duties, given the large proportion of goods such as building materials and capital equipment that are imported. Goods appropriate for exemption or reduction in customs duties would include building materials and furnishings, and capital equipment.

7.10 Although most of the islands have in place policies for encouraging inward investment, the process is hampered by lengthy approval procedures, restrictions on employment of non-national, high administrative costs and delays. Making the investment regime on St Helena as open to foreign investors as for domestic ones would encourage much needed capital flows in tourism. Simplifying and speeding up the foreign investment approval process is just as important in terms of encouraging inward investment as investment incentives.

7.11 In view of the limited domestic manpower and financing resources, relaxing the immigration regime to allow for residence and work permits to foreign nationals could be of benefit to St Helena in stimulating the growth of the tourism sector on the Island.

APPENDIX F: SURVEY OF ST HELENIANS

CONTENTS

EXECUTIVE SUMMARY

1. This survey report describes the process used to compile estimates of expected travel patterns of Saints, resident on St Helena and overseas, assuming the availability of air travel from St Helena to Cape Town[1] and Ascension Island.

2. Demand for air travel was drawn from surveys of St Helenians resident on the island and those living abroad. The survey report can be found in the annex attached to this report.

3. This analysis presents estimates of travel by St Helenians over a 40-year horizon from the point at which an airport becomes operational. The two air access options considered are the long runway and the medium-length runway.

4. For the long runway, it is estimated that there will be a base figure of **5530** return trips per year: **1338** by residents on St Helena and **4192** residents overseas. This equates to an average of **107** passengers travelling each way per week (trips to and from St Helena – Cape Town and St Helena – Ascension Island, inclusive). This is projected forward over 40 years.

5. For the medium runway, it is estimated that there will be a base figure of **2042** return trips per year: **314** by residents on St Helena and **1727** by residents overseas. This equates to a total of **40** passengers travelling each way per week (trips to and from St Helena – Cape Town and St Helena – Ascension Island, inclusive). This is projected forward over 40 years.

6. Upper and lower bounds for passengers for each runway type were also estimated.

7. Under the RMS replacement scenario it is assumed that there will be no growth in Saints travelling on the RMS during the period, from the 2003 number. Consequently an annual estimate of **1560** trips by Saints for travel by the RMS to St Helena is adopted.

8. The estimates of Saints' travel are an input into the economic model of the island.

[1] Cape Town has been used throughout the Feasibility Study as a prime example of an African 'hub' that could be used by St Helena for routeing to the world in general. There is no significant reason why another African hub could not be selected, if preferred.

1 INTRODUCTION

CONTEXT

1.1 This survey report highlights the process used to compile estimates of expected travel patterns of Saints, both resident on St Helena and overseas, assuming the availability of air travel to and from St Helena. This analysis presents estimates of travel by St Helenians (referred to as Saints) over a 40-year horizon from the point at which an airport becomes operational.

1.2 This report is produced as a result of the statistical analysis of demand for travel by Saints captured during a structured survey during August and September 2004. The survey involved Saints living in UK, St Helena, Ascension Island, Falklands Islands and South Africa. It is a sequel to the earlier summary Paper[2].

AIM OF THIS PAPER

1.3 This purpose of this Paper is to establish a basis for predicting demand for air travel by Saints so that this can be incorporated into the Financial / Economic modelling of the Air Access Options.

SCOPE

1.4 Demand for air travel by Saints is estimated under the Air Access Options of a medium-length runway and a long runway, based on the survey results conducted. The surveys also produced considerable information on Saints' attitudes to and experience of travel to and from St Helena: this reported in a companion Paper, "On Island and Overseas Survey" (document 5352) which is also an annex to this report.

[2] 5307 Estimated air travel by Saints V0.7, issued 17 September 2004

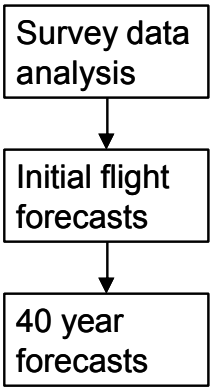
2 METHODOLOGY AND PRIMARY ANALYSIS

OVERVIEW

2.1 The approach to the overall survey and the process of publicising and distributing the questionnaires was described in the separate report[2].

2.2 This section describes the methodology used to estimate demand for air travel between St Helena and Cape Town, and St Helena and Ascension Island in light of an airport becoming operational on the Island. The approach taken by this report falls into three key parts, as shown in Figure 2.1.

Figure 2.1 - Outline methodology



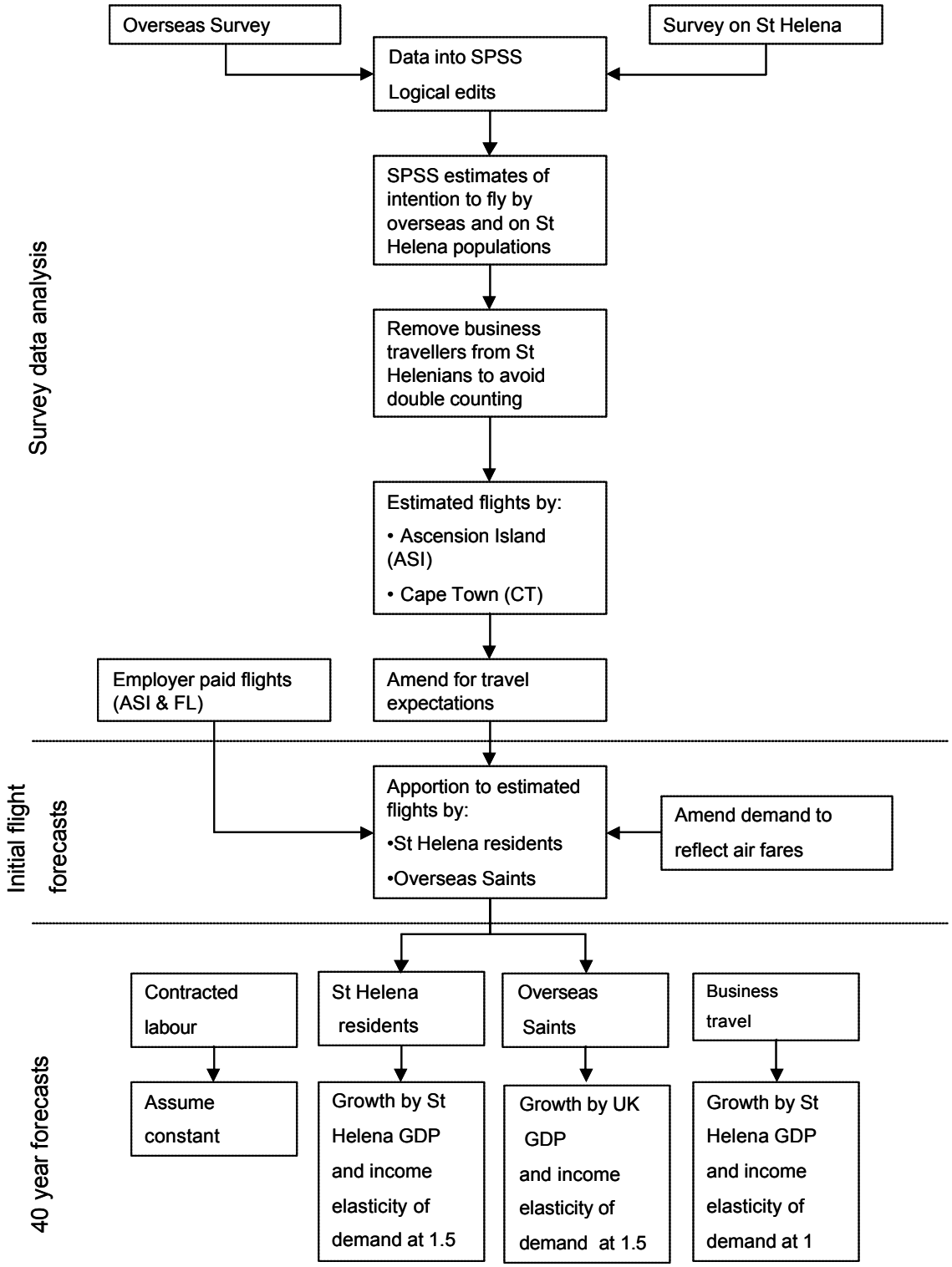
2.3 This analysis estimates demand for air travel for the following groups:

- Residents of Saint Helena
- Saints living overseas.

2.4 This analysis produces separate estimates for the long and medium runways.

2.5 Figure 2.2 illustrates in detail each of the three parts of the methodology.

Figure 2.2 - Detailed methodology



SURVEY DATA ANALYSIS

Overseas and On-Island Survey

2.6 Two separate surveys of Saints were conducted:

- Overseas Survey
- St Helena Survey.

2.7 Each survey questioned Saints about their current travel habits and future plans, and then assessed attitudes towards travel in light of the introduction of an airport.

2.8 A combined response of 650 questionnaires was received. This report focuses on those elements of the surveys that were directly used in determining estimates of Saints.

2.9 Data collection took place during August and September 2004 as follows:

- St Helena survey: hard copy questionnaires were distributed around the island during August
- Overseas survey: via a combination of hard copy and via a dedicated website set up for the purpose.

2.10 The overseas survey primarily targeted responses from Saints resident in:

- UK
- Ascension Island
- South Africa
- Falkland Islands.

2.11 Responses were good, with the exception of South Africa, from where no responses have been received to date.

Response

2.12 The island survey attracted 310 responses and the overseas survey 340, making a total of 650. As is common with self-completion surveys, some questionnaires were only partially completed and were removed from the sample. A total of 626 responses was used in study: 306 from the island survey and 320 from the overseas survey. Responses that formed the main groups for analysis are shown in Table 2.1.

Table 2.1 – Responses used for statistical analysis

Source	Number of responses used
Ascension Island (ASI)	108
Falkland Islands (FI)	58
United Kingdom (UK)	149
Republic of South Africa (RSA) and Other	5
St Helena	306
Total	**626**

Quality Control and analysis software

2.13 Sections of each survey were structured such that on providing certain responses, respondents were filtered (i.e. instructed to attempt or skip upcoming questions). In a paper-based self completion survey, such instructions are often ignored or misinterpreted, though in the web-based survey respondents can be filtered automatically. Additionally, to maintain the integrity of the sample, logical edits were made to ensure responses were internally consistent.

2.14 Overall, 153 questionnaires were removed as a result, giving a consistent dataset of 497 questionnaires for analysis.

2.15 Analysis of the raw survey data was conducted using *SPSS*, a dedicated statistical package for analysis of social data. Predictions of Saints' future travel patterns required the combined application of *SPSS* and *Excel*.

Questions on air travel

2.16 The surveys asked questions about current and future travel plans, then gave the following introduction about the possibility of an airport, and asked about likely travel:

"Suppose you could fly between St Helena and Ascension Island in 2 hours and between St Helena and Cape Town in 4-4 ½ hours, with convenient connecting flights.

Please think about the number of times you might travel away from St Helena ("visit St Helena" in the Overseas Survey).

Please assume you (or your family/friends) are paying the full cost of the trip.

If your employer normally pays, or you work on the RMS, consider how many extra visits would you be prepared to pay for yourself.

We don't have firm information about air fares yet, so please think about the cost compared to the cost of making the same journey on the RMS.

How many times would you travel away from St Helena in the next 3 years ("visit St Helena" in the Overseas Survey), if the cost of flying from St Helena to either Ascension Island or Cape Town was:

a) two thirds of the RMS fare (that is, one third less)? Tick one

o	***No visits***	o	***1 Visit***	o	***2 visits***	o	***3 visits***	***O***	***4 or more visits***

b) the same as the RMS fare? Tick one

o	***No visits***	o	***1 Visit***	o	***2 visits***	o	***3 visits***	***O***	***4 or more visits***

c) one third more than the RMS fare? Tick one

o	***No visits***	o	***1 Visit***	o	***2 visits***	o	***3 visits***	***O***	***4 or more visits***

2.17 We only asked respondents about flights to Cape Town or Ascension, as to present an array of possible destinations would have made a self-completion survey over-complicated.

INITIAL ESTIMATES OF FLIGHTS

Self-Funded Passengers

2.18 Table 2.2 shows the number of (return) flights that respondents said they would take in the next three years, if the fare was the same as for the RMS leg (i.e. Question (b) in 2.17). Thus 10% of Saints on Ascension Island said they world take no flights, 54% would take one flight, etc.

2.19 Estimates of anticipated flights are given for Saints living on Ascension Island (ASI), the Falklands (FI), United Kingdom (UK), the Republic of South Africa (RSA) and Other. RSA figures were estimate by those for "other" countries, (which were actually very close to those for UK and ASI) and for St Helena. The table is explained in the paragraphs below it.

Table 2.2 – Estimate of self–funded return flights by Saints, next 3 years

	% flying among Saints resident in:						
Flights	**ASI**	**FI**	**RSA**	**UK**	**Other**	**St Helena**	**Total**
0	10	10	11	12	11	26	
1	54	31	53	60	53	54	
2	32	35	26	20	26	16	
3	4	22	9	8	9	2	
4+	0	2	1	1	1	1	
Total	**100**	**100**	**100**	**100**	**100**	**100**	
Population	773	602	200	5000	500	4050	**11125**
Flights per 100 popn	131	176	136	126	136	99	
Reduction Coefficient	0.70	0.70	0.70	0.70	0.70	0.70	
Adjusted Flights per 100 popn	92	123	95	89	95	69	
Total return flights	710	741	191	4427	477	2804	**9350**
% travelling on each route							
ASI-SH	100%	100%	0%	33%	0%	33%	
CT-SH	0%	0%	100%	67%	100%	67%	
ASI-SH	710	741	0	1476	0	935	**3861**
CT-SH	0	0	191	2951	477	1870	**5489**
Remove non-VFR travellers							
	1%	1%	1%	1%	1%	4%	
ASI-SH	703	734	0	1461	0	897	**3795**
CT-SH	0	0	189	2922	472	1795	**5378**
Total	**703**	**734**	**189**	**4382**	**472**	**2692**	**9172**

2.20 Overall the table gives the total number of self-funded flights predicted in three years as 9172, as shown in the last line. This is derived as follows:

2.21 Taking the demand profile of Saints on Ascension Island (ASI), the flights per 100 Saints population resident on ASI is obtained by computing:

(0 x 10) + (1 x 54) + (2 x 32) + (3 x 4) + (4.5 x 0) = 131 (allowing for rounding).

2.22 An adjusted flights per 100 Saints population resident on ASI is determined by applying a 'reduction coefficient' to allow for a travel expectations effect, a tendency to over-predict future travel (discussed further below):

0.7 x 131 = 92 flights per 100 Saints' population.

2.23 This is then converted to an estimate of flights for all 773 Saints on ASI (adjusted) by:

92 x 773/100 = 710 flights every three years.

2.24 This is repeated for each country to obtain a base estimate for total demand for flights by all Saints.

2.25 To segment the travel patterns by the two routes being considered, the following assumptions have been made:

- Ascension Islands' and Falkland Islands' residents will fly to St Helena via Ascension Island.
- South African and 'other' resident will fly to St Helena via Cape Town.
- UK and St Helena residents will travel via Ascension Island and Cape Town flights in a ratio of 1:2.

Business Travellers

2.26 An estimate for business travellers was obtained from the respective surveys from the question: *'What was your main reason for travelling/travelling to St Helena?'*. Figure 2.3 shows that 1% of Saints resident overseas and 4% resident on the island travelled abroad for business purposes.

Figure 2.3 - Reasons for travelling
Overseas survey (left) and St Helena survey (right)

If you have returned to St Helena in the last 3 years, what was your main reason for this?

What was your main reason for travelling to Saint Helena?	Visit relatives/friends	76%
	Holiday/pleasure	18%
	Busines trip	1%
	Other	6%
	No response	0%
	Subtotal	100%
		197

Main reasons for travelling

What wa your main reason for travelling?	Visit relatives/friends	30%
	Holiday/pleasure	31%
	To receive medical treatment	1%
	Accompanying someone for medical	5%
	Overseas training or education	16%
	Take up/return to overseas	9%
	Business trip - government/ public	4%
	Business trip - private sector	0%
	Working on the RMS	1%
	Other	0%
	No response	1%
	Subtotal	100%
		143

2.27 The travelling numbers were adjusted to remove those who expect to travel for business purposes. Business travellers are included separately in the economic model.

2.28 This is repeated across all places of residence, giving **9172** self-funded flights over three years, or **3057** in one year, or **59** per week, on average.

Figure 2.4 - Expected demand for flights excluding business travellers

Provisonal findings

	All	via ASI	via CT
in 3 years	**9172**	3795	5378
per year : base estimate	**3057**	1265	1793
per week	**59**	24	34

Employees with paid travel

2.29 The above analysis estimated flights over and above those that would be paid for by employers.

2.30 There were 602 Saints employed on Ascension in 2004[3], and 370 Saints employed at the MPA base on the Falkland Islands[4]. Our research indicated that a high proportion of these employees were entitled to at least one free passage to St Helena annually, (some at the start and/or end of their contract). Hence the annual flight estimates were increased by:

- 602 employer-paid travellers from Ascension Islands
- 370 employer-paid travellers from Falkland Islands

2.31 These passengers were then added to the self-funded passengers.

2.32 It is assumed that employees form Ascension and Falklands will only travel on the Ascension Island route.

2.33 Assuming that the RMS and air fares to be equivalent, the expected passengers per year rises to 77 per week; 43 via Ascension Islands and 34 via Cape Town.

Figure 2.5 - Expected demand for flights, including self and employee funded travel

Expected demand for flights per year

	All	via ASI	Via CT
Self-funded: base estimate	**3057**	1265	1793
Employer- Paid: ASI	**601**	601	0
Employer- Paid: FI	**370**	370	0
Total	**4028**	**2236**	**1793**
per week	**77**	43	34

[3] Source: ASI Government data, March 2004

[4] Source: St Helena Government Representative for FI

Methodology note 1: Travel Expectation - Reduction Coefficient

2.34 Estimating people's likely behaviour from views expressed in a survey can be difficult and there is a significant amount of literature on response bias (e.g. Moser and Kalton, Survey Methods in Social Investigation Gower, 1979). Inferring likelihood of travel from direct survey questioning needs to be treated with caution. This has been recognised and more sophisticated methods of interviewing have emerged under the general umbrella of 'stated preference' surveys. However, these need a detailed description of the characteristics of the transport mode, fare structure, frequency and times of travel. In the absence of this information, best practice is to use internal checks on the data to obtain as good a quality of response as possible, and to check for illogical responses, for example where individuals may have misunderstood a question.

2.35 In particular we were concerned that people would over-estimate their estimates of likely air travel[5]. To help gauge this, we asked how often Saints

- had travelled to St Helena / left St Helena in the past three years
- intended to travel to St Helena / left St Helena in the next three years (assuming travel by the RMS, with no mention of the airport).

2.36 Results showed a significantly higher figure for *anticipated* travel, than for *actual* travel in the past three years, by close to 30% for both surveys. It was decided to apply a 'reduction coefficient' of **0.7** which reflects this travel expectation effect.

Methodology note 2: Population estimates

2.37 We have assumed populations of Saints per region surveyed as shown in Table 2.3.

Table 2.3 – Population estimates

Origin	Number	Source
ASI	773	2004 Ascension Island Government Data
FI	602	2004 Falkland Island Representative Data
RSA	200	Estimate based on discussions with SHG Representative
UK	5000	An 'effective' Saints figure, discussed below
Other	500	Atkins Estimate
SH	4050	Atkins Estimate
Total	**11125**	

2.38 Estimating the number of UK Saints has proved difficult. A figure of 10,000 has been suggested, but has proved very hard to substantiate. The St Helena Association does not operate a membership system, but the Chair estimated the attendance at the Reading Sports day as 3,000 including children. (They printed 1,500 adult tickets which were all used (they ran out of tickets by mid afternoon) none were issued to three coach loads that

[5] "….respondents are frequently overly optimistic when responding to hypothetical (transport) questions ….." (Hunt and Abraham, 1997), quoted in U.S. Department of Transportation's Federal Highway Administration - Research, Development, & Technology". (Publication No. FHWA-RD-98-166)

turned up from Swindon nor to the people who had camped overnight. Additionally Friends of St Helena were also in attendance, though these largely made up from expatriates.) This gives us a lower bound for estimates.

2.39 A high proportion of Saints who have migrated to UK in the past are likely to be married to / partnered with non-Saints, though we do not have figures on this. If the journey time constraint was lifted the partner is likely to have the same, or close to, the same propensity to travel as the Saint. However the same is not likely to be true for their children / grandchildren.

2.40 We suggest that the approximately 2000 Saints present in UK in 2001 (from UK census data, which records place of birth as Saint Helena) equates to around 3,500 'Saints and partners'. The anecdotal evidence suggests that 500 or so who have arrived more recently may have come more as couples / families, and some are very young so still unpartnered, but by the time airport operations commence some of them will have partners. Hence we assume around an additional 650 'Saints and partners' from the 500 recent arrivals. This gives just over 4000 UK Saints born in Saint Helena.

2.41 We have estimated an additional UK 3000 Saints (some of them, of course, are children) who are second or third generation, and that 2000 of these have a propensity to travel of half that of first generation Saints, while the remaining 1000 are very unlikely to travel by virtue of time spent in UK and much reduced links with Saint Helena. This gives an 'effective' Saints population with the travel preferences expressed in the survey of 4000 Saints and partners, and 1000 (50% of the 2000) second or third generation Saints, giving 5000 'effective' Saints in all.

2.42 This may seem a conservative estimate, but we have no firm information for increasing this. However, the figures can be varied in sensitivity analyses.

Methodology note 3: Other Assumptions

2.43 We have allowed children to have the same propensity to travel as the adults. Children (other than infants in arms) occupy airline seats the same as adults, and it is up to the airline whether or not they charge the full fare for a child. However it is usually their parents who pay for them. Children (say aged 10+) may travel independently to visit their parents who are working abroad (in the care of a friend travelling at the same time, or looked after by the cabin crew). We know that at present there are around 150 children on St Helena who are living with grandparents or other relatives because both their parents are abroad. For example, a couple working on FI, provided they have suitable accommodation, might choose to have their children visit for the school holidays rather than make just a two-week visit to the Island.

2.44 Saints employed in ASI and FI: employers of Saints on ASI and FI have stated that they would welcome air access since it would allow Saints employed in ASI and FI to make more frequent but shorter trips home, and to get home quickly when family situations require. All of this will be (a) good for morale, and (b) make manpower planning easier. It would be reasonable to assume that the numbers of trips from contract workers in these locations will rise, and the figures reflect this.

2.45 People travelling from 'other' locations: there are potential constraints imposed by ASI as a transit point for people travelling from FI and UK. Accommodation on ASI is limited, expensive and not seen as 'good value for money' by many Saints in transit. Some Saints travelling to/from UK will want to go via ASI to see friends and family based in ASI en route. Those travelling to FI do not have a choice. For most others, ASI may have less intrinsic appeal than CT, though of course, cost, overall flying times and connecting times will be important mediating factors. Consequently, we have routed more UK bound/UK based travellers via Cape Town, and the proportion travelling through ASI is given as 100% of FI residents, 100% of ASI residents, 33% of Saints residing in St Helena and 33%% of Saints residing in UK, and 0% of travellers from RSA and all 'other' locations.

FLIGHT FORECASTS

Price elasticity of demand

2.46 The questionnaires asked about the anticipated number of trips if the air fare was:

- The same as the RMS
- A third more than the RMS
- Two-third of than the RMS.

2.47 The demand profiles for these price variations were calculated and a price elasticity of demand for travel was determined.

2.48 The table below highlights the change in demand for flights as their price changes relative to the RMS St Helena.

Table 2.4 – Change in demand in light of varying flight prices relative to RMS

Price	Price (Index = 100)	Demand (passengers per week)
Same as RMS	100	120
Third more than RMS	133	79
Two thirds of the RMS fare	67	178

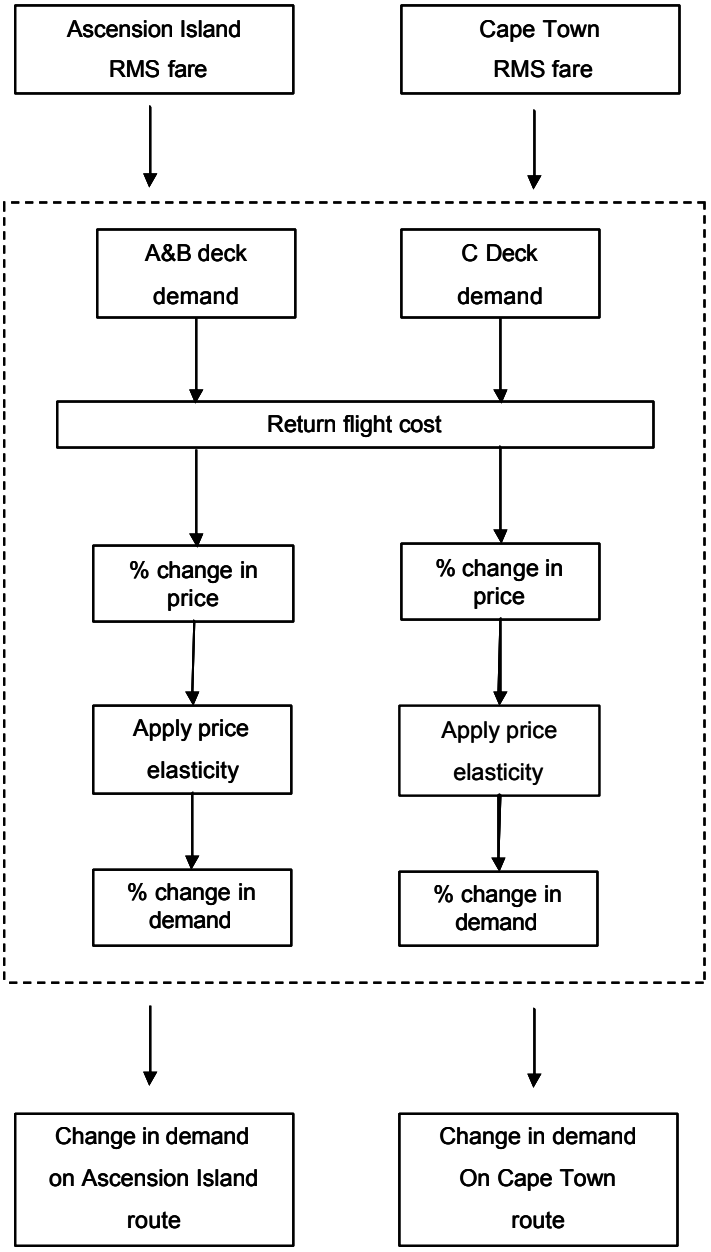
2.49 The price elasticity of demand is calculated using across the range and gave a coefficient of -1.23.

Amending demand for flights to reflect estimated airfares

2.50 Figure 2.6 illustrates how the demand for flights is determined given the estimated fares for air travel. These estimates were not known at time of the survey, so respondents were asked to consider their likely travel patterns, using air fare levels in comparison with RMS fares.

2.51 Demand was segmented by the two airline routes considered in this study. An amended demand is calculated for each route using the above price elasticity, to reflect the difference between estimated air fares, and RMS fares. These are then combined to estimate total air travel trips in the first year of the airport becoming operational.

Figure 2.6 – Methodology for calculating demand under estimated air fares



2.52 This process is applied individually to air fares for the medium and long runway.

2.53 The RMS St Helena provides passengers with accommodation on A, B or C decks. A&B decks, which have higher prices, were grouped together for the purpose of this study. Our survey revealed that very close to 50% of those passengers paying for themselves travel on the A&B decks and the other half travel on the C deck. Table 2.5 shows the difference in average price for the different decks on the two routes considered (weighted for the number of berths). Note that the fares reflect return voyage prices.

Table 2.5 – Average RMS St Helena fares for ASI and CT routes

Route: SH to/from	Deck	Return Fare*
Cape Town	A&B Deck	£1128
	C Deck	£638
Ascension Island	A&B Deck	£854
	C Deck	£520
*Source: Andrew Weir Shipping website, September 2004		

2.54 Table 2.6 shows the estimated fare for return flights on the two routes considered in this study. In addition, the prices also vary for the runway types being considered.

Table 2.6 – Estimated long and medium runway fares for ASI and CT routes

Route: SH to/from	Deck	Return Fare*
Cape Town	Medium runway	¦ ¦ ¦ ¦
	Long runway	¦ ¦ ¦ ¦
Ascension Island	Medium runway	¦ ¦ ¦ ¦
	Long runway	¦ ¦ ¦ ¦
*Source: Atkins, 2004		

2.55 The process of estimating air travel demand is shown in Table 2.7, and explained in the subsequent text.

Table 2.7 – Amendment of demand to reflect actual air fares – long runway

This table has been redacted as it contains information that could be prejudicial to future procurement processes

2.56 Considering the Cape Town route, the first step is to determine the change in RMS fares for each deck type relative to expected air fares. The corresponding percentage change in flights is calculated by applying the price elasticity of demand of ¦ ¦ ¦ ¦ .

2.57 For example, considering the A&B deck on the Cape Town route:

'Change in RMS price' = ¦ ¦ ¦ ¦

% change in demand = ¦ ¦ ¦ ¦

2.58 This is repeated for the C deck on the Cape Town route, and the A&B and C decks on the Ascension Island route. The percentage change in flights for each deck type on each route is applied to the base number of trips by self-funded passengers.

2.59 The total number of self-funded trips for the long runway is **4559**: comprising **2579** on the Cape Town route and **1980** on the Ascension Island route.

2.60 The total self-funded trips are then segmented by whether the passengers are residents on St Helena or residents elsewhere. The split is 29% on-island and 71% overseas, as determined from the initial survey estimates.

2.61 Total demand is determined by adding on an annual paid trip for employees working in Ascension or MPA in the Falklands, as already discussed.

2.62 For the long runway, it is estimated that there will be **5530** trips per year; **1338** by residents on St Helena and **4192** residents overseas. This equates to an average of **107** passengers per week.

Figure 2.7 – Flight estimates by route and traveller type (long runway)

FINAL SURVEY ESTIMATES	St Helena Residents	Non residents	Total
VFR and holiday adjusted	1338	3221	4559
ASI & FI employees	N/A	971	971
Total	**1338**	**4192**	**5530**
			107 weekly

2.63 This analysis is repeated to reflect fares on the medium runway.

2.64 For the medium runway, it is estimated that there will be **2042** return trips per year; **314** by residents on St Helena and **1727** by residents overseas. This equates to a total of **40** passengers travelling each way per week.

Figure 2.8 – Flight estimates by route and traveller type (medium runway)

FINAL SURVEY ESTIMATES	St Helena Residents	Non residents	Total
VFR and holiday adjusted	314	756	1071
ASI & FI employees	N/A	971	971
Total	**314**	**1727**	**2042**
			40 weekly

THE 40-YEAR FORECASTS

Base year

2.65 In making these forecasts it is assumed that the airport becomes operational in 2009, following which the RMS service would cease. In 2003 there were 1560 trips by Saints who used the RMS to travel to St Helena[6]. It is assumed that there will be no growth in Saints travelling on the RMS between 2005 and 2008, and this figure of 1560 is used.

2.66 Table 2.8 shows the number of trips by Saints on-island and overseas for the various travel groups in 2009. The table comprises estimates for the long and medium runways.

Table 2.8 – Expected flights in base year

	Travel group	Long Runway	Medium Runway
St Helena Residents	VFRH*	1338	314
Overseas Residents	VFRH*	3221	758
	ASI & FI employees	971	971
	Total	5530	2043

* Visiting Friends and Relatives and Holiday-related.

Growth rates

2.67 The annual growth rate for demand for air travel by Saints resident on the island is based on the annual change in St Helena GDP, which reflects the change in prosperity of Saints on the island and consequently a change in demand for travel. Estimated future St Helena GDP is drawn from the economic model accompanying this study.

2.68 For similar reasons, the annual growth rate for Saints resident abroad is based on the annual change in UK GDP, assumed to be 2% per annum.

2.69 The change in yearly UK and St Helena GDP is adjusted by an income elasticity of demand to reflect the travel group. Those travelling for leisure have an income elasticity of demand of 1.5. This elasticity is derived from the Air Traffic Forecasts for the United Kingdom 2000, Department of the Environment, Transport and the Regions, September 2000. (These form the basis of current UK government forecasts). This is shown in Table 2.9.

2.70 The trips made by ASI & FI employees are assumed to remain constant, as we have no reason to be confident of either an increase or decline in Saints working in these locations in future.

[6] Source: immigration data supplied by SHG

Table 2.9 – Passenger growth assumptions

	Travel group	Growth Rate	Income elasticity of Income
St Helena Residents	VFRH	% Change in SH GDP	1.5
	Business trips		-
	ASI & FI employees		1.0
Overseas Residents	VFRH	% Change in UK GDP	1.5
	Business trips		-
	ASI & FI employees		1.0

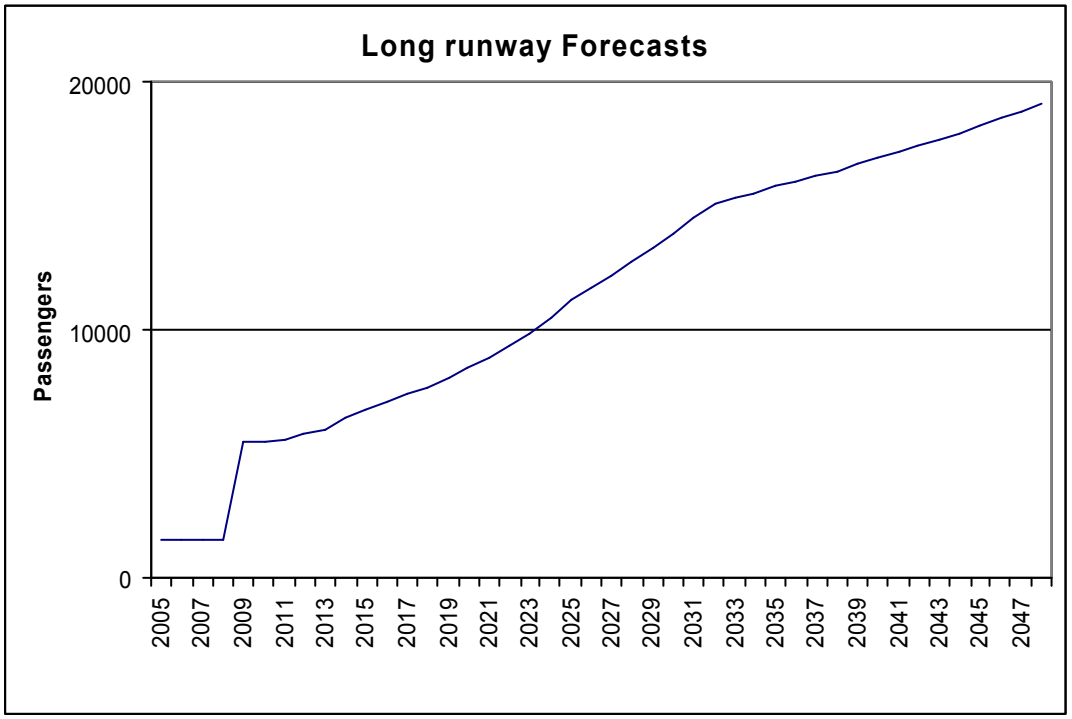
RESULTS

Long Runway

2.71 The Figure 2.9 shows the forecast for the Saints passengers in the 'long runway' Option.

2.72 It is predicted that there will be 5530 Saints passengers when the airport becomes operational in 2009. This will rise to 19078 in 2040.

Figure 2.9 - Predicted Saints Passengers

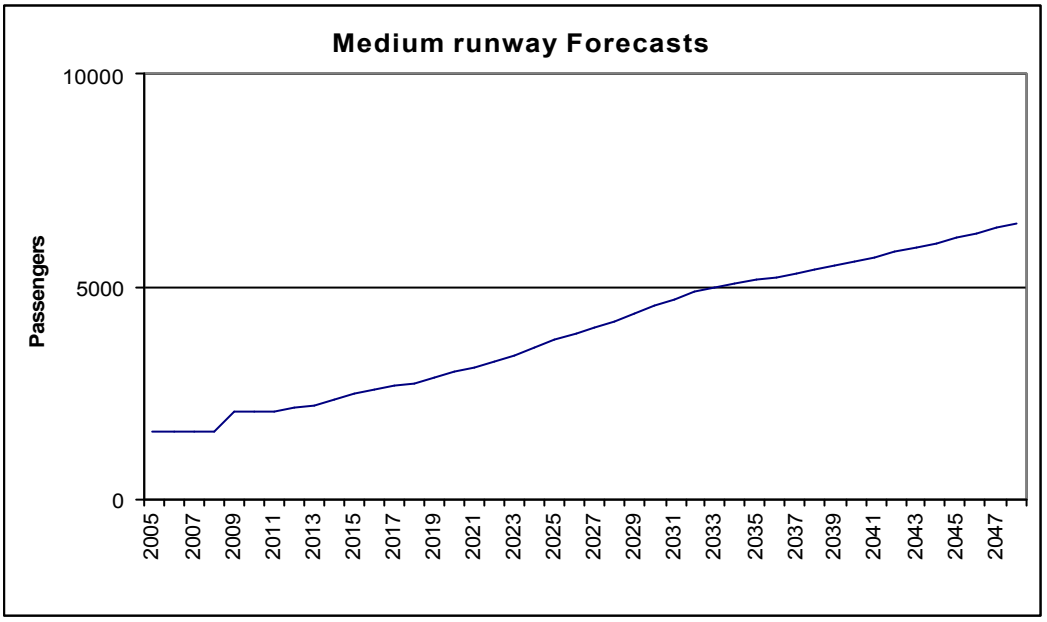


Medium Runway

2.73 Figure 2.10 shows the forecast for the Saints passengers in the 'medium runway' scenario.

2.74 It is predicted that there will be 2042 passengers when the airport becomes operational in 2009. This will rise to 6502 in 2040.

Figure 2.10 - Predicted Saints Passengers



2.75 The above estimates of Saints' travel are taken forward into the economic model of the island.

RMS Replacement

2.76 As noted above, in 2003 there were 1560 trips by Saints who used the RMS to travel to St Helena. It is assumed that there will be no growth in Saints travelling on the RMS during the period 2005 to 2047. Under the RMS replacement scenario, the number of residents declines, and hence journeys starting and ending in Saint Helena are likely to decline also. However, having more Saints living abroad will tend to increase the number. It is not possible to calibrate the magnitudes of these opposing influences, and consequently we have assumed no growth in Saints travel under the option.

3 RANGE OF PASSENGER NUMBERS IN 2009

3.1 The analysis above assumes a 'best estimate' for demand for flights by Saints in 2009 (assumed as first year of operations). This section highlights the range of potential demand in 2009 by exploring two bounds: upper and lower.

UPPER BOUND

3.2 To determine an upper bound for passengers the following assumptions were changed from the main forecast:

- A UK population of 7000 'effective' Saints, reflecting 4000 first generation Saints, and 6000 second and third generation Saints, the latter with half the travel propensity.
- The travel expectation effect was ignored; hence the reduction coefficient was not applied.
- A price elasticity of demand for flights of -1.45; reflecting the upper estimate of price elasticity of demand derived from the data.
- Air fares were a third cheaper than those used for the 'best estimate'.

3.3 The main forecasts of base annual demand, derived earlier, were:

- Long runway: 5530 return flights
- Medium runway: 2042 return flights.

The results of the upper bound computation are given in Figure 3.1 and Figure 3.2:

Long runway – upper bound, base forecast

Figure 3.1 - Flight estimates by route and traveller type (Long runway)

	St Helena Residents	Non residents	Total
FINAL SURVEY ESTIMATES			
VFR and holiday adjusted	2387	7439	9827
ASI & FI employees	N/A	971	971
Total	**2387**	**8410**	**10798**

208 weekly

Medium Runway – upper bound

Figure 3.2 - Flight estimates by route and traveller type (Medium runway)

FINAL SURVEY ESTIMATES	St Helena Residents	Non residents	Total
VFR and holiday adjusted	1226	3821	5048
ASI & FI employees	N/A	971	971
Total	**1226**	**4792**	**6019**

116 weekly

LOWER BOUNDS

3.4 To determine a lower bound for passengers, the following assumptions were applied:

- A UK population of 4000 Saints, assuming second and third generation Saints have a negligible propensity to travel.
- A price elasticity of demand for flights of -1.02, reflecting the lower estimate of price elasticity of demand derived from the data.
- Air fares were a third more expensive than those used for the 'best estimate'.

Long runway – lower bound

Figure 3.3 - Flight estimates by route and traveller type (Long runway)

FINAL SURVEY ESTIMATES	St Helena Residents	Non residents	Total
VFR and holiday adjusted	1081	2250	3331
ASI & FI employees	N/A	971	971
Total	**1081**	**3221**	**4302**

83 weekly

Medium runway – lower bound

Figure 3.4 - Flight estimates by route and traveller type (Medium runway)

FINAL SURVEY ESTIMATES	St Helena Residents	Non residents	Total
VFR and holiday adjusted	-37	-78	-115
ASI & FI employees	N/A	971	971
Total	**-37**	**893**	**856**

17 weekly

4 SUMMARY

Long Runway

4.1 It is predicted that there will be around 5,500 Saints passengers when the airport becomes operational in 2009 and that this will rise to around 19,000 by 2040.

4.2 For the long runway, it is estimated that there will be a base figure of **5530** return trips per year: **1338** by residents on St Helena and **4192** residents overseas. This equates to an average of **107** passengers travelling each way per week (trips to and from St Helena – Cape Town and St Helena – Ascension Island, inclusive). This is projected forward over 40 years.

Medium-length Runway

4.3 It is predicted that there will be around 2,000 passengers (Saints) when the airport becomes operational in 2009 and that this will rise to around 6,500 by 2040.

4.4 For the medium runway, it is estimated that there will be a base figure of **2042** return trips per year: **314** by residents on St Helena and **1727** by residents overseas. This equates to a total of **40** passengers travelling each way per week (trips to and from St Helena – Cape Town and St Helena – Ascension Island, inclusive). This is projected forward over 40 years.

RMS replacement

4.5 Under the RMS replacement scenario it is assumed that there will be no growth in Saints travelling on the RMS during the period, from the 2003 number. Consequently an annual estimate of 1560 trips by Saints for travel by the RMS to St Helena is adopted.

APPENDIX G: SURVEY OF ST HELENIANS (ASPIRATIONS)

CONTENTS

1 INTRODUCTION

1.1 This paper presents the findings of two surveys of Saint Helenians (referred to as Saints in the rest of this document). One survey targeted Saints resident on the island of Saint Helena, and the other targeted Saints living abroad.

1.2 The purpose of this paper is to:

- enhance our understanding of the profile of Saints overseas, and confirm and quantify some commonly held assumptions about them
- increase our understanding about the travel behaviour of all Saints: in particular many of the survey results were used to help derive the estimations of Saints likely travel numbers under the air access options, as detailed in 'Saints Travel Estimates', (document number 5346) and reproduced in the main body of the feasibility study report
- underpin and quantify some of the social findings described in the main body of the feasibility study report

1.3 This paper describes the profile of the Saints interviewed, assesses their travel patterns to and from Saint Helena, and asks about the key influences on these. Finally the paper considers those factors that may influence future travel to and from the island, and the topic of whether Saints intend to stay on the island, or, for those overseas, their likelihood of returning to stay.

2 METHODOLOGY

OVERVIEW

2.1 This report gives the results of two surveys designed to ascertain the travelling habits and patterns of St Helenians residing both on the island of St Helena and overseas.

2.2 Two surveys of Saints were conducted in August/September 2004, targeting:

- Saints living abroad aged 15 and over
- Saints living on St Helena aged 15 and over

2.3 The surveys were similar in scope but tailored to the different audiences. Each asked questions about recent travel and future plans, and then assessed the potential response towards having air access to the island.

2.4 A combined response of 651completed questionnaires was received, of which 626 were taken forward into the analysis.

2.5 This report describes the survey logistics, then goes on to discuss

- The profile of the Saints responding
- Features of previous travel to and from Saint Helena, the reasons for it, etc
- Future travel and Saints' attitudes to leaving/returning to Saint Helena for an extended period

2.6 The predicted travel patterns of Saints under the scenarios are air access is described in detail in a separate paper, and estimates of flight numbers are derived for the duration of the study.

2.7 The questionnaires are included as appendices to this report.

SURVEY LOGISTICS

Awareness and Distribution

2.8 The surveys were publicised and disseminated as described below.

On-Island

2.9 A copy of the "on-island" questionnaire (i.e. used on St Helena) was issued with the 13th August 2004 edition of the St Helena Herald, a popular newspaper published weekly on the island. In addition to this, questionnaires were distributed to government departments, private businesses, committees, youth forums, schools and shops around the island. Announcements were made on local radio and follow up advertisements placed in the Herald to encourage Saints to complete the questionnaires.

Overseas

2.10 The overseas survey focused upon Ascension Island, the Falklands, South Africa and the UK because of their concentrations of resident Saints. Table 2.1 summarises how the Saints living in these places were made aware of the survey and how the questionnaire was distributed.

Table 2.1 - Survey distribution by location

Location	Awareness	Distribution
UK	Reading Sports Day, via website St Helena Herald	At Reading Sports Day Via SHG's UK Representative
Ascension Island	St Helena Herald Islander Magazine	Ascension Island Government Via selected employers: Serco, BBC/ Merlin, USAF/CSR and Turners GCMS
The Falklands	St Helena Herald Penguin News Local Radio	Collection boxes at employers around the island, majority at MPA but also in both NAAFI shops, the Fy120 reception area, Sodexho Offices, Stanley Post Office and the K3 Grocery shop
South Africa	www.sthelenaonline.com (Saints Website) St Helena Herald	KZN Friends of St Helena Society (Pietermaritzburg)
World wide – online	St Helena Herald	ProNET – Atkins Internet based tool

2.11 Advertisements were placed in the St Helena Herald and other weekly publications on Ascension and the Falklands to raise awareness of the survey.

2.12 The "overseas" questionnaire hosted online was available to all Saints living overseas. However, as many people do not have internet access, considerable effort was made to ensure hard copies were available and various organisations in the locations were used to distribute and collect questionnaires.

2.13 In the UK, in excess of one hundred questionnaires were completed at the Reading Sports Day held on the August Bank Holiday weekend. This day proved useful, not only for the purposes of completing questionnaires, but also for talking to Saints and gaining a greater understanding of their views on air access.

Response

2.14 The total response from Saint Helena was 310 completed questionnaires, representing approximately 10% of the adult population aged 15 and over.

2.15 The response to the overseas questionnaire was moderately good also, with the exception of South Africa, which did not yield any questionnaires. In total 341 Saints attempted the questionnaire (some did not complete it). This total was divided between:

- 157 from the UK
- 58 from the Falklands
- 109 from Ascension Island
- 3 from other countries (Bermuda and USA)
- 14 did not answer where they were from.

ANALYSIS

2.16 Results from the online version survey were downloaded as an MS Excel file, and the raw data from the paper-based survey was sent to Eurodata, a specialist data input firm, to be coded into a set format in MS Excel. The overseas datasets were merged prior to analysis.

2.17 The on Island survey was entirely administered as a paper-based questionnaire. The responses were entered locally into a custom built MS Access database by an SHG employee.

2.18 The data was analysed using SPSS software, a well known and versatile package for survey analysis. The on island and overseas datasets were analysed separately.

QUALITY CONTROL

Logical Edits

2.19 The on island survey attracted 310 responses and the overseas survey 341, making a total of 651. As is common with self-completion surveys, some questionnaires are only partially completed and were removed from the sample. This resulted in 626 respondents used in study; 306 from the on island survey and 320 from the overseas survey.

2.20 In order to maintain the integrity of the sample, logical edits were made to ensure responses were internally consistent.

Saints populations, weighting and accuracy

2.21 We have assumed populations of Saints per region surveyed as shown Table 2.2 – Saints population estimates.

Table 2.2 – Saints population estimates

Origin	Number	Source
Saint Helena	4050	Atkins Estimate
Ascension Island	773	2004 Ascension Island Government Data
Falkland Islands	602	2004 Falkland Islands Representative Data
South Africa	200	Based on discussions with SHG Representative
United Kingdom	7000	Atkins Estimate*
Other	500	Atkins Estimate
Total	**13125**	

* estimated as approximately 4000 UK Saints born on Saint Helena, and 3000 second or third generation UK Saints. This is further discussed in Saints Travel Estimates, document 5346.

2.22 Due to the very differing numbers of Saints resident in each overseas location, the overseas survey was not balanced with respect to population. Hence the data was weighted to correct for this, and tables for the overseas Saints show weighted data. Saint Helena data was analysed separately and not weighted. The disappointing response from South Africa meant its population had to be combined with the "other" group, representing Saints in other locations.

2.23 The sampling percentage for the overseas responses are seen in Table 2.3. So while the 108 surveys completed in Ascension Island corresponds to 14% of the population of Saints there, this had to be down-weighted (to 27) to be in proportion to the population of Saints resident there. Note that in absolute terms, the number of completed surveys is quite reasonable in each of the 3 main locations, allowing meaningful cross analysis to be conducted by location.

Table 2.3 – Weighting factors

Country of Residence	Ascension Island	Falkland Islands	UK	Other
Saints population	773	602	7000	700
Completed surveys	108	58	149	5
Sampling percentage	14%	10%	2%	1%

2.24 A table of statistical confidence limits is given in the Annex 2.

3 PROFILES

3.1 This section highlights the demographic profiles of the two groups of Saints that are the subject of this study, namely:

- Saints living on St Helena
- Saints living abroad.

ON SAINT HELENA

3.2 The vast majority of respondents were St Helenian. As seen in the Table 3.1, just over 90% of respondents gave their on-island status as St Helenian. 5% quoted their status as being a spouse/relative to a St Helenian or an expatriate working on the Island.

Table 3.1

On-island - Saint Status

Saint status?	A St Helenian	93%
	Married to or related to a Saint	3%
	An expatriate working/living in St Helena	2%
	Someone with other personal connections with St Helena	0%
	Other	1%
	No response	0%
	Subtotal	100%
		306

3.3 Two thirds were in full time employment and just over 10% were working part time or were self-employed. 14% of the respondents were in full time education or training.

Table 3.2

On-island - Employment Status

Employment status	Employed full time	66%
	Employed part time	5%
	Self employed	6%
	Unemployed	1%
	Not employed but looking after a household	1%
	Retired	8%
	In full time education or training	14%
	No response	0%
	Subtotal	100%
		306

SAINTS OVERSEAS

3.4 Two-thirds of respondents had been living in their current country of residence for over 10 years as shown below.

Table 3.3

Overseas - Number of years in country of residence

Number of years in country of residence	Under 1 year	4%
	1-3 years	11%
	3-5 years	11%
	5-10 years	9%
	More than 10 years	66%
	No response	1%
	Subtotal	100%
		320

3.5 Following on from above, Table 3.4 shows the age profiles of Saints overseas by country of residence. (Note the data in these tables are *weighted*, as discussed above, consequently the "Total" row represents the numbers in each location after being weighted).

Table 3.4

Overseas - Age by Country of residence

		Country of residence				
		Ascension Island	Falkland Islands	UK	Other Country	Total
Age	Under 20	6%	2%	5%	0%	4%
	20-39	67%	78%	40%	80%	48%
	40-59	20%	21%	35%	20%	32%
	60 or over	5%	0%	21%	0%	16%
	No	2%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%
		27	21	247	25	320

3.6 Table 3.5, far more UK Saints have been in their country of residence for more than 10 years (77%), against 44% for Ascension Island and 14% for the Falklands. Saints living on Ascension or the Falklands tend to work on short term contracts, though many repeatedly renew these.

Table 3.5

Overseas - Stay at current country by Country of residence

		Country of residence				
		Ascension Island	Falkland Islands	UK	Other Country	Total
Number of years in country of residence	Under 1 year	6%	7%	1%	20%	4%
	1-3 years	17%	26%	8%	20%	11%
	3-5 years	19%	21%	6%	40%	11%
	5-10 years	15%	33%	7%	0%	9%
	More than 10	44%	14%	77%	20%	66%
	No response	0%	0%	1%	0%	1%
	Total	100%	100%	100%	100%	100%
		27	21	247	25	320

3.7 As seen in Table 3.6, three quarters of overseas respondents gave their status as St Helenian, with 23% quoted their status as being married to or related a St Helenian or as someone with personal ties to the island.

Table 3.6

Overseas - Saint Status

Saint status?	A St Helenian	74%
	Married to or related to a Saint	18%
	Someone with other personal connections with St Helena	5%
	Other	2%
	No response	1%
	Subtotal	100%
		320

3.8 Two thirds of overseas Saints were in full time employment and just fewer than 10% were working part time or were self-employed.

Table 3.7

On-island - Employment Status

Employment status	Employed full time	66%
	Employed part time	5%
	Self employed	6%
	Unemployed	1%
	Not employed but looking after a household	1%
	Retired	8%
	In full time education or training	14%
	No response	0%
	Subtotal	100%
		306

3.9 Nearly a third (31%) of the respondents currently own a home on St Helena despite currently residing overseas. Just over a quarter stated an intention to purchase a property on St Helena in the future. The remainder, just over a third, claimed that they have no intention to own a property there.

Table 3.8

Overseas - At the moment do you own/part-own a house (or other property) on St Helena?

At the moment do you own/part-own a house (or other property) on St Helena?	Yes	31%
	No but intending to buy or build in St Helena in the future	26%
	No and not planning to own a home on St Helena	37%
	No response	5%
	Subtotal	100%
		320

3.10 As seen in Table 3.9, the greater majority of Saints living on Ascension or the Falklands own or are building a property on Saint Helena (over 90% in each case), against close to a half in the UK. This reinforces the difference in profile between Saints living at these locations.

Table 3.9

Overseas - Home ownership by Country of residence

		Country of residence				
		Ascension Island	Falkland Islands	UK	Other Country	Total
At the moment do you own/part-own a house (or other property) on St Helena?	Yes	55%	53%	24%	60%	31%
	No but intending to buy or build in St Helena in the future	35%	40%	24%	20%	26%
	No and not planning to own a home on St Helena	6%	2%	46%	20%	37%
	No response	5%	5%	6%	0%	5%
	Total	100%	100%	100%	100%	100%
		27	21	247	25	320

4 TRAVEL IN THE LAST 3 YEARS

4.1 This section reviews responses to questions on travel experiences of Saints to and from St Helena in the last 3 years. Reasons for not travelling are also analysed.

4.2 Table 4.1 and 4.2 show the comparable travel patterns over the last 3 years, between the two groups. That is, Saints abroad and on island show a similar affinity to travel.

Table 4.1

Overseas - How many times have you returned to St Helena in the last 3 years?

How many times have you returned to St Helena in the last 3 years?	None	55%
	1	31%
	2	9%
	3	3%
	4 or more	2%
	No response	0%
	Subtotal	100%
		320

Table 4.2

On-island - How many times have you travelled away from St Helena in the last 3 years?

How many times have you travelled away from St Helena in the last 3 years?	None	53%
	1	29%
	2	11%
	3	5%
	4 or more	2%
	No	0%
	Subtotal	100%
		306

4.3 Those who had not travelled in the last 3 years were asked to comment on their reasons for not doing so – note the base for Saints overseas is 177 and for Saints on-island is 163. For both groups the most popular reason for *not travelling* to/from Saint Helena over the last 3 years was due to the expensive nature of the journey. Over half of all the overseas respondents stated this as a reason for not travelling and almost two thirds of the on-island respondents (almost 3 times more than any of the other options). From the overseas sample, the length of the journey and the ability to get time off work were also common reasons for not travelling to St Helena.

Figure 4.1

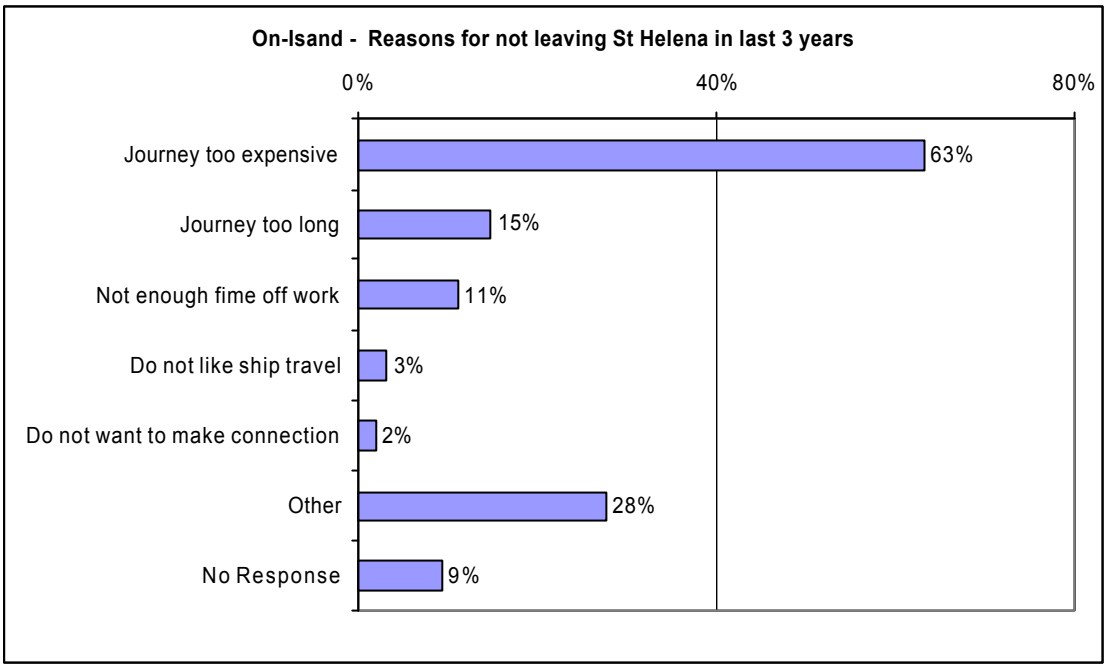
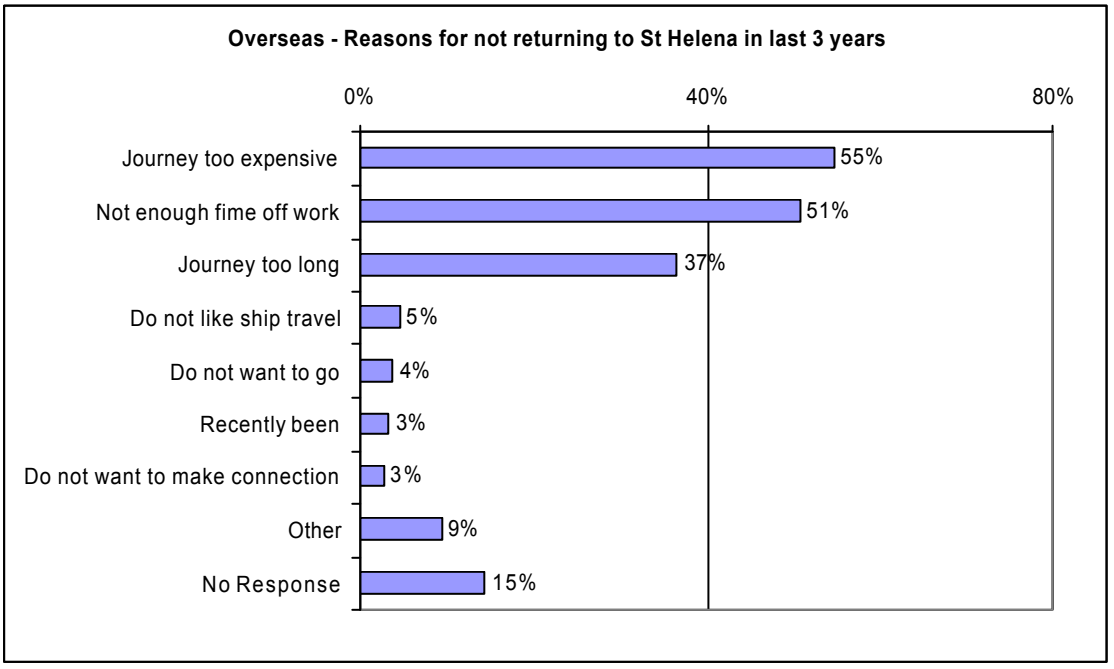


Figure 4.2



4.4 Unsurprisingly perhaps, the cost of the current journey mode to and from St Helena was cited by most as being the *single most important* reason for not travelling in the last 3 years, as shown in Table 4.3 and Table 4.4.

Table 4.3

Overseas - What is the most important reason for you not returning to St Helena in the last 3 years?

What is the most important reason for you not returning to St Helena in the last 3 years	The journey is too long	12%
	Unable to get the time off work	17%
	The journey is too expensive	24%
	Unable or unwilling to travel by ship	2%
	Unable or unwilling to travel by air to meet ship	1%
	Have only recently left St Helena'	1%
	No desire to visit St Helena	1%
	Other	2%
	No response	40%
	Subtotal	100%
		177

Table 4.4

On-island - What is the most important reason for not going away from St Helena in the last 3 years?

What is the most important reason for you not travelling away from St Helena in the last 3 years	The journey is too long	4%
	Unable to get the time off work	3%
	The journey is too expensive	57%
	Unable or unwilling to travel by ship	1%
	Unable or unwilling to travel by air to meet ship	0%
	Other	25%
	No response	10%
	Subtotal	100%
		163

THOSE WHO HAVE TRAVELLED IN THE LAST 3 YEARS

4.5 Those who had travelled in the last 3 years were asked to comment on their experiences – note the base for Saints overseas is 143 and for Saints on-island is 143.The most popular destinations for Saints living on St Helena were the UK and South Africa. Over 40% had travelled to the UK and just over a third had travelled to South Africa in the 3 previous years.

Table 4.5

On-island - Destinations

Where was your destination?	UK	43%
	South Africa	37%
	Falkland Islands	2%
	Ascension Island	11%
	USA	1%
	Other	5%
	No response	1%
	Subtotal	100%
		143

4.6 The most popular reason for travelling was for leisure: either holidays or to meet friends and family. Over 95% of Saints abroad and 60% Saints on-island travelled for this reason. Also, some 15% of on island Saints travelled overseas for training or educational purposes.

Table 4.6

Overseas - If you have returned to St Helena in the last 3 years, what was your main reason for this?

What was your main reason for travelling to Saint Helena?	Visit relatives/friends	81%
	Holiday/pleasure	14%
	Business trip	0%
	Other	5%
	No response	0%
	Subtotal	100%
		143

Table 4.7

On-island - Main reasons for travelling

What wa your main reason for travelling?	Visit relatives/friends	30%
	Holiday/pleasure	31%
	To receive medical treatment	1%
	Accompanying someone for medical treatment	5%
	Overseas training or education	15%
	Take up/return to overseas employment	9%
	Business trip - government/ public sector/	5%
	Business trip - private sector	1%
	Working on the RMS	1%
	Other	0%
	No response	1%
	Subtotal	100%
		143

4.7 Of the Saints residing abroad who visited St Helena in the last 3 years, about a half spent 3 – 8 weeks there. Around a quarter each spent 8-20 days or more than 8 weeks. Over half of these Saints started their journey from the UK. However, a quarter were from Ascension and 16% from the Falklands – higher than their respective populations of Saints would suggest, reflecting a higher travel incidence due to employers paying fares, (and also proximity for Ascension Saints).

Table 4.8

Overseas - If you have returned to St Helena in the last 3 years, how long did you spend on the island?

In your last visit how long did you spend on the island of St Helena?	7 days or less	2%
	8 - 20 days	23%
	3 - 8 weeks	51%
	More than 8 weeks	24%
	No response	0%
	Subtotal	100%
		143

Table 4.9

Overseas - If you have returned to St Helena in the last 3 years, where did you start your journey?

Where did you start your journey?	Ascension Island	24%
	Falkland Islands	16%
	South Africa	2%
	UK	58%
	Other Country	0%
	No response	0%
	Subtotal	100%
		143

4.8 For on-island Saints, Table 4.10

4.9

4.10

4.11 Table 4.10shows the main reason given for travel to South Africa as holiday/pleasure (51%), compared to 21% for the UK. In contrast there was a higher proportion travelling to the UK for training and educational purposes (UK - 26% and RSA - 8%).

Table 4.10

On-Isand - Destination by Reason to travel

		Where was your destination?							
		UK	South Africa	Falkland Islands	Ascension Island	USA	Other	No response	Total
What wa your main reason for travelling?	Visit relatives/friends	35%	23%	0%	38%	100%	29%	0%	30%
	Holiday/pleasure	21%	51%	0%	13%	0%	43%	0%	31%
	To receive medical treatment	0%	4%	0%	0%	0%	0%	0%	1%
	Accompanying someone for medical treatment	2%	11%	0%	0%	0%	0%	0%	5%
	Overseas training or education	26%	8%	0%	6%	0%	0%	0%	15%
	Take up/return to overseas employment	6%	0%	67%	31%	0%	14%	100%	9%
	Business trip - government/ public sector/ academic	6%	0%	33%	6%	0%	14%	0%	5%
	Business trip - private sector	2%	0%	0%	0%	0%	0%	0%	1%
	Working on the RMS	2%	2%	0%	0%	0%	0%	0%	1%
	Other	0%	0%	0%	0%	0%	0%	0%	0%
	No response	0%	2%	0%	6%	0%	0%	0%	1%
	Total	100%	100%	100%	100%	100%	100%	100%	100%
		62	53	3	16	1	7	1	143

4.12 Table 4.11 (Overseas Saints) reinforces the fact that with the exception of those Saints starting their journey from Ascension, most spend long periods travelling to and from St Helena. In particular those travelling from the UK or Falklands where around a third or more spend 13 days or longer. Many UK based Saints travel via Cape Town when visiting to St Helena - thereby taking longer than the Ascension route.

Table 4.11

Overseas - Days travelling by Location of journey start

		Where did you start your journey?				
		Ascension Island	Falkland Islands	South Africa	UK	Total
In total how many days did you spend travelling to and from St Helena?	5 days or less	84%	9%	7%	7%	26%
	6 - 12 days	13%	57%	93%	50%	44%
	13 days or more	0%	30%	0%	43%	29%
	No response	3%	3%	0%	0%	1%
	Total	100%	100%	100%	100%	100%
		34	23	4	82	143

4.13 Travel time for Saints on-island is as expected, and correlates with the travel experiences of Saints living abroad (see Table 4.11 and Table 4.12)

Table 4.12

On-island - Destination by Days travelling

		Where was your destination?					
		UK	South Africa	Falkland Islands	Ascension Island	Other	Total
In total how many days did you spend travelling to and from St Helena?	5 days or less	2%	11%	0%	81%	0%	14%
	6 - 12 days	44%	68%	67%	6%	71%	50%
	13 days or more	55%	19%	33%	13%	29%	35%
	No response	0%	2%	0%	0%	0%	1%
	Total	100%	100%	100%	100%	100%	100%
		62	53	3	16	7	141

4.14 On their last trip on the RMS St Helena, two thirds of respondents living on the Island travelled on A-B deck, and a third on the C deck. There was a more equal ratio for deck travelled on for Saints living abroad. Further analysis showed that among those paying their own fares, the A-B to C deck split was very close to 50:50.

Table 4.13

Overseas - On your last trip on the RMS St Helena, which deck did you travel on?

On your last trip on the RMS St Helena did you travel on?	A or B Deck	56%
	C Deck	42%
	No response	1%
	Subtotal	100%
		143

Table 4.14

On-island - On your last trip on the RMS St Helena, which deck did you travel on?

On your last trip on the RMS St Helena did you travel on?	A or B Deck	66%
	C Deck	32%
	No	1%
	Subtotal	100%
		143

4.15 For the Saints living abroad, around two thirds had their last fare to St Helena financed by their employer whereas the rest had it funded through private means. As seen in 4.12, approximately the opposite is true for on Island Saints: around a third had their fares paid for by their employer.

Table 4.15

Overseas - On your last trip on the RMS St Helena, who paid the fares?

Who paid for the RMS fares on your journey?	Your employer	31%
	Yourself or a relative/friend	68%
	Other	1%
	No response	0%
	Subtotal	100%
		143

Table 4.16

On-island - On your last trip on the RMS St Helena, who paid the fares?

Who paid for the RMS fares on your journey?	Your employer	29%
	Yourself or a relative/friend	59%
	Other	10%
	No response	1%
	Subtotal	100%
		143

4.16 As seen in Table 4.17, the majority of Saints living on Ascension Island and the Falklands have their fares paid by their employer. A higher proportion of Saints on Ascension self-finance their travel to St Helena compared to those on the Falklands. Ascension employers typically contribute towards one visit per year to St Helena; hence further visits to St Helena are financed by other means.

Table 4.17

Overseas - Who pays RMS fare by Location of journey start

		Where did you start your journey?				
		Ascension Island	Falkland Islands	South Africa	UK	Total
Who paid for the RMS fares on your journey?	Your employer	58%	82%	7%	7%	31%
	Yourself or a relative/friend	40%	17%	93%	93%	68%
	Other	1%	2%	0%	0%	1%
	No response	1%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%
		34	23	4	82	143

4.17 The A and B decks are the non-subsidised regions of the RMS St Helena. It is no surprise to see that those who get their fares paid for by their employer or by another third party have a greater tendency to travel by the more expensive A and B decks. As seen in Table 4.18 and Table 4.19, this is true for Saints living on the Island and for those living abroad.

Table 4.18

Overseas - Deck travelled on by Who pays RMS fare

		Who paid for the RMS fares on your journey?			
		Your employer	Yourself or a relative/friend	Other	Total
On your last trip on the RMS St Helena did you travel on?	A or B Deck	62%	54%	67%	56%
	C Deck	38%	45%	33%	43%
	No response	0%	2%	0%	1%
	Total	100%	100%	100%	100%
		45	97	1	143

Table 4.19

On-island - RMS deck travelled on by Who pays

		Who paid for the RMS fares on your journey?			
		Your employer	Yourself or a relative/friend	Other	Total
On your last trip on the RMS St Helena did you travel on?	A or B Deck	93%	53%	73%	67%
	C Deck	5%	47%	20%	32%
	No response	2%	0%	7%	1%
	Total	100%	100%	100%	100%
		42	85	15	142

5 FUTURE TRAVEL

5.1 This section highlights assess travel plans to and from St Helena for Saints on Island and abroad. (No reference to the possibility of air access had been made at this point in the survey.) In addition it explores what factors would influence Saints' to stay or travel to the Island.

TRAVEL EXPECTATIONS

5.2 Both groups of Saints appear to be reasonably optimistic that they will be travelling to and from St Helena in the next three years. In each case around 80% or more of the respondents stated that they would travel. (This compares to close to 50% who *actually* travelled in the last 3 years. This difference between expectation and past behaviour is discussed in the predictions of travel under air access).

Table 5.1

Overseas - How many times do you think you will visit St Helena in the next 3 years?

How many times do you think you will visit St Helena in the next 3 years?	Not at all	21%
	1	54%
	2	12%
	3	5%
	4 or more	2%
	No response	6%
	Subtotal	100%
		320

Table 5.2

On-island - How many times do you think you will travel away from St Helena in the next 3 years?

How many times do you think you will travel away from St Helena in the next 3 years?	Not at all	20%
	1	53%
	2	13%
	3	3%
	4 or more	3%
	No	8%
	Subtotal	100%
		306

5.3 As seen in Table 5.3, Saints in the UK expressed the least propensity to travel to St Helena in the next 3 years. This is consistent with those who have spent the most time away from St Helena (see Table 3.5).

Table 5.3

Overseas - Intention to return to St Helena by Country of residence

		Country of residence					
		Ascension Island	Falkland Islands	UK	Other Country	No response	Total
How many times do you think you will visit St Helena in the next 3 years?	Not at all	2%	5%	25%	20%	0%	21%
	1	31%	40%	60%	40%	0%	54%
	2	37%	33%	7%	20%	0%	12%
	3	22%	19%	2%	0%	0%	5%
	4 or more	3%	2%	2%	0%	0%	2%
	No	6%	2%	5%	20%	0%	6%
	Total	100%	100%	100%	100%	0%	100%
		27	21	247	25	0	320

Saints Overseas – likelihood of returning for an extended period

5.4 Saints abroad were further questioned about intentions to return to St Helena "either to live permanently or to stay for several years"). Interestingly, 40% stated an intention to return and stay on St Helena for an extended period of time. About a third stated that they did not intend to return and a third stated that did not know. On future visits, the majority claim that they would stay in their private residence or with friends and family. Around 10% stated that they would pay for a hotel or rented accommodation.

Table 5.4

Overseas - In the longer term is it your intention to return to St Helena either to live permanently or to stay for several years?

In the longer term is it your intention to return to St Helena either to live permanently or to stay for several years?	Yes	40%
	No	29%
	Do not know	27%
	No response	4%
	Subtotal	100%
		320

Table 5.5

Overseas - If you visit St Helena in the future where would you be most likely to stay?

If you visit St Helena in the future where would you be most likely to stay?	Your own home	31%
	Friends/relatives	48%
	Hotel/Bed and breakfast	7%
	Rented self catering	9%
	Other	1%
	No response	4%
	Subtotal	100%
		320

5.5 Saints on Island – moving away from Saint Helena

5.6 Saints on the island were asked about any intention to move away from the island, and if so their likely destination. There was an equal three-way split in response as shown in Table 5.6. Of those intending to move, the two thirds stated that the UK would be their likely destination. This is unsurprising given their freedom to work in the UK.

Table 5.6

On-island - Is it your intention to live away from St Helena in the future?

Is it your intention to go and live or work away from St Helena in the foreseeable future?	Yes	33%
	No	34%
	Do not know	33%
	No response	0%
	Subtotal	100%
		306

Table 5.7

On-island - Where would you like to live?

If yes, where would you like to move to?	UK	65%
	South Africa	4%
	Falkland Islands	8%
	Ascension	5%
	Germany	6%
	USA	2%
	Other	5%
	No response	6%
	Subtotal	100%
		102

5.7 Table 5.8 suggest that a worrying proportion of young people intend to work away from Saint Helena (71% of under 20 year olds), with lower proportions in higher age groups.

Table 5.8

On-island - Intention to leave St Helena by Age

		Age					
		Under 20	20-39	40-59	60 or over	No response	Total
Is it your intention to go and live or work away from St Helena in the foreseeable future?	Yes	71%	37%	18%	3%	0%	33%
	No	6%	22%	44%	82%	100%	34%
	Do not know	22%	41%	38%	15%	0%	33%
	No response	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%	100%
		63	100	108	34	1	306

Factors influencing return to/stay on Saint Helena

5.8 In order to ascertain what changes would influence Saints on the island to stay and those abroad to return, they were asked to read a list of factors that may influence their decision, and select all that applied to them. Air access, job opportunities and better wage levels were the main influencers for both groups. For Saints on the Island, air access was not as strong a factor as for Saints abroad. While the figures are interesting, the comparison should treated with care, as all overseas Saints answered this questions, while only the third of on Island Saints (those likely to leave) did so.

Figure 5.1

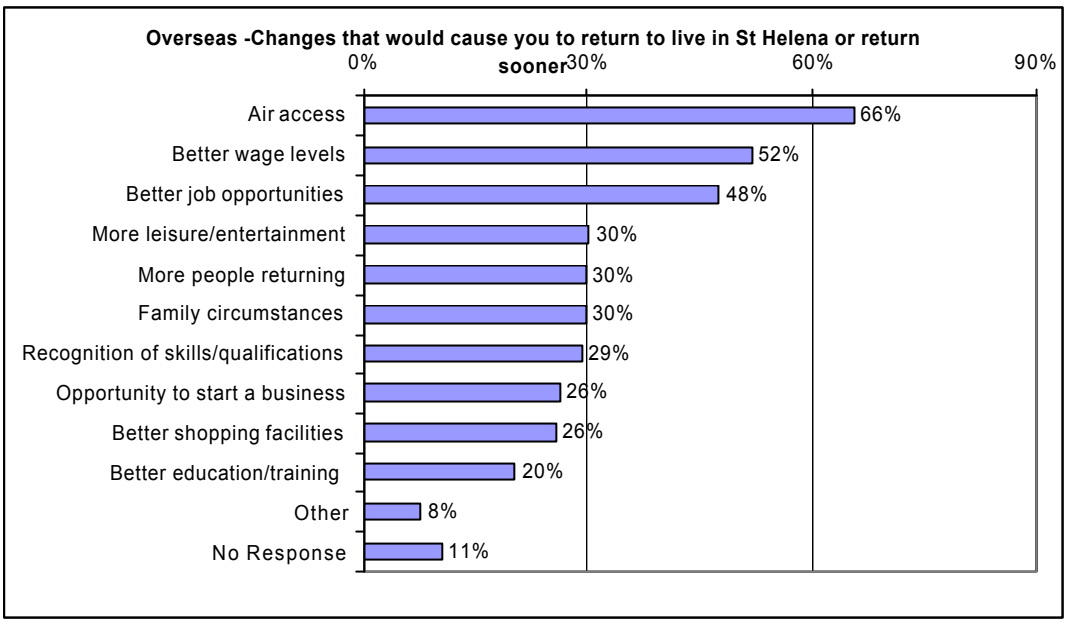
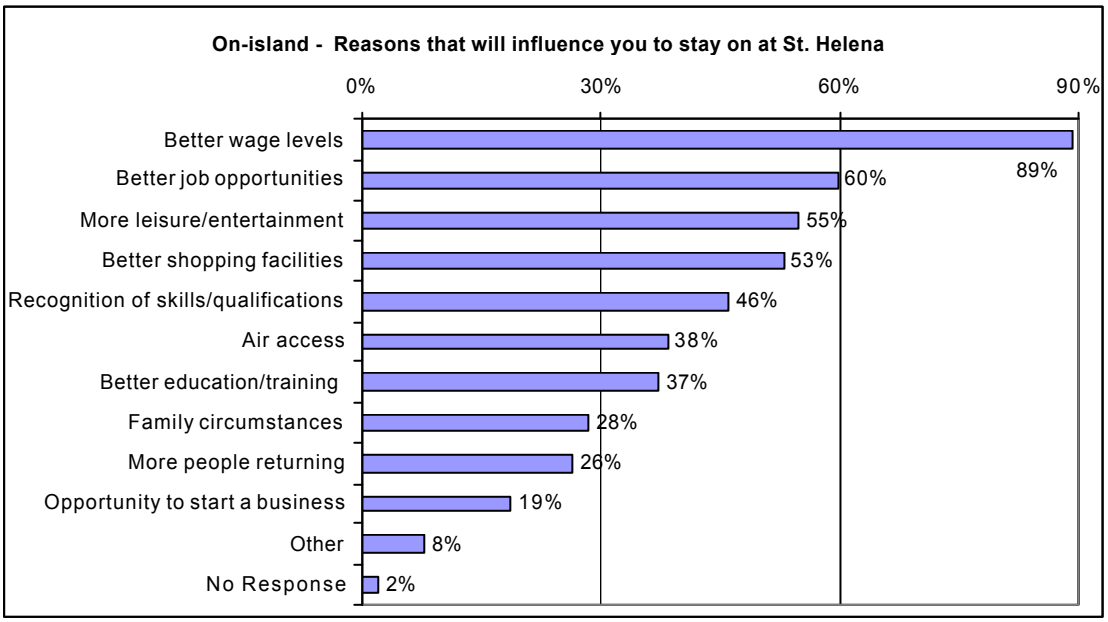
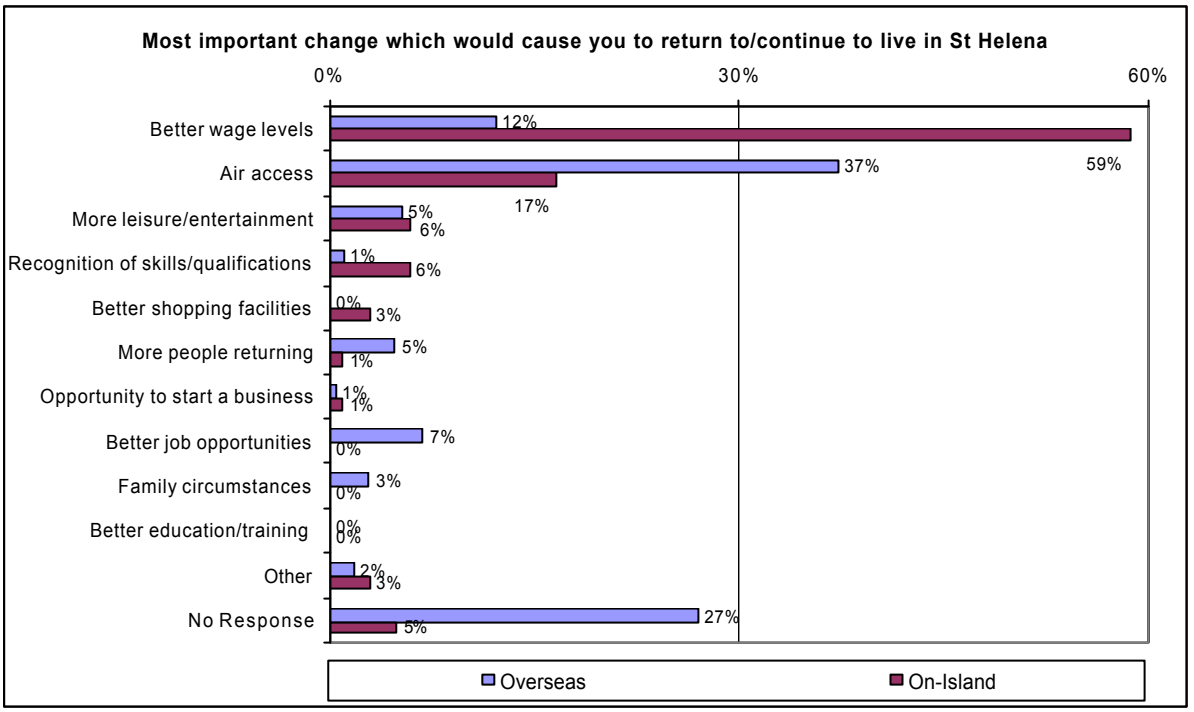


Figure 5.2



5.9 Continuing from the previous question, both groups were asked to state *the most important* change that would affect them to return/stay. It is interesting to note the different priorities of the two survey groups. For Saints abroad, the most popular response was better air access, accounting for about a third of the respondents. Interestingly, for those on the Island and considering leaving it, almost 60% stated better wage levels. The second most important factor for Saints abroad was better wage levels and for Saints on the island, the availability of air access.

Figure 5.3


Most important change which would cause you to return to/continue to live in St Helena
0%
30%
60%
Better wage levels
12%
59%
Air access
37%
17%
More leisure/entertainment
5%
6%
Recognition of skills/qualifications
1%
6%
Better shopping facilities
0%
3%
More people returning
5%
1%
Opportunity to start a business
1%
1%
Better job opportunities
7%
0%
Family circumstances
3%
0%
Better education/training
0%
0%
Other
2%
3%
No Response
27%
5%
Overseas
On-Island

6 AVAILABILITY OF AIR ACCESS IN ST HELENA

6.1 In order to assess attitudes to air travel, respondents from each survey were asked to comment on their likely travel habits in light of a hypothetical airport being present on St Helena.

6.2 This is reported on separately, in 'Saints Travel Estimates', (document number 5346) and reproduced in the main body of the feasibility study report. The predicted numbers of flights by Saints derived in this report is an important input into the model.

7 CONCLUSIONS

7.1 For Saints living oversees, the survey reinforced the generally held view of Saints on Ascension and the Falklands tending to be younger, working on contracts and returning home most years, with the fare usually paid for by their employer. A high proportion owned or were buying a home on Saint Helena. Conversely UK Saints had typically lived there longer, visited Saint Helena less often and had low home ownership. Respondents who had not been to Saint Helena in the last 3 years cited the time and expense of the voyage and the main deterrents to travelling.

7.2 Among the Saints overseas, the following main points arose:

- The majority had been away from St Helena for 5 years or more. Those Saints living in the UK have been residents away from St Helena for the longest period of time.
- Saints living on Ascension Island and Falklands were of a younger age profile than those in the UK
- Overall around a half have a property on St Helena or are intending to buy or build a home on the island; on Ascension Island and the Falklands this rises to more than 90% of Saints, but was markedly lower for Saints in the UK.
- Around a half have travelled to St Helena in the last 3 years. In particular, Saints from Ascension Island and the Falklands travelled the most frequently. Those that did not travel tended to find the journey too expensive or too long, and also found it difficult to get time off work.
- The main reasons for travelling to St Helena were to visit friends and family or for holidays. The majority of Saints tend to return to the island for medium to long stays – typically 3 weeks or more.
- The majority financed their travel to St Helena themselves, though many Saints living on Ascension Island and Falklands have their travel to the island paid for by their employer.
- Most Saints abroad expect to return to visit Saint Helena within the next 3 years, though UK Saints showed the least willingness do so. A reasonable proportion (40%) expressed an interest in returning for an extended period of time.
- Air access, wages and better job opportunities were cited as barriers preventing Saints abroad from returning to the Island, with air access given as the main factor.

7.3 For Saints living on the island, the following inferences were made

- Around a half have travelled away from St Helena in the last 3 years. Reasons for not travelling were similar to those sited by Saints abroad – namely the journey being too expensive and too long, and the inability to organise enough time off work. Expense was clearly the main reason.
- The most popular destinations for Saints travelling away from the island were the UK and South Africa – primarily for holidays or to visits friends and family. Many also travelled to South Africa on medical grounds and to the UK for educational purposes. The majority financed their travels themselves.

- Most expect to travel away from Saint Helena in the next three years. A third expressed an intention to go live or work away from St Helena in the next 3 years. This desire to leave St Helena was stronger amongst the younger age groups. Most saw UK as their preferred destination.
- Those on the island see wage levels and better job opportunities as key influences that would cause them to remain on the island. In contrast to Saints living abroad, air access was not as great a motivator to travel to and from St Helena. Better wage levels were expressed as the most important reason to continue living on the island.

ANNEX 1 - QUESTIONNAIRES

ST HELENA ACCESS FEASIBILITY STUDY SURVEY

The St Helena Government and the UK Department for International Development have asked Atkins to study the feasible options for maintaining access to St Helena and recommend a way forward that is best for St Helenians everywhere in the long term.

If you are a member of the St Helenian community, *but currently living/working away from St Helena,* and aged 15 years or over, please take a few minutes to answer these questions.

People living on Saint Helena will also participate in this survey but using a different questionnaire.

First, a few questions about yourself

1. Please say where you are living *now*, even if this is temporary:

o Ascension Island o Falkland Islands o South Africa
o UK o Other country *(please write in)* ……..……

---

2. How many years have you been living in that country?

o Under 1 year o 1-3 years o 3-5 years
o 5-10 years o More than 10 years

---

3. Are you (*tick one only*):

o A St Helenian (Saint)
o Married to or related to a Saint
o Someone with other personal connections with St Helena
o Other *(please write in)* ……..

---

4. Are you: o Female? o Male?

---

5. How old are you? o Under 20 o 20-39 o 40-59 o 60 or over

---

6. Are you:

o Employed full time
o Self employed
o Not employed but looking after a household
o In full time education or training
o Employed part time
o Unemployed
o Retired

---

7. If you are studying or training *full time or part time* – please give your course or main subject

(please write in) ……

---

8. If you are employed or self-employed at the moment, what kind of work are you doing?

(please write in) ……

---

9. If you have previously worked in St Helena, what was you last job?

(please write in) ……..……

---

10. At the moment do you own/part-own a house (or other property) on Saint Helena ?

- o Yes
- o No, but intending to buy or build in St Helena in the future
- o No, and not planning to own a home on St Helena

Your travel to and from St Helena in recent years

11. How many times have you returned to St Helena in the last 3 years:

- o None
- o 1)
- o 2) please go to Q13
- o 3)
- o 4 or more)

---

12. If you have *not* made any return visits in the last 3 years, please give all your reasons and then the most important one.

	Reasons *(tick **all that apply**)*	Most important reason *(tick **one only**)*
The journey is too long	o	o)
Unable to get enough time off work	o	o) Please
The journey is too expensive	o	o) Go to
Unable or unwilling to travel by ship	o	o) Q19
Unable or unwilling to travel by air to meet ship	o	o)
Have only recently left St Helena	o	o)
No desire to visit Saint Helena	o	o)
Other (*please describe)* ……	o	o)

Thinking about your *most recent* visit to St Helena

13. What was your *main* reason for travelling to Saint Helena? (If no visits in last 3 years go to Q19)

- o Visit relatives / friends
- o Holiday / pleasure
- o Business trip
- o Other (please describe) ……..

---

14. In your last visit, how long did you spend on the Island of Saint Helena?

- o 7 days or less
- o 8 – 20 days
- o 3 – 8 weeks
- o More than 8 weeks

---

15. Where did you start your journey?

- o Ascension Island
- o Falkland Islands
- o South Africa
- o UK
- o Other country (please write in) ……. …….

---

16. In total how many days did you spend travelling to and from St Helena? *(please include all travelling days, and include time spent on stopovers e.g in Ascension Island)*

o 5 days or less o 6 -12 days o 13 days or more

---

17. On your last trip on the RMS St Helena did you travel on

o A or B Deck o C Deck

---

18. Who paid for the RMS fares on your journey?

o Your employer
o Yourself or a relative/friend
o Other

Thinking about the future

19. How many times do you think you will visit St Helena in the next 3 years:

o Not at all
o 1
o 2
o 3
o 4 or more

---

20 If you visit St Helena in the future, where would you be most likely to stay? (Assume there will be sufficient accommodation of all types available in the future)

o Your own home
o Friends / relatives
o Hotel / Bed and breakfast
o Rented self catering accommodation
o Other, please write in ……..

---

21. In the longer term, is it your intention to return to St Helena - either to live permanently or to stay for a several years?

o Yes o No o Don't know

---

22. Which of the changes listed below would cause you to return to live in St Helena, or to return sooner? *Please tick all changes that would influence you, and then the most important one*

	All Changes *(tick **all that apply**)*	Most important *(tick **one only**)*
Air access	o	o
Better job opportunities	o	o
Better education/ training opportunities	o	o
More recognition of your skills and qualifications	o	o
Better wage levels	o	o
Opportunity to start a business	o	o
More people returning to live/work on the Island	o	o
Better shopping facilities	o	o
More leisure and entertainment facilities	o	o
Changes to your family circumstances	o	o
Other (please describe)……	o	o

Now please imagine there is an airport in St Helena

Suppose you could fly between Ascension Island and St Helena in 2 hours and between Cape Town and St Helena in 4-4 ½ hours, with convenient connecting flights.

Please think about the number of times you might visit St Helena.

Please assume you (or your family/friends) are paying the full cost of the trip.

If your employer normally pays, consider how many *extra* visits would you be prepared to pay for yourself.

We don't have firm information about air fares yet, so please think about the cost *compared* to the cost of making the same journey on the RMS.

23. How many times would you visit St Helena in the next 3 years, if the cost of flying to St Helena from either Ascension Island or Cape Town was:

a) two thirds of the RMS fare (that is, *one third less*)? *Tick one*

o No visits o 1 Visit o 2 visits o 3 visits o 4 or more visits

b) the *same* as the RMS fare? *Tick one*

o No visits o 1 Visit o 2 visits o 3 visits o 4 or more visits

c) one third *more* than the RMS fare? *Tick one*

o No visits o 1 Visit o 2 visits o 3 visits o 4 or more visits

---

24. Are there any comments you would like to make?

……..……..

……..

……..

Your answers to these questions are fully confidential and the details you give below will be separated from your questionnaire answers.

If you would like to be included in future consultations about access to St Helena, please ***either*** give your details below:

Name ……..……

Address ……

……..……

Phone number…… email …….

or contact Sharon Wainwright separately at the Castle, Jamestown, St Helena Island. Email address: access.exec@sainthelena.gov.sh

THANK YOU VERY MUCH – YOUR HELP IS GREATLY APPRECIATED

ST HELENA ACCESS FEASIBILITY STUDY SURVEY

The St Helena Government and the UK Department for International Development have asked Atkins to study the feasible options for maintaining access to St Helena and recommend a way forward that is best for St Helenians everywhere in the long term.

If you are currently living on *St Helena,* and aged 15 years or over, please take a few minutes to answer these questions.

People living/working away from Saint Helena will also participate in this survey but using a different questionnaire.

1. Are you *(tick one only)*:

   - o A St Helenian (Saint)
   - o Married to or related to a Saint
   - o An Expatriate working/living on St Helena
   - o Someone with other personal connections with St Helena
   - o Other *(please write in)* ……

---

2. Are you: o Female? o Male?

---

3. How old are you? o Under 20 o 20-39 o 40-59 o 60 or over

---

4. Are you:

   - o Employed full time
   - o Self employed
   - o Not employed but looking after a household
   - o In full time education or training
   - o Employed part time
   - o Unemployed
   - o Retired

---

5. If you are studying or training *full time or part time* – please give your course or main subject

(please write in) ……..

6a. If you are **employed or self-employed** at the moment, what kind of work are you doing?

(please write in) ……..

6b. If you are employed on the RMS, tick below and then to go straight to Question 15

o

Your travel to and from St Helena in recent years

7. How many times have you travelled away from St Helena in the last 3 years:

o None

o 1)
o 2) please go to Q9
o 3)
o 4 or more)

---

8. If you have *not* been away from St Helena for 3 years or more, please give all your reasons and then the most important one.

	Reasons *(tick **all that apply**)*	Most important reason *(tick **one only**)*	
The journey is too long	o	o	)
Unable to get enough time off work	o	o	) Please
The journey is too expensive	o	o	) Go to
Unable or unwilling to travel by ship	o	o	) Q14
Unable or unwilling to travel by air to meet ship	o	o	)
Other (*please describe)* ……	o	o	)

Thinking about your *most recent* trip to another country (if none in last 3 years go to Q14)

9. Where was your destination? *(please do not include places where you just stopped over, or changed, as part of the journey)*

o UK o South Africa o Falkland Islands
o Ascension Island o USA
o Other *(please write in)* ……..

---

10. What was your *main* reason for travelling?

o Visit relatives / friends
o Holiday / pleasure
o To receive medical treatment
o Accompanying someone travelling for medical treatment
o Overseas training or education
o Take up /return to overseas employment
o Business trip – government / public sector / academic
o Business trip – private sector
o Working on the RMS
o Other (please describe) …….

---

11. In total how many days did you spend travelling to and from St Helena? *(please include all travelling days, and include time spent on stopovers e.g in Ascension Island)*

o 5 days or less o 6 -12 days o 13 days or more

---

12. On your last trip on the RMS St Helena did you travel on:

o A or B Deck o C Deck

13. Who paid for the RMS fares on your journey?

o Your employer
o Yourself or a relative/friend
o Other

Thinking about the future

14. How many times do you think you will travel away from St Helena in the next 3 years:

o Not at all
o 1
o 2
o 3
o 4 or more

---

15. Is it your intention to go and live or work away from St Helena in the foreseeable future?

o Yes o No => GO TO Q17 o Don't know => GO TO Q17

If yes, where would you like to move to?

o UK o South Africa o Falkland Islands
o Ascension Island o Germany o USA
o Other *(please write in)* ……..

---

16. Which of the changes listed below would make you more likely to stay on St Helena rather than moving away to live/work?

Please tick all changes that would influence you, and then tick the most important one

	All Changes *(tick **all that apply**)*	Most important *(tick **one only**)*
Air access	o	o
Better job opportunities	o	o
Better education/ training opportunities	o	o
More recognition of your skills and qualifications	o	o
Better wage levels	o	o
Opportunity to start a business	o	o
More people returning to live/work on the Island	o	o
Better shopping facilities	o	o
More leisure and entertainment facilities	o	o
Changes to your family circumstances	o	o
Other (please describe)……	o	o

Now please imagine there is an airport in St Helena

Suppose you could fly between St Helena and Ascension Island in 2 hours and between St Helena and Cape Town in 4-4 ½ hours, with convenient connecting flights.

Please think about the number of times you might travel away from St Helena.

Please assume you (or your family/friends) are paying the full cost of the trip.

If your employer normally pays, or you work on the RMS, consider how many *extra* visits would you be prepared to pay for yourself.

We don't have firm information about air fares yet, so please think about the cost *compared* to the cost of making the same journey on the RMS.

17. How many times would you travel away from St Helena in the next 3 years, if the cost of flying from St Helena to either Ascension Island or Cape Town was:

a) two thirds of the RMS fare (that is, *one third less*)? *Tick one*

o No visits o 1 Visit o 2 visits o 3 visits o 4 or more visits

b) the *same* as the RMS fare? *Tick one*

o No visits o 1 Visit o 2 visits o 3 visits o 4 or more visits

c) one third *more* than the RMS fare? *Tick one*

o No visits o 1 Visit o 2 visits o 3 visits o 4 or more visits

---

18. Are there any comments you would like to make?

……..

……..

……..

Your answers to these questions are fully confidential and the details you give below will be separated from your questionnaire answers.

If you would like to be included in future consultations about access to St Helena, please ***either*** give your details below:

Name ……

Address …….

……

Phone number…… email ……

or contact Sharon Wainwright separately at the Castle, Jamestown, on Telephone No 2477. Email address: access.exec@sainthelena.gov.sh

THANK YOU VERY MUCH – YOUR HELP IS GREATLY APPRECIATED

ANNEX 2 - STATISTICAL CONFIDENCE INTERVALS

Surveys using a sample drawn from the total population rather than the entire population are open to sampling tolerances. A statistical table for assessing sampling variability (or "sampling error") is given below. It can be used to estimate the level of accuracy associated with different sample, or sub-sample sizes.

For a given sample, the degree of accuracy varies depending on whether the percentage estimate is a low or high percentage (10% or 90%), a moderate one (30% or 70%) or approximately 50%.

Due to the sampling regime adopted for this study, with different sampling fractions from Saints in different locations and consequent weighting of data, and due to the difficulty in obtaining a random unclustered sample, a design factor of four has been applied, which effectively reduces the effective sample size from an equivalent simple random sample, and makes the survey estimates less precise than those of a more scientific sample of the same size.. We consider this realistic for the current survey. The table below reflects this assumption.

For cross-tabulations using the overseas survey data, which was weighted, the appropriate sample size for using this table is, strictly speaking, the unweighted sample size. However this does not differ much from the weighted, *expect* for cross-tabulations by the Saints oversees location (UK, Ascension etc), in which case the "completed surveys" figure from table 2.3 should be used.

Confidence Interval (Accuracy Limits) for proportion 'bands'
Based on a 95% Confidence Level and design effect of 4.0

Sample Size	10%	20%	30%	40%	50%	60%	70%	80%	90%
	+/-	+/-	+/-	+/-	+/-	+/-	+/-	+/-	+/-
50	11.8	15.7	18.0	19.2	19.6	19.2	18.0	15.7	11.8
100	8.3	11.0	12.7	13.6	13.9	13.6	12.7	11.0	8.3
150	6.8	9.1	10.4	11.1	11.3	11.1	10.4	9.1	6.8
200	5.9	7.8	9.0	9.6	9.8	9.6	9.0	7.8	5.9
300	4.8	6.4	7.3	7.8	7.8	7.8	7.3	6.4	4.8
400	4.2	5.5	6.4	6.8	6.9	6.8	6.4	5.5	4.2
500	3.7	5.0	5.7	6.1	6.1	6.1	5.7	5.0	3.7
600	3.4	4.5	5.2	5.5	5.7	5.5	5.2	4.5	3.4